

RECEIVED

MAR 24 2017



PLANNING DEPARTMENT
5001 5th Johnson Court East
Milwaukee, WI 53215

CITY OF MILWAUKIE
PLANNING DEPARTMENT

Application for Land Use Action

PHONE: 503 786-7676
FAX: 503 774-8787
E-MAIL: planning@cityofmilwaukee.gov

Master File #: S-2017-002

Review type: I II III IV V

CPA-2017-001
ZA-2017-002
VR-2017-001
HR-2017-001

CHECK ALL APPLICATION TYPES THAT APPLY:

<input checked="" type="checkbox"/> Amendment to Use or Other Provision <input type="checkbox"/> Comprehensive Plan Text Amendment <input checked="" type="checkbox"/> Comprehensive Plan Map Amendment <input type="checkbox"/> zoning Text Amendment <input checked="" type="checkbox"/> Zoning Map Amendment <input type="checkbox"/> Code Interpretation <input type="checkbox"/> Community Service Use <input type="checkbox"/> Conditional Use <input type="checkbox"/> Development Review <input type="checkbox"/> Director Determination <input type="checkbox"/> Quarterly Design Review <input type="checkbox"/> Conditional Zoning Approval <input checked="" type="checkbox"/> Temporary Use <input type="checkbox"/> Signage <input type="checkbox"/> Status Determination <input type="checkbox"/> Status Decision	<input checked="" type="checkbox"/> Land Division <input type="checkbox"/> Final Plat <input type="checkbox"/> Final Consolidation <input type="checkbox"/> Address <input type="checkbox"/> Property Line Adjustment <input type="checkbox"/> Easement <input checked="" type="checkbox"/> Subdivision <input type="checkbox"/> Miscellaneous: <input type="checkbox"/> Buried Wire Fixing <input type="checkbox"/> Modification to Existing Approval <input type="checkbox"/> Annual Resource Review <input type="checkbox"/> Non-Conforming Use Abandonment <input type="checkbox"/> Planning <input type="checkbox"/> Utility Determination <input type="checkbox"/> Density Modification <input type="checkbox"/> Street Parking <input type="checkbox"/> Structured Parking <input type="checkbox"/> Planned Development <input type="checkbox"/> Temporary Closure on Plot	<input type="checkbox"/> Residential Dwelling <input type="checkbox"/> Accessory Dwelling Unit <input type="checkbox"/> Duplex <input type="checkbox"/> Manufactured Dwelling Unit <input type="checkbox"/> Temporary Dwelling Unit <input type="checkbox"/> Sign Review <input type="checkbox"/> Transportation Facilities Review <input checked="" type="checkbox"/> Variance: <input type="checkbox"/> Building Height Variance <input type="checkbox"/> Use Exception <input checked="" type="checkbox"/> Other: <input type="checkbox"/> Waiver of Greenway Easement <input type="checkbox"/> Other <p>Use separate application forms for Amendment and/or Duration of use: <input type="checkbox"/> Comprehensive Plan Amendment <input type="checkbox"/> Text Amendment <input type="checkbox"/> Map Amendment <input type="checkbox"/> Signage <input type="checkbox"/> Appeal</p>
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RESPONSIBLE PARTIES:

APPLICANT (owner or other eligible applicant—see reverse): Simon 10715

Mailing address: 605 NW Jackson Blvd NW Zip: 30227

Phone(s): 770-500-4832 E-mail: Simon.10715@gmail.com

APPLICANT'S REPRESENTATIVE (if different than above): MARK DALL - MARK DALL CONSULTING

Mailing address: 17631 NW Mountain Way, Suite 205 Zip: 97003

Phone(s): 503-352-7167 E-mail: markdall@markdallconsulting.com

SITE INFORMATION:

Address: 4217 & 4219 SE Rain Forest Ave, Map & Tax Lots: 8000, 8001, 8200, 8201

Comprehensive Plan Designation: Zone: R-3 Sub: (prop. 3.7)

PROPOSAL (describe briefly):

Applicant is requesting a change of current lot zone to R-3 to facilitate new future development.

SIGNATURE: FRANKLIN, LLC Thomas J. Healy, Municipal Liaison

ATTEST: I am the property owner or I am eligible to initiate this application for Milwaukee Municipal Code (MCO) Subsection 10.1001.5.A. If required, I have obtained written authorization to submit this application. To the best of my knowledge, the information provided within this application package is complete and accurate.

Submitted by: FRANKLIN, LLC Thomas J. Healy Date: MARCH 22, 2017

IMPORTANT INFORMATION ON REVERSE SIDE

* If multiple applications are submitted for the same parcel, the review type is the MCO Section 10.1001.5.A.

MARK DANE PLANNING INC.

14631 S.W. MILLIKAN WAY, SUITE 6, BEAVERTON OR 97003 / 503-332-7167 / markdaneplanning@gmail.com

April 28, 2017

Vera Kolias, AICP

Associate Planner

[503.786.7653](tel:503.786.7653)

6101 SE Johnson Creek Blvd • Milwaukie, OR 97206

Master File: #S-2017-002

Site: 4217-4219 SE Railroad Ave

Dear Ms. Kolias,

The applicant is requesting that staff accept the application for the comprehensive plan map amendment, zone change, subdivision, and variances for the property located 4217 & 4219 SE Railroad as complete as of 4/28/17.

Mark Dane



Mark Dane, Mark Dane Planning Inc.

RECEIVED
APR 28 2017
CITY OF MILWAUKIE
PLANNING DEPARTMENT





May 1, 2017

Simon Lofts
Sustainable Infill Development LLC
795 NW Torrey View Ln
Portland, OR 97229

Master File: #S-2017-002

Site: 4217-4219 SE Railroad Ave

Dear Mr. Lofts:

Please be advised that the above-referenced land use applications have been deemed complete as of April 28, 2017, per your direction that the application be deemed complete. This is in accordance with Milwaukie Municipal Code (MMC) Subsection 19.1003.3 and Oregon Revised Statutes 227.178. The 120-day deadline by which the City must take final action is August 26, 2017.

A hearing on your applications by the Milwaukie Planning Commission is tentatively scheduled for June 13, 2017. We will contact you if there is a change in the hearing date.


Land Use Review Process

The incompleteness letter dated April 11, 2017 discussed the land use review process for the Type III and Type IV applications that make up the project application package. The letter requested confirmation from you as to which of 2 review procedures you wished to take. Per a conversation and confirmation with Mark Dane, your representative, you have elected to continue the review process for all the applications concurrently, which will require conditions of approval in the Type III applications to state that they are dependent upon approval of the Type IV applications. We will proceed this way per this direction.

If you decide to withdraw your application before a decision is rendered, please be aware that application fees are nonrefundable. The City may retain some or all the deposits for technical reviews, such as traffic studies or natural resource studies, based on actual costs incurred by the City.

If you have any questions or concerns, you can call me at 503-786-7653 or email me at koliasv@milwaukieoregon.gov.

Sincerely,



Vera Kolias, AICP
Associate Planner

cc: Mark Dane (Mark Dane Planning, 14631 SW Millikan Way, Suite 6, Beaverton, OR 97003)
Dennis Egner, FAICP, Planning Director
Chuck Eaton, Engineering Director
Alex Roller, Engineering Technician II
Master File(s): S-2017-002 (ZA-2017-002, CPA-2017-001, VR-2017-001, HR-2017-001)

MARK DANE PLANNING INC.

14631 SW MILLIKAN WAY, BEAVERTON, OR 97003 SUITE #6 Markdaneplanning@gmail.com 503-332-7167

April 17, 2017

Vera Kalias, AICP
Associate Planner
[503.786.7653](tel:503.786.7653)
6101 SE Johnson Creek Blvd • Milwaukie, OR 97206



Master File: #S-2017-002
Site: 4217-4219 SE Railroad Ave "Keil Gardens"

Dear Ms. Kalias,

Thank-you for your letter of April 11th, 2017. In order to allow staff to fully review, and accept the proposed subdivision as complete, the applicant is updating and revising the items listed below. Along with this letter the applicant is providing the additional information and materials necessary for approval. The responses to the issue raise in your letter and provided in the order narrated in your letter.

Incompleteness Response:

The following items were found to be incomplete or missing in your application:

1. Please submit a title deed verifying ownership of the property.

Comment: Applicant has provided a title deed verifying ownership. The Francar LLC has been confirmed as the owner of Tax lots 8000, 8100, 8200 and 8300, in Tax Map12E31B. The easterly 10-feet of TL 8300 is also described as Parcel 5. This parcel, while not disputed, does not have a clear lineage of title transfer. The applicant has therefore removed that portion of said Tax Lot from the proposed development, in order to create clean title. The applicant will create a Record of Survey for the adjusted parcel. The Title company will continue to confirm and clarify ownership. When said title is cleared this parcel will be dedicated into public right-of-way for SE 44th Avenue. It will have no impact of the proposed development.

2. Applicant mentioned to staff a potential issue regarding the property and an additional lot affecting the subject property. This information must be included in the application package.

Comment: See previous statement

3. Compliance with MMC Title 17.20 – Preliminary Plat

- a. Sheet G-0.01 of the submitted plan set denotes a different property owner than the owner listed on page 1 of the application narrative. Please revise the submittal so that this information is correct and consistent within the application sections.

Comment: The new plan set, and narrative have been appended to reflect the correct ownership of the Tax lots to be developed.

- b. The preliminary plat as submitted (Sheet C-1.09) has not been stamped by an Oregon registered land surveyor as required.

Comment: The Preliminary Plat Plan has been updated to reflect that it has been prepared by and ORLS.

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c. The preliminary plat as submitted (Sheet C-1.09) does not include the location by section, township, and range and does not include a legal description as required.

Comment: Preliminary Plat has been revised to include location by section, township, range, and legal descriptions describing said property.

d. The preliminary plat as submitted (Sheet C-1.09) does not include the name and address of the person who prepared the plans as required.

Comment: Preliminary Plat has been revised to include the name and address by whom have prepared (Centerline Concepts).

e. The plan set does not include the name of the subdivision, although the narrative includes the name "Railroad Gardens". As required, please provide written verification that the County Surveyor has approved the subdivision name in accordance with ORS Chapter 92. Please revise the plan set accordingly.

Comment: Plans have been revised to include the name of the subdivision "Keil Gardens"

f. The plan set does not include a conceptual plan showing connectivity to adjacent vacant or underutilized properties as required.

Comment: The applicant has shown how the adjacent property to the north is fully developed. A concept plan for the parcel adjacent to the southern half of the east property line has also been included. With the completion of the proposed north south road, this parcel can be developed to its anticipated density.

g. Please replace the word "tentative" on the plan set with "preliminary".

Comment: Plans have been revised to replace the word "tentative" with "preliminary".

h. A detailed narrative description demonstrating how the proposal meets all applicable provisions of Title 19 has not been submitted as follows:

(1) No information has been provided regarding compliance with the approval criteria found in MMC 19.911.4.B Type III Variances.

Comment: Applicant has added approval criteria MMC 19.911.4.B Type III Variances. Please find attached narrative.

(2) No information has been provided regarding compliance with the approval criteria found in MMC 902.4 Comprehensive Plan Map Amendments.

Comment: Applicant has added approval criteria MMC 902.4 Comprehensive Plan Map Amendments. Please find attached narrative.

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(3) Calculations showing compliance with minimum and maximum density were not provided per MMC 19.301.4.C.1.

Comment: After dedication of Right-of-way both along Railroad Avenue, and internally along the proposed public streets there is a Net Developable Area (NDA) of 97,637 SF, or 2.24 acres. The maximum density permitted under 19.301.4.C.1 is 8.7 lots per acre with a minimum of 7 lots per acre. The NDA permits therefore between 15.69, and 19.49 lots. The applicant is proposing the development of 19 lots within the permitted range.

4. Compliance with MMC Title 17.28 – Design Standards

a. Per MMC 17.28.040.B, as far as practicable, the rear lot line shall run parallel to the street. The rear lot line on Lot 17 is not parallel to the street. Please revise the narrative to respond to this.

Comment: Lots 14-19 are all located between the internal street, and Railroad Avenue. This parcel is triangular in nature. It therefore becomes difficult to meet all code criteria for rectangular design. The applicant believes the better lot design for lots 13, and 17 is derived, from extending the combined corner point to Railroad Avenue. Should staff prefer a different alignment the applicant will work with staff. The only other option is to create a series of small unbuildable triangular lots, which could be attached to the lots. This would allow the lots to be rectangular. However while possible the applicant believes this to be an impracticable solution.

b. Per MMC 17.28.040.E, double frontage and reversed frontage lot should be avoided. Lot 1 and Lot 14 are double frontage lots and Lots 2, 18, and 19 are reversed frontage lots. Information addressing this code section is required.

Comment: Per subsection E: Limits on Double and Reversed Frontage Lots: Double frontage and reversed frontage lots should be avoided, except where essential to provide separations of residential development from railroads, traffic arteries, or adjacent nonresidential uses, or to overcome specific disadvantages of topography and orientation.

Lot 18 & 19 are double frontage lots. They are the consequence of the triangular nature of the remnant parcel or property and the need for the loop street. Access will however be limited to SE 43rd.

Lots 2 and 13 have frontage on Railroad, but because access is prohibited onto Rail road will take access from SE 42nd, and SE 44th respectively

Lots 1 and 14 are corner lots that will take access from SE 42nd and se 44th.

The access limitation on Railroad, and the underlying shape of the parcel have caused this issue. Combined with a desire by the applicant to utilize the parcel for subdivision acknowledgment of the design limitations of the parcel need to be taken into consideration

c. As defined in MMC 17.28.040.F, required frontage shall be measured along the street upon which the lot takes access. As shown on Sheet C-1.03, Lot 1, Lot 2, and Lot 13 show access via an

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easement across an adjacent property from the new proposed public street and not from their frontage on Railroad Ave. A Type III variance from this requirement is required.

Comment: The City has restricted access to Railroad Avenue. Therefore while several lots front onto Railroad, they are not permitted to take access. The lots meet the dimensional requirements of the zoning, but still require a Type III variance.

5. Compliance with MMC Title 12.16

a. MMC 12.16.040.C.4.a – driveways shall be at least 45 ft from any intersection. The shared driveway for lots 1 & 2 will be only 30 feet from the intersection with Railroad Avenue. This would require approval of a Type III Variance. The City would prefer that access be taken from the northwest corner of lot 1. Please provide a narrative addressing the approval criteria for this variance, and the driveway's impact to the intersection of SE 43rd Ave and SE Railroad.

Comment: The driveways for Lots 1 and 2 have been relocated to access SE 42nd Avenue. This will ensure that they remain more than 45-feet from any intersection

b. MMC 12.16.040.C.3 – driveways must be a minimum of 7 ½ ft from the side property line.

Comment: The applicant has revised the driveway locations on all sheets to ensure a minimum of 7.5 feet of spacing from the edge of concrete to the side, or rear property lines, except when it is the rear property line.

6. Compliance with MMC Title 19.708

a. MMC 19.708.2 – Applicant has requested the removal of the planter strip on one side of the proposed right-of-way. Please supply the required narrative explaining the need for the reduced right-of-way width and removal of components from the right-of-way.

Comment: The applicants original plan called for a 20-lot subdivision. However, the City required a loop Street. This serves several purposes including site circulation, and access. The applicant understands the need to provide good vehicular, and pedestrian circulation. Sidewalks are proposed on both side of the street where a full street is being developed. The standard for a planter strip is not so much a requirement for function but is more aesthetic in nature. In this case the requirement for a planter strip on both side of the proposed street would reduce the amount of available square footage to cause the loss of a second lot, and would render lot 19 even less buildable than it currently is, even with the variance to the street side-yard setback. With the street as proposed it meets the functional requirements, and aesthetically the applicant would be willing to decrease the spacing between street trees in mitigation for any possible loss of street-scape anticipated by removing one of the two planter strips.

b. MMC 19.708.2.A.1 – a minimum 10-ft travel lane width shall be provided on local streets with no on-street parking. SE 44th Ave is currently shown with a paved width of only 16 ft. Minimum 20-ft will be required; please provide revised plans that reflect this requirement.

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Comment: The proposed internal street is 28-feet (curb to curb) There is a cross section detail on Sheet C1.03. the 2/3rds street on the east side of the property will be 21-feet.

Approvability Items

The following items are approvability items, not completeness items. They are listed here for your information and should be resolved at the beginning of the review process so that staff has sufficient time to analyze your proposal and formulate a recommendation with regard to approvability.

1. Access and utility easements are proposed, which will affect Lots 1, 2, 3, 13, and 14. Final language describing these easements will be required for the Final Plat.

Comment: The applicant has shown the proposed easements on the Preliminary Plan Set. Upon redlines of the Construction Plans the applicant will submit a Final plat for review by the City, and County. Said plat will include all applicable easements.

2. The south end of SE 44th Ave will have a matching 25-ft radius on the east side. This will not have to be curbed; asphalt only.

Comment: The plans have been updated to reflect this requirement.

Informational Items

The following items are informational items, not completeness items. They are meant to help you: prepare for review by the review authority, improve your application in ways that are unrelated to completeness and approvability, and anticipate future building permit requirements.

1. In various places throughout the narrative, reference is made to specific Exhibits, but the application package does not include a list of exhibits and the various attachments are not labeled. It would be very helpful to reviewers to have this reconciled.

Comment: A list of Exhibits has been included with the twenty-five sets of materials being submitted to the City

2. The narrative response to MMC 19.703.2.B references a 14-lot subdivision. This is incorrect as this is a proposed 19-lot subdivision.

Comment: Applicant has revised narrative to correct the lot count to 19.

3. Page 39 of the narrative includes a summary and request statement that references a 2.66-acre subdivision called Mission Park. This is an incorrect reference and should be revised.

Comment: Applicant has revised narrative to change the mission park to Railroad Gardens. The Final Plat Name will be Keil Gardens in commemoration of the original purchaser of the property to who's family this property has been owned since the 19th century.

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4. In the section addressing MMC 19.902.6.B.5 (no page numbers included), reference is made to a 20-lot subdivision. Please revise for accuracy.

Comment: Applicant has added page numbers to the narrative and has changed the lot count to 19.

5. Plan Sheet C-1.03 indicates a right-of-way width of 45.5 ft. The sum of the components shown should be 48 ft.

Comment: The applicant has requested that the right-of way width be reduced to reflect the removal of the planting strip. Not doing so would defeat the purpose of the request, and would eliminate a lot, and render lot 19 less buildable

6. In the submitted stormwater report, the time of concentration should be 5 minutes for the proposed development. This will have a minor effect on facility sizing calculations. Also, the predevelopment curve number is not weighted, but a static number of 72 (Louis and Clark era). Applicant's result was still 72, so this will not require modification.

Comment: This issue has been noted, and an updated report will be submitted with the Final Construction Plans.

Land Use Review Process

Upon further review, the city attorney has determined that the application package will be processed as follows (see attached memorandum):

The following applications will be processed as Type IV applications:

- ZA-2017-002: zoning map amendment (R-7 to R-5); zoning map amendment for the removal of historic resource designation from 4217 SE Railroad Ave (dependent upon approval of land use file# HR-2017-001)
- CPA-2017-001: comprehensive plan map amendment to change the subject property from Low Density to Moderate Density; comprehensive plan text amendment to remove 4217 SE Railroad Ave from Appendix 1 Historic Resources Property List (dependent upon approval of land use file# HR-2017-001)

This process eliminates the need for a subsequent Type IV review process addressing the demolition of the historic resource and packages it all in one concurrent review process. The Type IV applications will be processed concurrently and require review by both the Planning Commission and the City Council. The subdivision and variance are Type III applications and require review and approval only by the Planning Commission. As the Type III applications are dependent upon approval of the Type IV applications, you as the applicant have the following options going forward:

- Continue the review process for all of the applications concurrently (will require conditions of approval in the Type III applications to state that they are depended upon approval of the Type IV applications);

OR

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- Move forward with the Type IV applications first, followed by the Type III applications upon approval (will increase the length of the review time)

Comment: After speaking with Staff the applicant agrees that all applications should be reviewed, and approved concurrently.

The fees already paid to date cover this review process. However, the application requires a revised narrative to address the additional Type IV reviews:

- Zoning map amendment for the removal of historic resource designation from 4217 SE Railroad Ave; and
- Comprehensive plan text amendment to remove 4217 SE Railroad Ave from Appendix 1 Historic Resources Property List

Comment: the applicant has revised the original narrative to include response and comments that address both the zone map amendment for the Historic Designation, as well as the Comprehensive Plan Text Amendment.

The applicant has attempted to address all completeness items. However, should further items need to be addressed through this review and approval process the applicant will continue to work with staff to clarify, or address outstanding issues. But eth applicant is requesting that the City deem this application as complete.

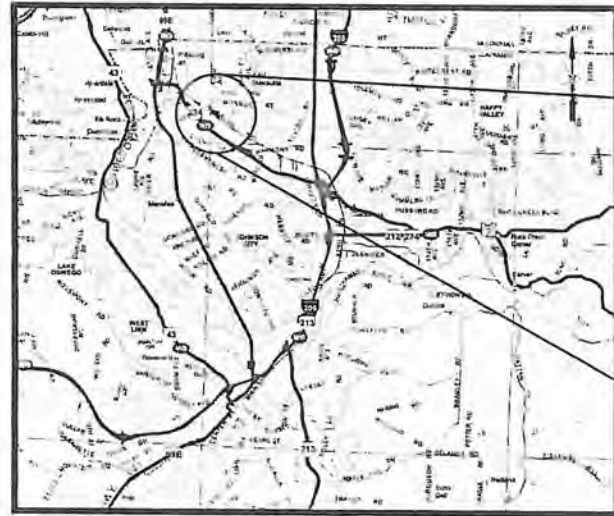
Twenty-five sets of the application to begin the referral and review process have been submitted for approvability.



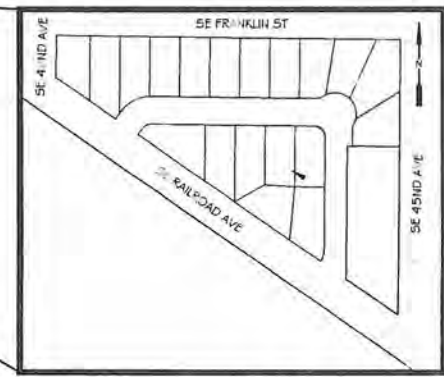
PRELIMINARY SUBDIVISION PLANS FOR KEIL GARDENS SUBDIVISION

A PROPOSED SUBDIVISION
MILWAUKIE, CLATSOP COUNTY, OREGON
April 2017

SUSTAINABLE INFILL DEVELOPMENT, LLC
KEIL GARDENS
SUBDIVISION
MILWAUKIE, OR



OVERALL VICINITY MAP
NTS



SITE PLAN
1" = 100'

KEIL GARDENS
SUBDIVISION

SCALE NOTE
1" = 100'
DATE: 04/17/17
THIS SHEET ALREADY SCALED
AS SHOWN

Know what's below.
Call before you dig.

ATTENTION:
CALL BEFORE YOU DIG.

SHEET INDEX	
Sheet Number	DRAWING NAME
G-0-01	COVER SHEET
C-1-01	EXISTING CONDITIONS & DEAD PLANT
C-1-02	SITE PLAN
C-1-03	GRADING PLAN
C-1-04	SANITARY AND WATER PLAN
C-1-05	PAVE PLAN

PROJECT CONTACTS

OWNER:
FRASER LTD
6820 NE ST. JOHN ROAD
VANCOUVER, WA 98669

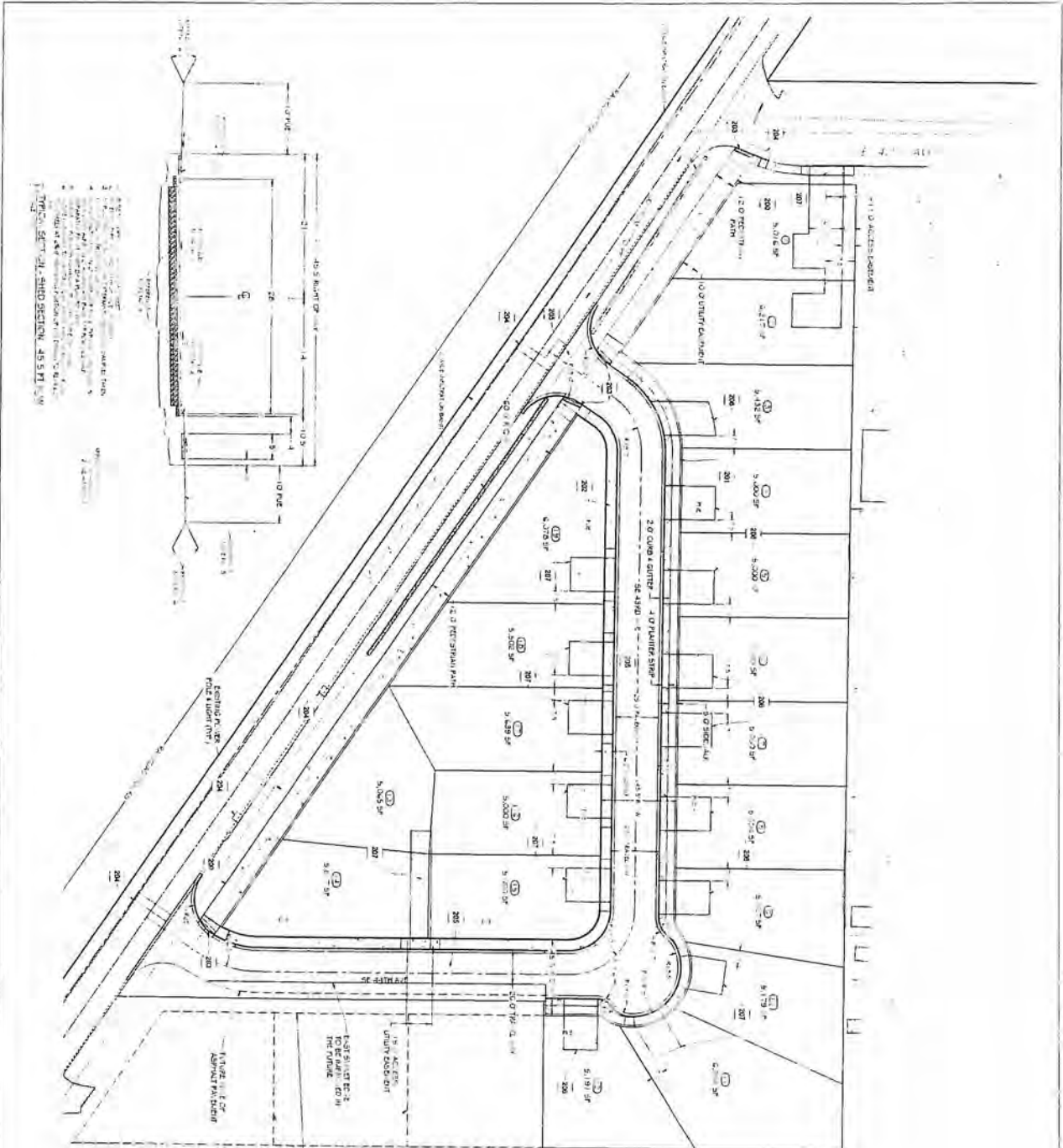
SURVEYOR:
CENTRAL ENGINEERS LAND
SURVEYING, INC.
TOBY BOLLEN, PLS
1527 W. MEXALLA AVE SUITE 100
OREGON CITY, OR 97133
503-650-0118 (OFFICE)
TOBY@CENTRAL-ENGINEERS.COM

CIVIL ENGINEER:
PROJECT DELIVERY GROUP, LLC
JAMES LINTON, PE
3772 PORTLAND RD NE
SALMA, OREGON 97131
503-244-4404 OFFICE
JLINTON@PDGROUP.COM

LOCAL JURISDICTION:
CITY OF MILWAUKIE
6101 W. CRAWFORD STREET, SUITE 100
MILWAUKIE, OR 97131
503-716-7400 (OFFICE)

COVER SHEET

G-0-01



1. TYPICAL SECTION 21. SHED SECTION, 45.5 FT. W.



- 1. SEE SHEET C-1.03 FOR SITE PLAN
- 2. SEE SHEET C-1.04 FOR SITE PLAN
- 3. SEE SHEET C-1.05 FOR SITE PLAN
- 4. SEE SHEET C-1.06 FOR SITE PLAN
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- 81. SEE SHEET C-1.83 FOR SITE PLAN
- 82. SEE SHEET C-1.84 FOR SITE PLAN
- 83. SEE SHEET C-1.85 FOR SITE PLAN
- 84. SEE SHEET C-1.86 FOR SITE PLAN
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- 87. SEE SHEET C-1.89 FOR SITE PLAN
- 88. SEE SHEET C-1.90 FOR SITE PLAN
- 89. SEE SHEET C-1.91 FOR SITE PLAN
- 90. SEE SHEET C-1.92 FOR SITE PLAN
- 91. SEE SHEET C-1.93 FOR SITE PLAN
- 92. SEE SHEET C-1.94 FOR SITE PLAN
- 93. SEE SHEET C-1.95 FOR SITE PLAN
- 94. SEE SHEET C-1.96 FOR SITE PLAN
- 95. SEE SHEET C-1.97 FOR SITE PLAN
- 96. SEE SHEET C-1.98 FOR SITE PLAN
- 97. SEE SHEET C-1.99 FOR SITE PLAN
- 98. SEE SHEET C-1.100 FOR SITE PLAN

SUSTAINABLE INFILL DEVELOPMENT, LLC

KEIL GARDENS SUBDIVISION

MILWAUKEE, WI

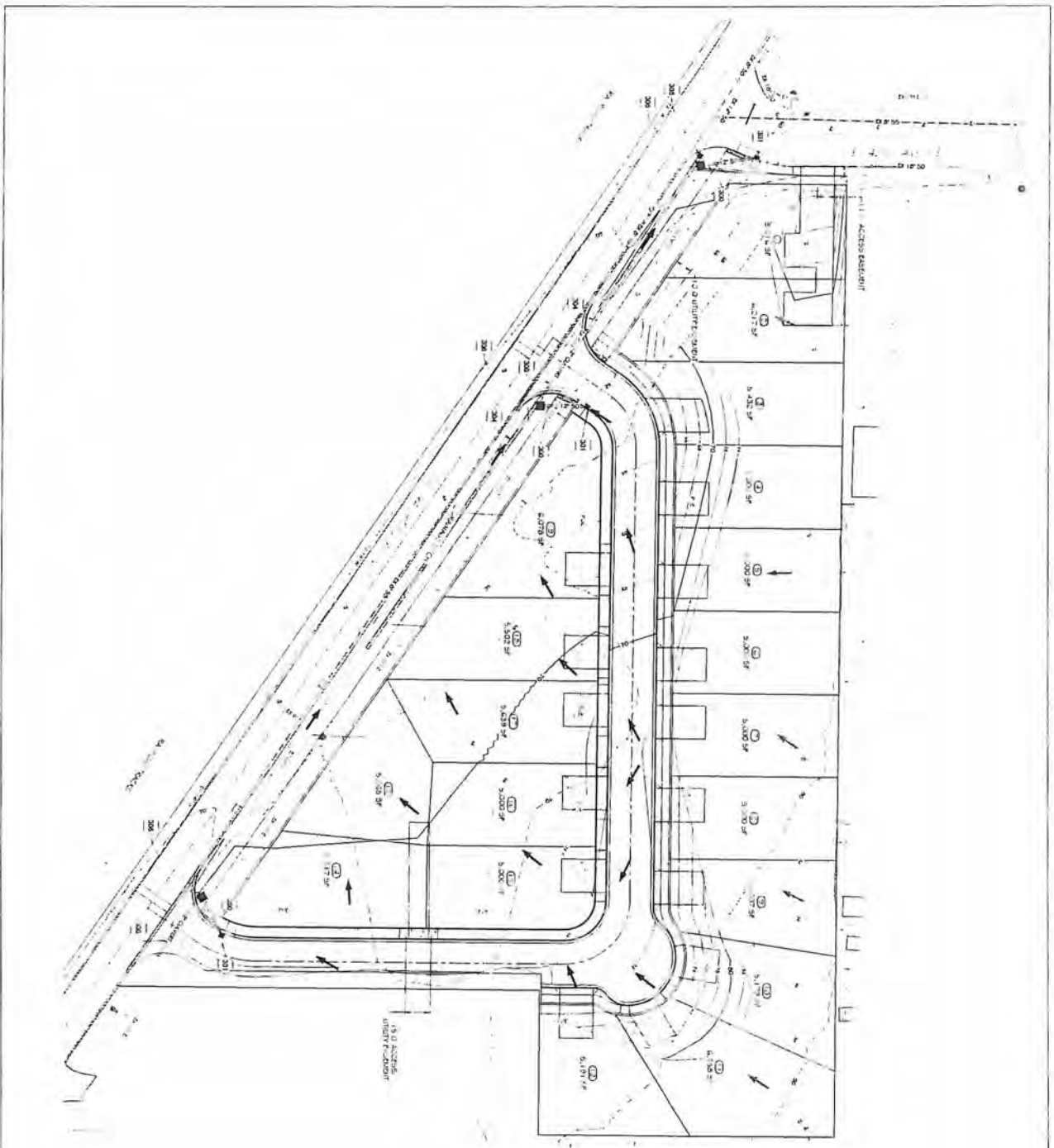
SCALE NOTE

PROJECT DELIVERY GROUP

REGISTERED PROFESSIONAL ENGINEER

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

C-1.03 SITE PLAN



1. ENGINEER: [Name]
 2. DATE: [Date]
 3. SCALE: [Scale]
 4. SHEET NO.: [Sheet No.]
 5. TOTAL SHEETS: [Total Sheets]

SUSTAINABLE INFILL DEVELOPMENT, LLC
KEIL GARDENS
SUBDIVISION
 MILWAUKEE, WI

PROJECT DELIVERY GROUP

GRADING PLAN
 C-1.05



KEIL GARDENS SUBDIVISION

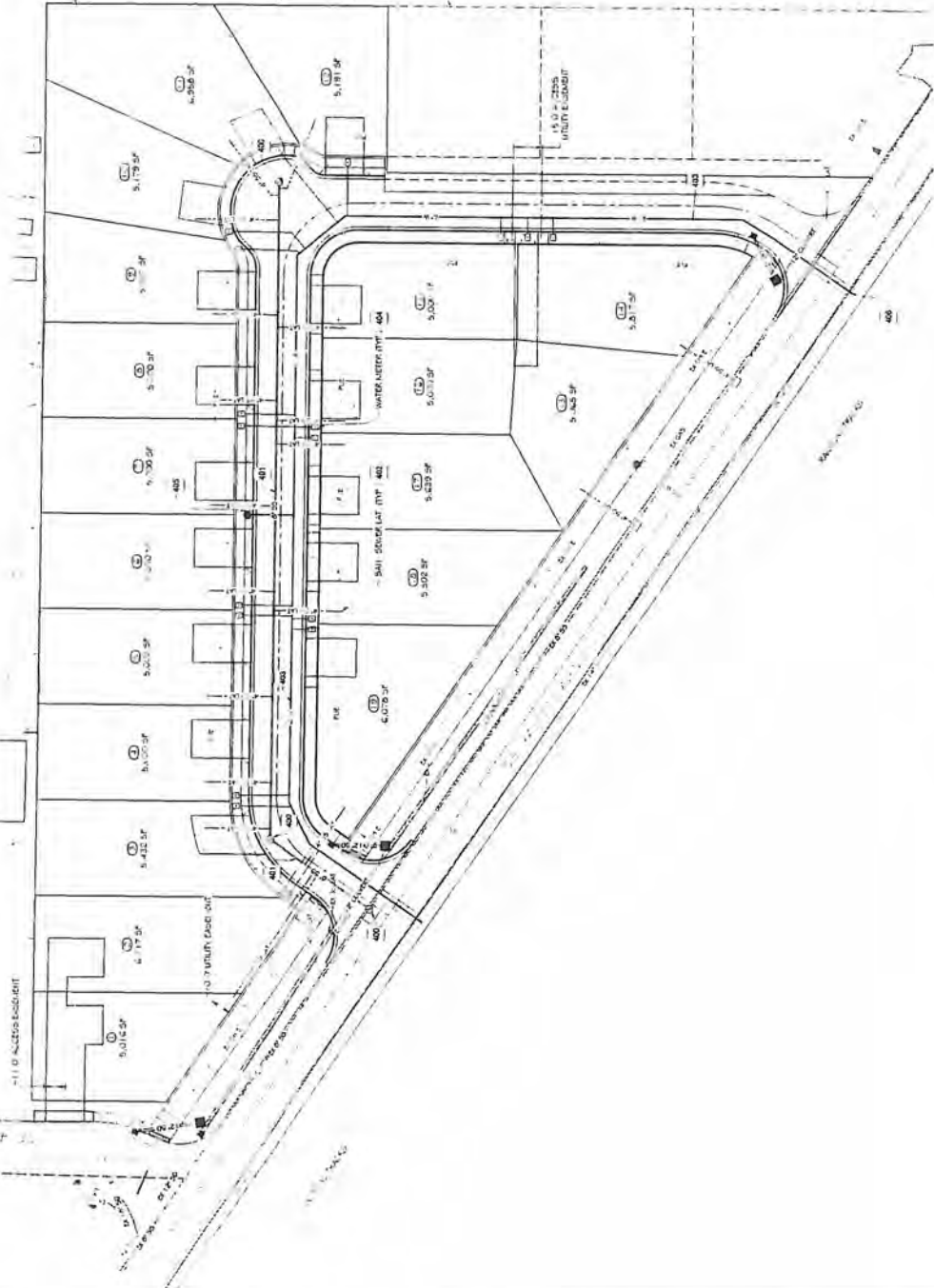
SUSTAINABLE INFILL DEVELOPMENT, LLC

SCALE NOTE: 1" = 40' - 0"

Table with 2 columns: Item, Description. Includes notes on utility lines and easements.

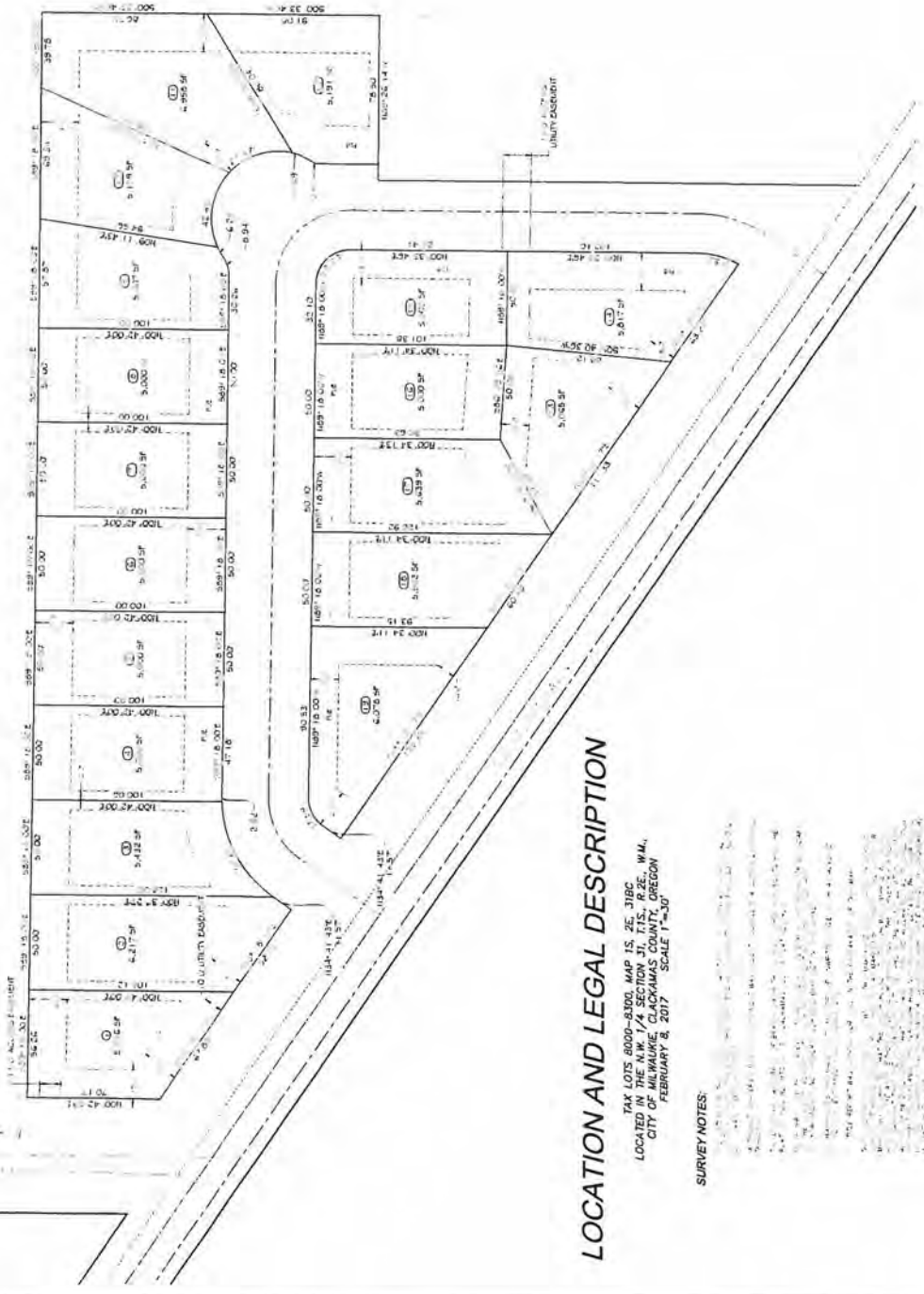
PROJECT: KEIL GARDENS SUBDIVISION
SUSTAINABLE INFILL DEVELOPMENT, LLC
DATE: 11/15/2018
DRAWN BY: [Name]
CHECKED BY: [Name]

- Legend:
1. 15" DIAMETER SANITARY MAIN
2. 15" DIAMETER SANITARY BRANCH
3. 15" DIAMETER SANITARY SERVICE LINE
4. 15" DIAMETER SANITARY SERVICE LINE - UNDER CONCRETE
5. 15" DIAMETER SANITARY SERVICE LINE - UNDER ASPHALT





PROPOSED:
 CONDO 1E - 1212
 SUN-ENTR-02
 TOP-100-100-100
 CONDO 1E - 1212
 SUN-ENTR-02
 TOP-100-100-100
 CONDO 1E - 1212
 SUN-ENTR-02
 TOP-100-100-100



LOCATION AND LEGAL DESCRIPTION

TAX LOTS 8000-8300, MAP 15, 2E, 31BC
 LOCATED IN THE N.W. 1/4 SECTION 31, T.15S., R.2E., W.4M.,
 CITY OF MILWAUKEE, CLATSOP COUNTY, OREGON
 FEBRUARY 8, 2017 SCALE 1"=50'

SURVEY NOTES:

1. ALL DIMENSIONS SHOWN ON THIS PLAN ARE BASED ON THE SURVEY RECORDS AND FIELD MEASUREMENTS.
 2. THE SURVEY RECORDS AND FIELD MEASUREMENTS WERE CONDUCTED ON FEBRUARY 8, 2017.
 3. THE SURVEY RECORDS AND FIELD MEASUREMENTS WERE CONDUCTED BY [NAME] AND [NAME].
 4. THE SURVEY RECORDS AND FIELD MEASUREMENTS WERE CONDUCTED UNDER THE SUPERVISION OF [NAME].
 5. THE SURVEY RECORDS AND FIELD MEASUREMENTS WERE CONDUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE BOARD OF SURVEYORS AND MAPPING ENGINEERS OF THE STATE OF OREGON.

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Railroad Gardens

A Comprehensive Plan Map Amendment from Low to Medium Density

A Zone Change from R7 to R5

A Subdivision Land Use Application for 19 lots

Variances to street separation, and lot line standards

Comprehensive, Plan, and Map Amendment for Removal of an Historic Resource Preservation Overlay at 4217 SE Railroad Ave.

SUBJECT PROPERTY:	Tax Map 12E31B Tax Lots: 8000, 8100, 8200 and 8300 Tax ID: 00093149, 00093428, 00093400, 00093437
PROPERTY LOCATION:	4217 & 4219 SE RAILROAD AVE, Milwaukie, OR 97222
PROPOSAL:	19 Lot Subdivision
SITE SIZE:	3.5 Acres
CURRENT ZONING DESIGNATION:	R-7
PROPOSED ZONING DESIGNATION:	R-5
HISTORIC PRESERVATION OVERLAY FOR:	4217 SE Railroad Avenue
PROPERTY OWNER:	Francar LLC - Marianne Russell, Member / Tom Hoesly, Member Francar LLC., 6920 NE St. Johns Road, Vancouver, WA 98665
APPLICANT:	Sustainable Infill Development LLC- Simon Lofts
APPLICANT'S REPRESENTATIVE:	Mark Dane Planning Inc.- Mark Dane
APPLICANT'S ENGINEER:	Project Delivery Group – Mark Ferris.

Narrative Updated 4.28.17

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Project Description

Comment: The proposed development subdivision comprised of 19 lots on a 3.25 acre property fronting the north side of SW Railroad Avenue between SE 42nd Ave, and SE 45th Avenue in the City of Milwaukie (4217 & 4219 SE Railroad Avenue, Tax Map 1S 2E 31BC, Tax Lots: 8000, 8100, 8200, and 8300). Two existing single family dwellings will be removed. Nineteen new lots will be served by a single new public loop street which will connect out to SW Railroad Avenue.

City utility services are available providing public water and public sewer in the adjacent Railroad Avenue public right-of-way. The proposed 19-lot subdivision proposes to extend public sanitary and water lines as necessary to serve all of the proposed new lots. To obtain preliminary subdivision approval, the applicant will be seeking a zone change from R-7 to R-5. This in turn will require a Comprehensive Plan Map Amendment from Low to Medium Density Residential Zoning. Staff noted that Tax Lot 08500 should be included in the zone change proposal.

In addition, the proposed loop street design will require the removal of a home currently on the City's Historical Register. The triangular nature of the parent parcel, in conjunction with the need to build a loop street results in parcel fragments that are not rectangular in shape, and may require some additional variances from the basic code standards. A pre-application Conference was held (Project ID #: 17-001PA), and the proposal presented to the Neighborhood Association.

Both the Neighborhood Association, and Staff appear supportive of the zone change proposal, subdivision, and removal of the listed home. The project is appropriate given the characteristics of the surrounding area. To the west across SE 42nd Avenue is an area zoned R5 with a Moderate Density designation in the Comprehensive Plan. To the south across SE Railroad Avenue is an area zoned Business Industrial (BI) with an Industrial designation in the Comprehensive Plan. In the adjacent R7 zoned areas, many of the lots are sub-standard for the R7 zone. Seventeen of the nineteen lots zoned R7 that are adjacent to the site are 6,500 square feet or less. The loss of R7 zone area does not raise concern for Planning Staff. The R7 zone is also the largest zone in the city, comprising over 40% of the land area (including right of way). By comparison, R5 comprises just over 10% of the land area.

Overall Project Presentation.

Comment: The applicant presented the proposed zone change, and subdivision application, and described the proposed demolition process of the Historic Home at the Hector Campbell NDA on March 13th. It is anticipated that the HCNDA will support the proposed development.

For Type III reviews, the applicant will be submitting 5 complete copies of all application materials for the City's initial review. It is anticipated that a determination of the application's completeness will be issued within 30 days. Should additional copies or changes be required by staff as a part of this process they will be of course provided by the applicant. It is anticipated that Staff will determine the earliest available date for a public hearing with the Planning Commission that allows time for preparation of a staff report (including a recommendation regarding approval) as well as provision of the required public notice to property owners and residents within 300 ft of the subject property, at least 20 days prior to the public hearing.

A sign giving notice of the application will be posted on the subject property at least 14 days prior to the hearing. Once the Planning Commission makes a decision on the application, notice of the decision will be issued, initiating a 15-day appeal period for the applicant and any party who has established standing by submitting comments or

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participating in the public hearing process. Following the appeal period, the applicant will submit the necessary Final Plat application.

Lot Geography:

Comment: The subject property is comprised of 4 lots, with a total area of approximately 141,730 sq ft (3.25 acres). The property has frontage on SE Railroad Ave to the south.

Minimum standards:

Comment: For the existing current R7 Zone, the minimum standards are as follows: 7,000 square feet area, 60-foot width, 80-foot depth, 35-foot street frontage. For the proposed R5 Zone, the minimum standards are: 5,000 square feet area, 50-foot width, 80-foot depth, 35-foot street frontage

Lots in the subdivision will be subject to the requirements of MMC Chapter 17.28, Design Standards. No flag lots are proposed (MMC 17.28.080). The following are also criteria for lot design (MMC 17.28.040): lots are required to be rectilinear where practical; the lateral change in direction for a compound lot line cannot exceed 10% of the distance between opposing lot corners; and double frontage lots are generally not allowed.

Natural Resource Review:

Comment: This review is not applicable. The development site is not in any natural resource overlay zone.

Application Procedures: The application procedures outlined below are for a 2-phase permitting process. The Applications in each phase will be submitted, and it is anticipated will be reviewed, concurrently.

Phase 1.

1. Subdivision (Type III review)

Comment: The subject property is comprised of 4 lots. The minimum size for new lots in the R-5 zone is 5,000 sq ft. The proposed development requires re-platting the subject property using the subdivision process. The current fee for subdivision applications (preliminary plat review) is \$4,400, plus \$100 for each lot over 4 lots. Thus the total fee will be $\$4,400 + (\$100 \times 15) = \$5900.00$

2. Variance (Type III review)

Comment: The proposal will require a Type III variance from street spacing standards under MMC 19.911.4.B:

3. Demolition of an Historic Resource (Type III review)

Comment: Due to the proposed roadway configuration of a loop road, the dwelling at #4217 SE Railroad Ave., an identified Significant Historic Resource (the Keil Hoesly Farm House), will be proposed for demolition. The applicant has submitted an application request and supporting narrative under MMC 19.403.7. The applicant has attached copies of all the steps necessary to meet this section.

4. Zoning Map Amendment (Type III review)

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Comment: The proposal includes rezoning all 4 lots to R-5. The applicant is attempting to include Tax Lot 08500 in the zone change proposal, for a total of 5 lots to be re-zoned. However the applicant does not own 08500, and this last lot may not be involved in the final application. Because the process for the proposed zone change is quasi-judicial in nature and subject to Type III review. The process and approval criteria for a zone change including a zoning map amendment those sections of the code under MMC 19.902.6: must be addressed

5. Comprehensive Plan Map Amendment (Type IV review)

Comment: The Comprehensive Plan Designation of the proposed R5 zone is different from R7 Designation. Therefore as part of the proposal to rezone the property to R-5, a concurrent amendment to the Comprehensive Plan Map 4 – Land Use is required (from Low Density to Moderate Density). Compliance with the approval criteria for a quasi-judicial map amendment are addressed under MMC 19.902.3.B:

6. Property Line Adjustment

Comment: Initially it was anticipated that a series of property line adjustments may be necessary. This is no longer the case as the applicant will be re-platting all four lots in question.

Phase 2. (now included in Phase 1)

Comment: Assuming the Planning Commission approves the demolition of the historic structure on #4217 SE Railroad, the following application is required:

The Deletion of a Landmark This is a Type IV review process, per MMC 19.403.4: This process will result in the removal of the property from the Historic Resources List (Appendix 1 in the Comprehensive Plan) and the Historic Preservation Overlay from this property in the Comprehensive Plan (Map 4) and from the Zoning Map. Subject to the review procedures of MMC 19.1011.4, Major Quasi-Judicial Review. The first hearing will be at the Planning Commission. The Planning Commission will make a recommendation to the City Council, who will make the final decision on the application.

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Compliance with Applicable Standards for :

Subdivision Approval / Variance Approval / Zone Change / Comprehensive Plan Amendment

Chapter 12.16.040 Access Requirements and Standards	10
Chapter 12.24.030 Requirements	13
Chapter 17.12 Application Procedure and Approval Criteria	15
Chapter 17.16 Application Requirements and Procedure	16
Chapter 17.20 Preliminary Plat	16
Chapter 17.28 Design Standards	19
Chapter 17.32 Improvements	22
Chapter 17.44 Exceptions and Variances	23
Chapter 19.300 Base Zones	24
Chapter 19.400 Overlay Zones and Special Areas	24
Chapter 19.500 Supplementary Development Regulations	25
Chapter 19.600 Off-Street Parking and Loading	30
Chapter 19.700 Public Facility Improvements	31
Chapter 19.10000 Review Procedures	34
Chapter 19.1200 Solar Access Protection	35
Chapter 19.111 Variances	36
Chapter 19.900 Amendments to Maps and Ordinances	40

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PLANNING ISSUES

Comment: The following Planning issues are based upon the assumption that the City has approved a zone change to the R-5 zone. The comments address the applicable criteria as they relate to said zone.

Setbacks:

Comment: Per MMC 19.301.4, setbacks for the R-7 zone are 20 feet front and rear yard, and side yard setbacks of at least 5 feet on one side and 10 feet on the other. In the R-5 zone, minimum front and rear yards are 20 ft, side yards are 5 ft, and street-side yards are 15 ft (for corner lots). Per MMC 19.501.2, setbacks for any yard bordering SE Railroad Avenue are measured 30 feet from the right of way centerline (e.g., a rear yard on SE Railroad Avenue must be at least 50 feet from the right of way center line (30 foot ROW setback + 20 foot rear yard setback)).

For Lot 19. The applicant has requested a variance to the street side-yard setback from 15ft to 10-ft to allow for a larger more reasonable envelope.

Landscape:

Comment: In the R-5 zone, a minimum of 25% of the site must be landscaped, including at least 40% vegetation in the front yard (measured from the front property line to the front face of the house). For example a 20-ft wide driveway over a 50-ft wide lot would result in 30-feet of 60% of the front yard being retained for landscaping. The Vegetated front yard areas will be planted in trees, grass, shrubs, or bark dust for planting beds, with no more than 20% of the landscaped area finished in bark dust (as per MMC Subsection 19.504.7).

A maximum of 35% of any R-5 lot may be covered by structures, including decks or patios over 18 in above grade. Therefore if the lot is a minimum of 5,000 SF the maximum building / structure coverage would be 1,750 SF.

Parking:

Comment: MMC Chapter 19.600, states that properties that contain single-family dwellings must provide at least 1 off-street parking space per dwelling unit, and under MMC Subsection 19.607.1, required residential off-street parking spaces must be at least 9 ft. wide and 18 ft. deep. The applicant anticipates that each lot will have a minimum of four off-street spaces, two in the garage, and two in the driveway.

The garages spaces will meet the parking standards because the required spaces cannot be located in a required front or street-side yard. The driveway, and garages will be formed of concrete therefore having a durable and dust-free hard surface. The uncovered parking spaces and maneuvering areas will not exceed 50% of the front yard area and 30% of the required street-side yard area.

On any one lot no more than 3 residential parking spaces will be designed within the required front yard. The parking areas and driveways on the property shall align with the approved driveway approach and shall not be wider than the approach within 10 ft of the right-of-way boundary.

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Transportation Review:

Comment: Because the proposed subdivision will trigger the requirements of MMC Chapter 19.700 Public Facility Improvements. The applicant will be meeting the requirements of MMC 19.700 and the necessary right-of-way dedication and street frontage improvements.

Public Works Issues

Water:

Comment: Applicant has revised the roadway design to include a loop road system. The applicant will extend, and loop a 6" ductile iron water main which will be constructed to provide service to all properties within the subdivision. It is likely that there will be at least one, and possibly two water hydrants internal to the loop road. The subdivision will connect to a City of Milwaukie 14-inch water main on SE Railroad Avenue.

The applicant is aware that the water System Development Charge (SDC) is based on the size of water meter serving the property, and that the corresponding water SDC will be assessed with installation of a water meter. The applicant is requesting SDC credits (will be provided based on the size of any existing water meter serving the property removed from service). The water SDC will be assessed and collected at the time the building permits are issued.

Sewer:

Comment: An 8" sewer main will be constructed to provide sewer service to all properties within the subdivision. Manholes will be located within 400 feet. The new sewer main will connect to a City of Milwaukie 10-inch wastewater main on SE Railroad Avenue. Said line will connect at the west end of the property, and will dead end at the proposed knuckle.

Storm:

Comment: The applicant has submitted a storm water management plan demonstrating that the post-development runoff does not exceed the pre-development. Also, the plan demonstrates compliance with water quality standards. The report notes that all new impervious surfaces, including replacement of impervious surface with new impervious surfaces, are subject to the water quality standards. The proposed water quality swale to be located within the Railroad Right-of-way complies with the City of Milwaukie Public Works Standards for design and construction standards and detailed drawings.

Street:

Comment: The proposed development fronts the north side of SE Railroad Avenue, a collector. The portion of SE Railroad Avenue fronting the proposed development has a right-of-way width of 40 feet and a paved width of 25 feet with undeveloped roadside on both sides of the road. Said right-of-way will be widened by 20-feet, a water quality swale will separate the paved surface with a 12-ft asphalt – path / bicycle path that will run the length of the property.

Internally the applicant is proposing a 28-ft street with a curb tight sidewalk along the south, and west street frontage with a separated sidewalk, and planter strip along the north and east street frontage. The applicant will be

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constructing a 2/3rds street along the east boundary where it connects to the underdeveloped parcel to the east. It is anticipated that when this property develops it will finish that portion of street along its parcel frontage. The north south street will be 21-feet wide – 20feet for fire access, and 1 ft for the space adjacent to a curb line.

Frontage:

Comment: Code Section 19.708, states that all rights-of-way, streets, sidewalks, necessary public improvements, and other public transportation facilities located in the public right-of-way and abutting the development site shall be adequate at the time of development or shall be made adequate in a timely manner. Therefore The Railroad Avenue cross-section will be improved to the following standard: Two 10-foot travel lanes; 4' shoulder; Storm ditch separating the road from the walking path; 12-foot asphalt path set 6" from north edge of right-of-way. Because Railroad Avenue was recently paved additional resurfacing requirements will be required. Both cuts to the street where the applicant is proposing street egress will require a 20' minimum length 2" grind and inlay according to Public Works Standards drawing 516. This replacement is only required in the lane that was cut into (shoulder, travel, etc). The applicant has had to address where there is either double frontage, or corner lots, and how each lot will define the frontage, and where it will take access.

New Interior Roads

Comment: According to Code Table 19.708.2 and the Transportation Design Manual, the minimum local street cross-section is a 50' right-of-way which includes the following: Two 9' travel lanes; Two 6' parking lanes; Two 4' landscape strips; 5' setback sidewalk on both sides of the road. The applicant is requesting an adjustment to this standard to construct a 28-ft street with one planter strip, and a curb tight sidewalk on the south. The applicant has reduced the proposed right-of-way accordingly.

Right of Way:

Comment: The existing right-of-way on SE Railroad Avenue fronting the proposed development is 40 feet. The required right-of-way width for Railroad Avenue is 60'. The south side of the Railroad Avenue's right-of-way is adjacent to the Southern Pacific track right-of-way. This requires the full 20-foot dedication on the north side. Applicant has proposed a 20-foot dedication along entire frontage.

Driveways:

Comment: Code Section 12.16.040.A states that access to private property shall be permitted with the use of driveway curb cuts and driveways shall meet all applicable guidelines of the Americans with Disabilities Act (ADA). The applicant either through direct access or through use of reciprocal access easements has restricted direct access to Railroad Avenue, instead proposing access to the proposed internal loop street. So that while some lot have frontage on Railroad, no access will be taken from said Collector Street. In addition the driveway approaches shall be improved to meet the requirements of Milwaukie's Public Works Standards. All driveways will be at least 7.5 feet from the adjacent property line.

Erosion Control:

Comment: Per Code Section 16.28.020(C), an erosion control permit is required prior to placement of fill, site clearing, or land disturbances, including but not limited to grubbing, clearing or removal of ground vegetation, grading,

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excavation, or other activities, any of which results in the disturbance or exposure of soils exceeding five hundred square feet. To this end the applicant has submitted a preliminary Erosion Control, and Grading Plan calling out the limits of cut/fill, and overall parcel disturbance. Where possible the applicant has not impacted the rear portion of the lots in an attempt to permit the retention of landscaping, and trees to continue to act as a buffer between adjacent lots, and to maintain a sense of the current age, and settled nature of the parcel.

Traffic Impact Study:

Comment: Code Section 19.704.1(A) states that the City will determine whether a transportation impact study (TIS) is required. That this determination is based on proposed preliminary subdivision design and the number of lots created. Based on the pre-app discussion, the City of Milwaukie Engineering Director determined that a TIS will not be required with the proposed loop road design.

Fire Hydrants: Water Supply:

Comment: For one and two family dwellings located in areas with reliable municipal fire fighting water supply the following shall apply: Any homes smaller than 3,600 square feet (including attached garage) shall have a water supply of 1,000 gpm @ 20 psi with hydrant within 600 feet of furthest portion of new residential construction; any homes larger than 3,600 square feet (including attached garage) shall have a water supply that meets fire flow requirements specified in Appendix B of the current Oregon Fire Code, (OFC, Table B105.1) and meets hydrant coverage as specified in Appendix C of the current Oregon Fire Code, (OFC, Table C105.1)

Turn Arouds:

Comment: No Turn arounds are proposed. The subdivision is being proposed with a loop street, allowing for two points of egress to the site for the purposes of general access, and fire protection

Addressing:

Comment: The existing Addresses will be changed to reflect the new street frontage on the proposed public streets

Fire Access: Access:

- 1) Provide address numbering that is clearly visible from the street.
Comment: This will be included, and signed off on the individual building permits.
- 2) The inside turning radius and outside turning radius for a 20' wide road shall not be less than 28 feet and 48 feet respectively, measured from the same center point.
Comment: The turning radius of the proposed internal roads are noted on the preliminary plat plan
- 3) Fire Department turnarounds shall meet the dimensions found in the fire code applications guide. These dimensions need to be shown on the plans.
Comment: No turnarounds are created because a through street is proposed permitting two points of egress from rail road some 300- feet apart.

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- 4) Access streets between 26 feet and less than 32 feet in width must have parking restricted to one side of the street. Access streets less than 26 feet in width must have parking restricted on both sides of the street. No parking restrictions for access roads 32 feet wide or more.

Comment: The applicant is proposing a 28-ft street with parking permitted on one the south side, and west side of the internal street.

Hazardous Mat.:

Comment: There are no know hazardous materials onsite. The applicant is reviewing the possible location of a well or septic associated with the historic house, and will be looking for any evidence of the lead paint, or asbestos on the site.

Fire Marshal Issues:

Comment: Because A Fire Access and Water Supply plan is required for subdivisions and commercial buildings over 1000 square feet in size or when required by Clackamas Fire District #1. The submitted plan sets show fire apparatus access, fire lanes, fire hydrants, fire lines, available fire flow, FDC location (if applicable), the anticipated building square footage (1800 – 2400 SF) , and type of construction (wood) . As part of this application the applicant is providing fire flow tests per NFPA 291.

00

Land Use Permit Request: Subdivision Preliminary Plat Application

Per Milwaukie Municipal Code 17.12.020.E. (Application Procedure), subdivision preliminary plat applications shall be processed as a Type III Review in accordance with Section 19.1006. This application presents facts and narrative responses for approval of the Subdivision Preliminary Plat Application, pursuant to applicable requirements of the Milwaukie Municipal Code. The following text recites applicable provisions of the Milwaukie Municipal Code, followed by a Comment statement from the Applicant. References are made to several attached Exhibits containing evidence in support of the application.

TITLE 12: STREETS, SIDEWALKS AND PUBLIC PLACES 12.16.040 ACCESS REQUIREMENTS AND STANDARDS

A. Access

Private property shall be provided street access with the use of accessways. Driveway approaches shall be constructed as set forth in the Milwaukie Public Works Standards.

Comment: All lots have frontage on a public street. All lots will take direct access, or will use an access easement to the interior local street to minimize access onto Railroad.

B. Access Spacing

1. Standards

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- a. Spacing for accessways on arterial streets, as identified in the Milwaukie Transportation System Plan, shall be a minimum of six hundred (600) feet.
- b. Spacing for accessways on collector streets, as identified in the Milwaukie Transportation System Plan, shall be a minimum of three hundred (300) feet.

Comment: The applicant is proposing to close the two driveways on Railroad, and to create two new street intersections. The centerline of SE 43rd Avenue will be roughly 175-feet from the intersection of SE 42nd Avenue. The proposed stubs of SE 43rd, and SE 44 will be about 425-feet centerline to centerline. The intersection between SE 44th, and SE 45th will be roughly 275-feet. The applicant will require approval of an adjustment to the access spacing onto Railroad Avenue between the existing, and proposed streets.

C. Accessway Location

1. Double Frontage: When a lot has frontage on two (2) or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street.

Comment: Lots 18 & 19 are double frontage. For both lots access is being provided from SE 43rd. Lots 2 & 13 have frontage on Railroad but will take access via easements from SE 42nd and SE 44th. Lots 1, 9, 14, and 15 are corner lots. Each of these lots will take access from the lower classification of street.

2. Location Limitations

Individual access to single-family residential lots from arterial and collector streets is prohibited. An individual accessway may be approved by the Engineering Director only if there is no practicable alternative to access the site, shared access is provided by easement with adjacent properties, and the accessway is designed to contain all vehicle backing movements on the site and provide shared access with adjacent properties.

Comment: This provision is not applicable as no individual access to lots from arterial or collector streets is proposed. Lots 1, 2, 14, and 15 will take access from the proposed internal local street, either directly, or through a proposed easement.

3. Distance from Property Line

The nearest edge of the driveway apron shall be at least seven and one-half (7½) feet from the side property line in residential districts and at least ten (10) feet from the side property line in all other districts. This standard does not apply to accessways shared between two or more properties.

Comment: The applicant can satisfy this provision through the proposed lots that will allow future houses to be site upon each lot with driveways that can satisfy the standards of this section.

4. Distance from Intersection

To protect the safety and capacity of street intersections, the following minimum distance from the nearest intersecting street face of curb to the nearest edge of driveway apron shall be maintained. Where intersecting streets do not have curb, the distance shall be measured from the nearest intersecting street edge of pavement.

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a. At least forty-five (45) feet for single-family residential properties accessing local and neighborhood streets. Where the distance cannot be met on existing lots, the driveway apron shall be located as far from the nearest intersection street face of curb as practicable.

Comment: The applicant has satisfied this provision by proposing lots that will allow future houses to be site upon each lot with driveways that can satisfy the standards of this section.

b. At least three hundred (300) feet for collectors, or beyond the end of queue of traffic during peak hour conditions, whichever is greater.

Comment: This provision is not applicable as the proposed development does not include any access ways on a collector road. All access will be take from the newly proposed local street.

c. At least six hundred (600) feet for arterials, or beyond the end of queue of traffic during peak hour conditions, whichever is greater.

Comment: This provision is not applicable as the proposed development does not include any accessways on an arterial road.

D. Number of Accessway Locations

1. Safe Access Accessway locations shall be the minimum necessary to provide access without inhibiting the safe circulation and carrying capacity of the street.

Comment: The applicant has satisfied this provision by designing the proposed subdivision with the minimum necessary amount of accessways, so as to ensure safe circulation, and to not inhibit the carrying capacity of the streets. Each proposed lot has one access onto a public street.

2. Shared Access

The number of accessways on collector and arterial streets shall be minimized whenever possible through the use of shared accessways and coordinated on-site circulation patterns. Within commercial, industrial, and multifamily areas, shared accessways and internal access between similar uses are required to reduce the number of access points to the higher-classified roadways, to improve internal site circulation, and to reduce local trips or movements on the street system. Shared accessways or internal access between uses shall be established by means of common access easements.

Comment: Lots 1 & 2 will utilize and access easement to enter the local street rather than directly out onto Railroad. Lots 14 & 15 will do the same.

3. Single-Family Residential

One (1) accessway per property is allowed for single-family residential uses. a. For lots with more than one (1) street frontage on a local street and/or neighborhood route, one (1) additional accessway may be granted. Under such circumstances, a street frontage shall have no more than one (1) driveway approach.

Comment: Those lots with more than one frontage will take their access from the internal local street.

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b. For lots with one (1) street frontage on a local street and/or neighborhood route, one (1) additional accessway may be granted where the driveway approaches can be spaced fifty (50) feet apart, upon review and approval by the Engineering Director. The spacing is measured between the nearest edges of the driveway aprons. Where the fifty (50)-foot spacing cannot be met, an additional accessway shall not be granted.

Comment: This provision is not applicable as the proposed subdivision does not propose lots with more than one accessway.

E. Accessway Design

1. Design Guidelines Driveway approaches shall meet all applicable standards of the Americans with Disabilities Act and Milwaukie Public Works Standards.

Comment: The applicant acknowledges this provision. All future driveway approaches will comply with applicable standards of the Americans with Disabilities Act and Milwaukie Public Works Standards.

F. Accessway Size

2. Single-family attached and detached residential uses shall have a minimum driveway apron width of nine (9) feet and a maximum width of twenty (20) feet.

Comment: The applicant has satisfied this provision by designing all proposed driveway aprons with a width between 9 and 20 feet.

12.24.030 REQUIREMENTS

A. No person shall maintain, or allow to exist on property which they own or which is in their possession or control, trees, shrubs, hedges, or other vegetation or projecting overhanging limbs thereof, which obstruct the view necessary for safe operation of motor vehicles or otherwise cause danger to the public in the use of City streets. It shall be the duty of the person who owns, possesses, or controls the property to remove or trim and keep trimmed any obstructions to the view.

Comment: The applicant acknowledges the applicable provisions of this section

B. A clear vision area shall be maintained at all driveways and accessways and on the corners of all property adjacent to an intersection as provided by Section 12.24.040.

Comment: The applicant is aware of these provisions. A clear vision area will be maintained at all driveways and accessways. Lots 1,2, 16, and 14 being adjacent to intersections, will also maintain a clear vision area. Compliance can be assured through a condition of approval.

C. A clear vision area shall contain no planting, fence, wall, structure, or temporary or permanent obstruction, except for an occasional utility pole or tree, exceeding three (3) feet in height, measured from the top of the curb, or where no curb exists, from the street centerline grade. Trees exceeding this height may be located in this area; provided, all branches and foliage are removed to the height of eight (8) feet above the grade. Open wire fencing that does not obscure sight more than ten percent (10%) is allowed to a maximum height of six (6) feet. (Ord. 2004 § 1, 2009; Ord. 1679 § 3, 1990)

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Comment: The applicant is aware of these provisions. A clear vision area will be maintained at all driveways and accessways. Lots 1, 3, 8, 10 and 11 being adjacent to intersections, will also maintain a clear vision area. Compliance can be assured through a condition of approval.

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TITLE 17: LAND DIVISION

17.12.040 APPROVAL CRITERIA FOR PRELIMINARY PLAT

A. Approval Criteria

The approval authority may approve, approve with conditions, or deny a preliminary plat based on the following approval criteria:

1. The proposed preliminary plat complies with Title 19 of this code and other applicable ordinances, regulations, and design standards.

Comment: The applicant is in compliance with this provision, as demonstrated by this application narrative and submitted exhibits, including preliminary engineering plans, preliminary plat and stormwater report.

2. The proposed division will allow reasonable development and will not create the need for a variance of any land division of zoning standard.

Comment: The applicant follows this provision as the proposed development will not create a need for a variance of any land division or zoning standard.

3. The proposed subdivision plat name is not duplicative and the plat otherwise satisfies the provisions of ORS 92.090(1).

Comment: The applicant follows this provision as the proposed subdivision plat name satisfies the applicable provisions of ORS 92.090(1) and is not duplicative (see Exhibit J).

4. The streets and roads are laid out to conform to the plats of subdivisions already approved for adjoining property as to width, general direction, and in all other respects unless the City determines it is in the public interest to modify the street or road pattern.

Comment: The applicant has satisfied this provision by proposing streets and roads laid out so as to conform to the width, general direction, and all other respects of that of the adjacent Streets.

5. A detailed narrative description demonstrating how the proposal conforms to all applicable code sections and design standards.

Comment: The applicant follows this provision as this narrative herein and submitted exhibits demonstrate how the proposal satisfies all applicable code sections and design standards.

B. Conditions of Approval

The approval authority may attach such conditions as are necessary to carry out the applicable ordinances and regulations and may require access control strips be granted to the City for controlling access to adjoining undeveloped properties. (Ord.1965 §§ 6, 7, 2006; Ord. 1907 (Attach. 1), 2002)

Comment: The applicant is aware of this provision. Compliance can be assured through a condition of approval.

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17.16.060 PRELIMINARY PLAT FOR PARTITION AND SUBDIVISION

The following shall accompany applications for partition:

A. Completed application form signed by all owners of property included in the proposal;

Comment: The applicant has satisfied this provision by including with this application a completed application form signed by all property owners (see Exhibit A).

B. Application fee as adopted by the City Council;

Comment: The applicant has satisfied this provision by including with this application all associated fees.

C. Completed and signed "submission requirements" and "partition checklist" or "subdivision checklist" forms as appropriate;

Comment: The applicant has satisfied this provision by including with this application a completed and signed submission requirement form and subdivision checklist form (see Exhibit B and Exhibit C).

D. All information specified on the "submission requirements" and "partition checklist" or "subdivision checklist" forms as appropriate;

Comment: The applicant has satisfied this provision by including with this application a completed and signed submission requirement form and subdivision checklist form; all information specified is appropriate (see Exhibit B and Exhibit C).

E. Requirements and information specified in Chapter 17.20; and

Comment: The applicant has satisfied this provision by reviewing Chapter 17.20 and addressing compliance with all provisions found to be applicable to this application.

F. Any additional information as may be needed to demonstrate compliance with approval

Comments: The applicant has satisfied this provision by reviewing the Milwaukie Municipal Code and addressing compliance with all provisions found to be applicable to this application.

17.20.010 SUBMISSION OF PLANS

Applicants for partition, subdivision, and replat shall prepare a preliminary plat and such improvement plans and other supplemental material including as may be required to describe and represent the objectives of the proposal. (Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied this provision by including with this application a preliminary plat (see Exhibit H), improvement plans, and all other necessary supplemental materials to properly represent the objectives of the proposal.

17.20.020 SCALE

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The preliminary plat shall be drawn at a scale and on a sheet size that reliably and conveniently represents design details sufficient for the proper plan review and determination of compliance with this title. (Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied this provision by providing a preliminary plat drawn to scale and on a sheet size to insure all design details are legible (see Exhibit H).

17.20.030 GENERAL INFORMATION TO BE SHOWN ON THE PRELIMINARY PLAT

A. Preliminary plats shall be prepared by an Oregon registered land surveyor.

Comment: The applicant has satisfied this provision by providing a preliminary plat prepared by a land surveyor registered in the state of Oregon.

B. The following general information shall be submitted with the preliminary plat:

1. Proposed name of the subdivision/partition. The name shall not duplicate nor resemble the name of another subdivision in the county. Subdivision names shall be approved by the County Surveyor in accordance with ORS Chapter 92; 2. Date, north point, and scale of drawing; 3. Appropriate identification clearly stating the map is a preliminary plat; 4. Location by section, township, and range; and a legal description sufficient to define the location and boundaries of the area to be divided; 5. Names and addresses of the owner, subdivider, and engineer or surveyor; 6. Acreage; 7. Structures and yard setbacks; 8. The location, width, and purpose of easements; 9. The location, approximate dimensions, and area of all lots; 10. Lot and block numbers; and 11. Other information as maybe specified on application forms and checklists prescribed by the Planning Director.

Comment: The applicant has satisfied 17.20.030.B.(1-11) by including all required general information with the preliminary plat (see Exhibit H).

C. Vicinity map shall be drawn at an appropriate scale, showing all existing subdivisions, streets, and un-subdivided land between the proposed subdivision and the nearest existing arterial or collector streets, and showing how proposed streets may be extended to connect with existing streets. At a minimum, the vicinity map shall depict future street connections for land within 400 feet of the subject property. (Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied 17.20.030.C by including all necessary design standards with the vicinity map (see Exhibit H).

17.20.050 EXISTING CONDITIONS

The following shall be shown on the preliminary plat: A. Location, width, and names of all existing or platted streets within or adjacent to the tract, together with easements, railroad right-of-way, and other important features, such as section lines and corners, City boundary lines, and monuments.; B. Contour lines related to an established benchmark or other datum approved by the Engineering Director, with intervals at a minimum of 2 feet for slopes up to 10% and 5 feet for slopes over 10%.; C. Location within the area to be divided, and in the adjoining streets and property, of existing sewers, water mains, culverts, storm drain system, and electric conduits or lines proposed to service the property to be subdivided, and invert elevations of sewer manholes, drain pipes, and culverts.; D. Zoning and existing uses within the tract and 200 feet on all sides, including the location and use of all existing structures indicating those that will remain and those to be removed; E. Approximate location of areas subject to inundation

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or stormwater overflow with approximate high-water elevation. Location, width, direction, and flow of all watercourses on or abutting the tract including wetlands and watercourses as shown on City-adopted natural resource and Title 3 maps; F. Natural features such as rock outcroppings, drainages whether seasonal or perennial, wooded areas, and isolated trees, including type and caliper; G. Floodway and floodplain boundary.; H. Areas containing slopes of 25% or greater. (Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied 17.20.050 by including all applicable design standards for this 19-lot subdivision on the preliminary plat plans (see Exhibit H).

17.20.060 PROPOSED CONDITIONS

A. 12 copies of a preliminary plat shall be submitted to the Planning Director. The plat shall include the following information: 1. Date, north point, scale, address, assessor reference number, and legal description; 2. Name and address of the record owner or owners and of the person who prepared the site plan; 3. Approximate acreage and square feet under a single ownership, or if more than 1 ownership is involved, the total contiguous acreage of all landowners directly involved in the partition; 4. For land adjacent to and within the area to be divided, the locations, names, and existing widths of all streets, driveways, public safety accesses, easements, and rights-of-way; location, width, and purpose of all other existing easements; and location and size of sewer and waterlines, drainage ways, power poles, and other utilities; 5. Location of existing structures, identifying those to remain in place and those to be removed; 6. Lot design and layout, showing proposed setbacks, landscaping, buffers, driveways, lot sizes, and relationship to existing or proposed streets and utility easements; 7. Existing development and natural features for the site and adjacent properties, including those properties within 100 feet of the proposal, showing buildings, mature trees, topography, and other structures; 8. Elevation and location of flood hazard boundaries; 9. The location, width, name, and approximate centerline grade and curve radii of all streets; the relationship of all streets to any projected streets planned by the City; whether roads will continue beyond the plat; and existing and proposed grade profiles. No street name may be used which will duplicate or be confused with the name of an existing street, except for extensions of existing streets. Street names and numbers shall conform to the established pattern in the surrounding area.

Comment: The applicant has satisfied 17.20.050.A.(1-9) by including all applicable design standards with the preliminary plat (see Exhibit H).

B. A conceptual plan shall be provided for complete subdivision or partitioning of the property, as well as any adjacent vacant or underutilized properties, so that access issues may be addressed in a comprehensive manner. The concept plan shall include documentation that all options for access have been investigated including shared driveways, pedestrian accessways, and new street development.

Comment: As depicted on the submitted preliminary plat, the 19 lots proposed in this application provide for the complete subdivision of the property under its proposed R5 zoning (see Exhibit I).

C. A detailed narrative description demonstrating how the proposal meets all applicable provisions of this title, Title 19, and City design standards, including the Public Works Standards.

Comment: The applicant has satisfied this provision by utilizing this narrative to demonstrate compliance with all applicable provisions of Title 17, Title 19, and City design standards, including the Public Works Standards.

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D. Plans and drawings as necessary to demonstrate compliance with all applicable provisions of chapters of this title, Title 19, and City design standards, including the Public Works Standards.

Comment: The applicant has satisfied this provision by submitting plans and drawings which demonstrate compliance with all applicable provisions of Title 17, Title 19, and City design standards, including the Public Works Standards.

G. A drainage summary report and plan prepared in accordance with the applicable Public Works Standards.

Comment: The applicant has satisfied this provision by submitting with this application a drainage summary report and plan prepared in accordance with the applicable Public Works Standards (see Exhibit F).

H. Proposed deed restrictions, if any, in outline form.

Comment: The applicant has satisfied this provision by submitting with this application a title deed verifying ownership of the property (see Exhibit D).

I. Improvements to be made by the developer and the approximate time such improvements are to be completed. Sufficient detail regarding proposed improvements shall be submitted so that they may be checked for compliance with the objectives of this title, State law, and other applicable City ordinances. If the nature of the improvements is such that it is impractical to prepare all necessary details prior to approval of the preliminary plat, the additional details shall be submitted with the request for final plat approval. (Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied this provision by submitting with this application detailed information regarding improvements to be made by the developer (see Exhibit H).

17.28.010 CONFORMITY OF SUBDIVISION

Partitions and subdivisions shall conform with any development plans of the City and shall take into consideration any preliminary plans made in anticipation thereof and shall conform with the requirements of state laws and with the standards established by the City. (Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied this provision by proposing a subdivision which conforms to the development plans of the City, in accordance with the requirements of state laws and the standards established by the City.

17.28.020 PUBLIC FACILITY IMPROVEMENTS

All land divisions and boundary changes that increase the number of lots shall be subject to the requirements and standards contained in Chapter 19.700 Public Facility Improvements and the Public Works Standards for improvements to streets, sidewalks, bicycle facilities, transit facilities, and public utilities. (Ord. 2025 § 3, 2011; Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied this provision by reviewing Chapter 19.700 Public Facility Improvements and the Public Works Standards, and proposing designs in compliance with all applicable provisions (see Exhibit H).

17.28.030 EASEMENTS

A. Utility Lines - Easements for sewers, water mains, electric lines, or other public utilities shall be dedicated

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wherever necessary. The easements shall be provided in accordance with applicable design standards in the Public Works Standards.

Comment: The applicant has satisfied this provision by providing easements for sewers, water mains, electric lines and other public utilities where necessary in accordance with applicable design standards set out by the Public Works Standards (see Exhibit H).

B. Watercourses

If a subdivision is traversed by a watercourse such as a drainageway, channel, or stream, there shall be provided a stormwater easement or drainage right-of-way conforming substantially with the lines of the watercourse, and such further width as will be adequate for the purpose of construction and maintenance. Streets, parkways, bicycle ways, or pedestrian ways parallel to major watercourses may be required. (Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: This provision is not applicable as the proposed subdivision is not traversed by a watercourse.

17.28.040 GENERAL LOT DESIGN

This section does not apply to units of land that are created for purposes other than land development including parks, natural areas, right-of-way dedications, or reservations of a similar nature. Lots and tracts created for cottage cluster housing development, per Subsection 19.505.4, are also exempt from the requirements of this section.

A. Size and Shape Lot size, width, shape, and orientation shall be appropriate for the location and the type of use contemplated. Minimum lot standards shall conform to Title 19.

Comment: The applicant has satisfied this provision by proposing lots appropriate for the area and type of use. All lot standards established by Title 19 and applicable to the R-5 zone have been satisfied (see Exhibit H).

B. Rectilinear Lots Required

Lot shape shall be rectilinear, except where not practicable due to location along a street radius, or existing lot shape. The sidelines of lots, as far as practicable, shall run at right angles to the street upon which the lots face. As far as practicable, the rear lot line shall run parallel to the street.

Comment: The applicant has satisfied this provision by proposing rectilinear lots. Sidelines of the proposed lots run at right angles to the street upon which the lots face, and rear lot lines run parallel to the street (see Exhibit H).

C. Limits on Compound Lot Line Segments Changes in direction along side and rear lot lines shall be avoided. Cumulative lateral changes in direction of a side or rear lot line exceeding 10% of the distance between opposing lot corners along a given lot line is prohibited. Changes in direction shall be measured from a straight line drawn between opposing lot corners.

Comment: The applicant would like to determine with the City which lots can be described as rear lot lines, and which are side lot lines.

D. Adjustments to Lot Shape Standard Lot shape standards may be adjusted subject to Section 19.911 Variances.

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Comment: This provision is not applicable, as the applicant is not requesting a lot shape variance.

E. Limits on Double and Reversed Frontage Lots Double frontage and reversed frontage lots should be avoided, except where essential to provide separations of residential development from railroads, traffic arteries, or adjacent nonresidential uses, or to overcome specific disadvantages of topography and orientation.

Comment: This provision is not applicable as no lots with double frontage or reversed frontage are proposed. There are numerous corner lots, given the required geometry of the property, but none that could be defined as 'double frontage'

F. Measurement of Required Frontage

Pursuant to the definition and development standards contained in Title 19 for frontage, required frontage shall be measured along the street upon which the lot takes access. (Ord. 2051 § 2, 2012; Ord. 2025 § 3, 2011; Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: The applicant has satisfied this provision by measuring all frontage along the street upon which the lots takes access. The minimum street frontage requirement for a standard lot in the R-5 zone is 35 feet (see Table 19.301.4. Low Density Residential Development Standards). All applicable lot frontage standards have been satisfied (see Exhibit H).

17.28.050 FLAG LOT DEVELOPMENT AND FUTURE ACCESS

Applicants for flag lot partitioning must show that access by means of a dedicated public street is not possible. Consideration shall be given to other inaccessible adjacent or nearby properties for which a jointly dedicated public right-of-way could provide suitable access and avoid other flag lots. The creation of flag lots shall not preclude the development of street access to surrounding properties. Where there is the potential for future development on adjacent lots with new roadway development, flag lots may be allowed as an interim measure. In this case, Planning Commission review shall be required and the flag lot(s) must be designed to allow for future street development. Dedication of the future street right-of-way shall be required as part of final plat approval. (Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: This provision is not applicable as no flag lots are proposed.

17.28.060 FLAG LOT DESIGN STANDARDS

A. Consistency with the Zoning Ordinance

Flag lot design shall be consistent with Subsection 19.504.8.

B. More than 2 Flag Lots Prohibited: The division of any unit of land shall not result in the creation of more than 2 flag lots within the boundaries of the original parent lot. Successive land divisions that result in more than 2 flag lots are prohibited. (Ord. 2051 § 2, 2012; Ord. 2025 § 3, 2011; Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: These provisions are not applicable as no flag lots are proposed.

17.28.070 FLAG LOT LIMITATIONS

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Flag lots are prohibited in new subdivisions and subdivisions platted after August 20, 2002, the effective date of Ordinance #1907. (Ord. 2051 § 2, 2012; Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: This provision is not applicable as no flag lots are proposed.

17.32.010 IMPROVEMENT PROCEDURES

In addition to other requirements, improvements installed by the applicant, either as a requirement of these regulations or their own option, shall conform to the requirements of this title and to improvement standards and specifications in the Public Works Standards and Chapter 19.700 Public Facility Improvements. The improvements shall be installed in accordance with the following procedure:

A. Work shall not begin until plans have been checked for adequacy and approved by the City in writing. All such plans shall be prepared in accordance with requirements of the City.

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

B. Work shall not begin until the City has been notified in advance, and if work is discontinued for any reason, it shall not be resumed until the City is notified.

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

C. Improvements shall be constructed under the inspection and to the satisfaction of the City. The City may require changes in typical sections and details if unusual conditions arising during construction warrant such changes in the public interest.

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

D. All underground utilities, installed in streets by the applicant, including but not limited to, water, sanitary sewers, and storm drains shall be constructed prior to the surfacing of streets. Stubs for service connections shall be extended to property lines long enough to avoid disturbing the street improvements when service connections are made. How utilities are to be serviced shall be indicated.

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

E. A map showing all public improvements as built shall be filed with the City upon completion of the improvements. All such maps shall be prepared in accordance with requirements of the City. (Ord. 2025 § 3, 2011; Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

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17.32.030 GUARANTEE

All improvements installed by the applicant shall be guaranteed as to workmanship and material for a period of 1 year following acceptance by the City. Such guarantee shall be secured by cash deposit or bond in the amount of the value of the improvements as set by the Engineering Director. Said cash or bond shall comply with the terms and conditions of Section 17.24.060. (Ord. 2003 § 2, 2009; Ord. 1907 (Attach. 1), 2002)

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

17.44.010 VARIANCE

A variance of any provision of this title may only be granted in accordance with Section 19.911. (Ord. 2025 § 3, 2011; Ord. 1907 (Attach. 1), 2002)

Comment: The three variances proposed by the applicant have addressed under the response to Code Section 19.911 later in this narrative.

TITLE 19: ZONING

19.301 LOW DENSITY RESIDENTIAL ZONES

19.301.2 Allowed Uses in Low Density Residential Zones

Uses allowed, either outright or conditionally, in the low density residential zones are listed in Table 19.301.2 below. Similar uses not listed in the table may be allowed through a Director's Determination pursuant to Section 19.903. Notes and/or cross references to other applicable code sections are listed in the "Standards/Additional Provisions" column. See Section 19.201 Definitions for specific descriptions of the uses listed in the table.

Comment: The applicant has satisfied this provision as single-family detached dwellings are a permitted use in the R-5 zone (see Table 19.301.2)

19.301.4 Development Standards

In the low density residential zones, the development standards in Table 19.301.4 apply. Notes and/or cross references to other applicable code sections are listed in the "Standards/Additional Provisions" column. Additional standards are provided in Subsection 19.301.5. See Sections 19.201 Definitions and 19.202 Measurements for specific descriptions of standards and measurements listed in the table.

Comment: The property is zoned R5, a Low Density Residential zoning district as per the provisions of this section. The applicant has satisfied the provisions of 19.301.4 Development Standards by reviewing Table 19.301.4 Low Density Residential Development Standards, and proposing a 19-lot preliminary plat that complies with all applicable lot standards, development standards and density requirements for the R-5 Zone (see Exhibit H).

19.301.5 Additional Development Standards

A. Side Yards: In the R-7 Zone, one side yard shall be at least 5 ft and one side yard shall be at least 10 ft, except on a corner lot the street side yard shall be 20 ft.

Comment: This provision is not applicable as the applicant's site is proposed to be zoned R-5.

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B. Lot Coverage

The lot coverage standards in Subsection 19.301.4.B.4 are modified for specific uses and lot sizes as described below. The reductions and increases are combined for properties that are described by more than one of the situations below.

1. Decreased Lot Coverage for Large Lots: The maximum lot coverage percentage in Subsection 19.301.4.B.4 is reduced by 10 percentage points for a single-family detached dwelling, duplex, or residential home on a lot that is more than 2.5 times larger than the minimum lot size in Subsection 19.301.4.A.1.

Comment: The minimum lot size for a single-family detached home in the R-5 zone is 5,000 sq. this provision is thereby not applicable as no proposed lots are more than 2.5 times larger than the minimum lot size for the R-5 zone.

2. Increased Lot Coverage for Single-Family Detached Dwellings: The maximum lot coverage percentage in Subsection 19.301.4.B.4 is increased by 10 percentage points for development of a single-family detached dwelling, or an addition to an existing single-family detached dwelling, provided that the portions of the structure that are in excess of 20 ft high, or in excess of one story, are limited to the lot coverage standard listed in Subsection 19.301.4.B.4. Only portions of the structure that are less than 20 and no taller than one story can exceed the listed lot coverage standard. See Figure 19.301.5.B.2 for an illustration of this allowance. A Type II variance per Subsection 19.911.4.A, to further increase this lot coverage allowance, is prohibited.

Comment: This provision is not applicable as the applicant follows all applicable standards for maximum lot coverage percentages (see Exhibit H). No Type II variance per Subsection 19.911.4.A is requested.

3. Increased Lot Coverage for Duplexes

The maximum lot coverage percentage in Subsection 19.301.4.B.4 is increased by 20 percentage points for a duplex.

Comment: This provision is not applicable as no duplexes are proposed.

4. Increased Lot Coverage for Detached Accessory Dwelling Units

The maximum lot coverage percentage in Subsection 19.301.4.B.4 is increased by 5 percentage points for the development of a new detached accessory dwelling unit. This allowance applies only to the detached accessory structure and does not allow for the primary structure or other accessory structures to exceed lot coverage standards.

Comment: This provision is not applicable as no detached accessory dwellings are proposed.

C. Front Yard Minimum Vegetation

At least 40% of the front yard shall be vegetated. The front yard vegetation area required by this subsection counts toward the minimum required vegetation for the lot. A property may provide less than the 40% of the front yard vegetation requirement if it is necessary to provide a turnaround area so that vehicles can enter a collector or arterial street in a forward motion.

Comment: At the future time of building permit, this section will be reviewed for compliance.

D. Residential Densities: The minimum and maximum development densities in Subsection 19.301.4.C.1 are

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applicable for land divisions and replats that change the number of lots. If a proposal for a replat or land division is not able to meet the minimum density requirement—due to the dimensional requirements for lot width, lot depth, or lot frontage—the minimum density requirement shall instead be equal to the maximum number of lots that can be obtained from the site given its dimensional constraints. The inability of new lot lines to meet required yard dimensions from existing structures shall not be considered as a basis for automatically lowering the minimum density requirement.

Comment: The applicant has satisfied this provision by complying with all applicable minimum and maximum development densities. The minimum density requirement for the R-5 zone is 7 dwellings per acre and the maximum density requirement for the R-5 zone is 8.7 dwellings per acre. After dedication of Right-of-way both along Railroad Avenue, and internally along the proposed public streets there is a Net Developable Area (NDA) of 97,637 SF, or 2.24 acres. The maximum density permitted under 19.301.4.C.1 is 8.7 lots per acre with a minimum of 7 lots per acre. The NDA permits therefore between 15.69, and 19.49 lots. The applicant is proposing the development of 19 lots within the permitted range.

E. Accessory Structure Standards

Standards specific to accessory structures are contained in Section 19.502.

Comment: This provision is not applicable as no accessory structures are proposed.

F. Number of Dwelling Structures

In the low density residential zones, 1 primary building designed for dwelling purposes shall be permitted per lot. See Subsection 19.504.4.

Comment: The applicant has satisfied this provision by proposing only one primary dwelling per lot (see Exhibit H).

G. Off-Street Parking and Loading

Comment: The applicant has reviewed Chapter 19.600 and has satisfied all applicable standards regarding off-street parking and loading.

H. Public Facility Improvements

Transportation requirements and public facility improvements are required as specified in Chapter 19.700.

Comment: The applicant has reviewed Chapter 19.700 and has satisfied all applicable standards regarding transportation requirements and public facility improvements.

I. Additional Standards

Depending upon the type of use and development proposed, the following sections of Chapter 19.500 Supplementary Development Regulations may apply. These sections are referenced for convenience, and do not limit or determine the applicability of other sections within the Milwaukie Municipal Code.

1. Subsection 19.504.4 Buildings on the Same Lot
2. Subsection 19.504.8 Flag Lot Design and Development Standards

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3. Subsection 19.505.1 Design Standards for Single-Family Dwellings and Duplexes
4. Subsection 19.505.2 Garage and Carport Standards
5. Subsection 19.506.4 Manufactured Dwelling Siting and Design Standards, Siting Standards

Comment: Subsections 19.504.4 (Buildings on the Same Lot), 19.504.8 (Flag Lot Design and Development Standards), and 19.506.4 (Manufactured Dwelling Siting and Design Standard, Siting Standards) are not applicable as more than one building on the same lot, flag lots, and manufactured dwellings are not proposed. Future building permits for single family detached houses on each of the 19 lots proposed in this application will be reviewed for compliance with Subsection 19.505.1 (Design Standards for Single-Family Dwellings and Duplexes) and Subsection 19.505.2 (Garage and Carport Standards).

19.501 GENERAL EXCEPTIONS

The exceptions listed in Subsections 19.501.1–4 below are “by right” exceptions. “By right” exceptions require no special review or approval by the City to implement.

19.501.1 Lot Size Exceptions

Any legal lot or lot of record that does not meet the area or dimensional requirements specified in Chapter 19.300 may be put to a use permitted by the requirements of the Zoning Ordinance, with the following limitations: A. The development must conform to all other applicable standards of Title 19, unless a variance is granted per Section 19.911. B. Single-family detached dwellings shall not be built on a lot with less than 3,000 sq ft of lot area.

Comment: The applicant has satisfied all lot size dimensional requirements, and does not require any lot size exceptions.

19.501.2 Yard Exceptions

A. In addition to yard requirements listed for each zoning district, buildings along certain major streets are subject to additional yard requirements as provided in Table 19.501.2.A below. Yards shall be measured so that the minimum distance from the center line of the right-of-way to the closest point of any building is the distance listed in Table 19.501.2.A plus the yard requirement of the underlying zone.

Comment: The applicant has reviewed Table 19.501.2.A (Additional yard Requirements) and all proposed lots are in compliance with all applicable provisions of this section.

B. Architectural features such as cornices, eaves, canopies, sunshades, gutters, steps, unroofed landings, and flues may project up to 24 in into a required side yard or 36 in into a required front or rear yard. Such features extending from an accessory structure shall not be closer than 3 ft from a property line.

Comment: The applicant is aware of these provisions. Provisions will be satisfied at the time of future building permit and approval. Compliance can be assured through conditions of approval.

C. A covered porch on a single-family detached dwelling may extend 6 ft into a required front yard if the following standards are met.

1. The porch is not enclosed on any side other than what is enclosed by the exterior walls of the dwelling. The following are not considered to be enclosures: structural supports for a covered porch, projections not extending more than 3 ft upward from the surface of the porch, railings, retractable sunshades, screens, or netting.

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2. The surface of the porch does not exceed 18 in high above the average grade.
3. The porch is at least 5 ft from the front lot line.

Comment: The applicant is aware of these provisions. Provisions will be satisfied at the time of future building permit and approval. Compliance can be assured through conditions of approval.

19.501.3 Building Height and Side Yard Height Plane Exceptions

A. Projections such as chimneys, spires, domes, elevator shaft housings, flagpoles, and other similar objects not used for human occupancy are not subject to the building height and side yard height plane limitations of the Zoning Ordinance, except as provided in an LF Zone.

B. The following encroachments into a side yard height plane are allowed:

1. Roof overhangs or eaves, provided that they do not extend more than 30 in horizontally beyond the side yard height plane.
2. The gable end of a roof, provided that the encroachment is not more than 8 ft high above the side yard height plane or more than 40 ft wide.
3. Dormers, with the following limitations:
 - a. The highest point of any dormer is at or below the height of the primary roof ridge.
 - b. The encroachment is not more than 6 ft high above the side yard height plane or more than 8 ft wide.
 - c. The combined width of all dormers does not exceed 50% of the length of the roof which they are located.

Comment: The applicant is aware of these provisions. Provisions will be satisfied prior to the design of homes. Compliance can be assured through conditions of approval.

19.501.4 Density Exceptions

In exchange for the dedication of parkland, residential density may be increased (and lot sizes decreased) so that overall parcel density remains the same. (Ord. 2051 § 2, 2012; Ord. 2025 § 2, 2011)

Comment: This provision is not applicable as no variances to density requirements are requested.

19.504 SITE DESIGN STANDARDS

19.504.1 Clear Vision Areas

A clear vision area shall be maintained on the corners of all property at the intersection of 2 streets or a street and a railroad according to the provisions of the clear vision ordinance in Chapter 12.24.

Comment: The applicant has satisfied this provision by maintaining a clear vision area on the corners of all property at the intersection of two internal street access points out to SE Railroad.

19.504.2 Maintenance of Minimum Ordinance Requirements

No lot area, yard, other open space, or off-street parking or loading area shall be reduced by conveyance or otherwise below the minimum requirements of this title, except by dedication or conveyance for a public use.

Comment: The applicant has satisfied this provision as no lot area, yard, other open space, or off-street parking or loading area reduced by conveyance have been proposed.

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19.504.3 Dual Use of Required Open Space

No lot area, yard, or other open space or off-street parking or loading area which is required by this title for one use shall be used to meet the required lot area, yard, or other open space or off-street parking area for another use, except as provided in Subsection 19.605.4.

Comment: The applicant has satisfied this provision as no lot area, yard or off-street parking area has been used to meet the required lot area, yard or off-street parking area for another use.

19.504.4 Buildings on the Same Lot

- A. In R-10, R-7, and R-5 Zones, 1 primary dwelling shall be permitted per lot. A detached accessory dwelling unit may be permitted per Subsection 19.910.1.

Comment: The applicant has satisfied this provision as only one primary dwelling unit is proposed per lot.

B. In the R-3 Zone, 1 single-family detached dwelling shall be permitted per lot. A detached accessory dwelling unit may be permitted per Subsection 19.910.1. Multifamily housing, with multiple structures designed for dwelling purposes, may be permitted as a conditional use per Section 19.905.

Comment: This provision is not applicable as the proposed development is zoned R-5.

19.504.5 Distance from Property Line

Where a side or rear yard is not required and a structure is not to be erected at the property line, it shall be set back at least 3 ft from the property line.

Comment: This provision is not applicable as the R-5 zone has required side and rear yard setbacks.

19.504.6 Transition Area Measures

Where commercial, mixed use, or industrial development is proposed adjacent to properties zoned for lower-density residential uses, the following transition measures shall be required. These additional requirements are intended to minimize impacts on lower-density residential uses.

A. All yards that abut, or are adjacent across a right-of-way from, a lower-density zone shall be at least as wide as the required front yard width of the adjacent lower-density zone. This additional yard requirement shall supersede the base zone yard requirements for the development property where applicable.

B. All yards that abut, or are adjacent across a right-of-way from, a lower-density zone shall be maintained as open space. Natural vegetation, landscaping, or fencing shall be provided to the 6-ft level to screen lower-density residential uses from direct view across the open space.

Comment: These provisions are not applicable as the proposed development is not zoned commercial, mixed use or industrial.

19.504.7 Minimum Vegetation

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No more than 20% of the required vegetation area shall be covered in mulch or bark dust. Mulch or bark dust under the canopy of trees or shrubs is excluded from this limit. Plans for development shall include landscaping plans which shall be reviewed for conformance to this standard.

Comment: The applicant will satisfy this provision as no more than 30% of the required vegetation area shall be covered in mulch or bark dust. Compliance can be assured through conditions of approval.

19.504.8 Flag Lot Design and Development Standards

A. Applicability

Comment: These provisions are not applicable as no flag lots are proposed.

19.504.9 On-Site Walkways and Circulation

Comment: These provisions are not applicable as the proposed development is for single-family residential development.

19.504.10 Setbacks Adjacent to Transit

Comment: These provisions are not applicable as the proposed development is not zoned for commercial, office or institutional development.

19.505 BUILDING DESIGN STANDARDS

19.505.1 Design Standards for Single-Family Dwellings and Duplexes

C. Standards: All buildings that meet the applicability provisions in Subsection 19.505.1.B shall meet the following design standards. The graphics provided are intended to illustrate how development could comply with these standards and should not be interpreted as requiring a specific architectural style. An architectural feature may be used to comply with more than one standard. An applicant may request a variance to the Detailed Design standards in Subsection 19.505.1.C.4 through a Type II review, pursuant to Subsection 19.911.3.B. Variances to any other design standards requires a variance through a Type III review, per Subsection 19.911.3.C.

1. Articulation

All buildings shall incorporate design elements that break up all street-facing façades into smaller planes as follows. See Figure 19.505.1.C.1 for illustration of articulation.

a. For buildings with 30-60 ft of street frontage, a minimum of 1 of the following elements shall be provided along the street-facing façades.

- (1) A porch at least 5 ft deep.
- (2) A balcony that is at least 2 ft deep and is accessible from an interior room.
- (3) A bay window that extends at least 2 ft wide.
- (4) A section of the façade that is recessed by at least 2 ft deep and 6 ft long.
- (5) A gabled dormer.

b. For buildings with over 60 ft of street frontage, at least 1 element in Subsection 19.505.1.C.1.a(1)-(4) above shall be provided for every 30 ft of street frontage. Elements shall be distributed along the length of the façade so that there are no more than 30 ft between 2 elements.

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c. For buildings with less than 30 ft of street frontage, the building articulation standard is not applicable.

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

2. Eyes on the Street

At least 12% of the area of each street-facing façade must be windows or entrance doors. See Figure 19.505.1.C.2 for illustration of eyes on the street.

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

3. Main Entrance

At least 1 main entrance must meet both of the following standards. See Figure 19.505.1.C.3 for illustration of main entrances.

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

4. Detailed Design

All buildings shall include at least 5 of the following features on any street-facing façade. See Figure 19.505.1.C.4 for illustration of detailed design elements.

Comment: The applicant is aware of this provision. Compliance will be reviewed at the time of future building permit.

5. Standards for Duplexes

Comment: These provisions are not applicable as no duplexes are proposed.

19.505.2 Garage and Carport Standards

C. Standards

Subsection 19.505.1.C.2 is met.

Comment : The applicant is aware of this provision. Compliance can be assured through conditions of approval.

19.605 VEHICLE PARKING QUANTITY REQUIREMENTS

19.605.1 Minimum and Maximum Requirements

A. Development shall provide at least the minimum and not more than the maximum number of parking spaces as listed in Table 19.605.1. Modifications to the standards in Table 19.605.1 may be made as per Section 19.605. Where multiple ratios are listed, the Planning Director shall determine which ratio to apply to the proposed development or use.

Comment: The applicant has satisfied this provision by more than meeting the minimum off street parking requirement for the R-5 zone of one parking space per dwelling unit. There is no maximum off-street parking requirement for the R-5 zone (see Table 19.605.1).

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19.607 OFF-STREET PARKING STANDARDS FOR RESIDENTIAL AREAS

19.607.1 Residential Driveways and Vehicle Parking Areas

- A. Dimensions: Off-street parking space dimensions for required parking spaces are 9 ft wide x 18 ft deep.
- B. Location:
- C. Parking Surface Materials
- D. Parking Area Limitations

Comment: The applicant is aware of these provisions and will address compliance when designing the proposed off-street parking.

Figure 19.607.1.D

Front and Street Side Yard Parking Area Limits

E. Additional Driveway Standards

Comment: The applicant is aware of this provision. Compliance can be assured through conditions of approval.

19.703 REVIEW PROCESS

19.703.1 Preapplication Conference

For all proposed development that requires a land use application and is subject to Chapter 19.700 per Section 19.702, the applicant shall schedule a preapplication conference with the City prior to submittal of the land use application. The Engineering Director may waive this requirement for proposals that are not complex.

Comment: This provision has been satisfied as the applicant attended a pre-application conference with the City on Thursday, March 10th, 2016.

19.703.2 Application Submittal

For all proposed development that is subject to Chapter 19.700 per Section 19.702, one of the following types of applications is required.

- A. Development Permit Application: If the proposed development does not require a land use application, compliance with Chapter 19.700 will be reviewed as part of the development permit application submittal.
- B. Transportation Facilities Review (TFR) Land Use Application: If the proposed development triggers a transportation impact study (TIS) per Section 19.704, a TFR land use application shall be required. Compliance with Chapter 19.700 will be reviewed as part of the TFR application submittal and will be subject to a Type II review process as set forth in Section 19.1005. The TFR application shall be consolidated with, and processed concurrently with, any other required land use applications. If the proposed development does not trigger a TIS per Section 19.704, but does require the submittal of other land use applications, compliance with Chapter 19.700 will be reviewed during the review of the other land use applications.

Comment: This provision is not applicable as a TFR is not required. The 19-lot residential development currently proposed is projected to generate 14 new trips during the evening peak hour, with 9 entering and 5 exiting the site. The estimated daily traffic volumes for the site are 170 new trips, with half entering and half exiting.

19.703.3 Approval Criteria

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For all proposed development that is subject to Chapter 19.700 per Section 19.702, the required development permit and/or land use application shall demonstrate compliance with the following approval criteria at the time of submittal.

A. Procedures, Requirements, and Standards

Development and related public facility improvements shall comply with procedures, requirements, and standards of Chapter 19.700 and the Public Works Standards.

Comment: The applicant has satisfied this provision and has documented compliance with the standards of Chapter 19.700 and the Public Works Standards via this narrative.

B. Transportation Facility Improvements

Development shall provide transportation improvements and mitigation at the time of development in rough proportion to the potential impacts of the development per Section 19.705 Rough Proportionality, except as allowed by Section 19.706 Fee in Lieu of Construction. Development in downtown zones that is exempt per Subsection 19.702.3.B shall only be required to provide transportation improvements that are identified by a Transportation Impact Study as necessary to mitigate the development's transportation impacts. Such development is not required to provide on-site frontage improvements.

Comment: To satisfy this provision, at the time of development the applicant will provide transportation improvements and mitigation in rough proportion to the potential impacts of the development. Compliance can be assured through conditions of approval.

C. Safety and Functionality Standards

Comment: The applicant will satisfy these provisions by demonstrating compliance upon submittal of a development permit application.

19.704.2 TIS General Provisions

A. All transportation impact studies, including neighborhood through-trip and access studies, shall be prepared and certified by a registered Traffic or Civil Engineer in the State of Oregon.

Comment: The provisions of section 19.704.2. are not applicable as a transportation impact study is not required.

19.708 TRANSPORTATION FACILITY REQUIREMENTS

19.708.1 General Street Requirements and Standards- A. Access Management: All development subject to Chapter 19.700 shall comply with access management standards contained in Chapter 12.16.

Comment: The applicant has utilized this narrative to address compliance with the access management standards contained in Chapter 12.16.

B. Clear Vision: All development subject to Chapter 19.700 shall comply with clear vision standards contained in Chapter 12.24.

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Comment: The applicant has utilized this narrative to address compliance with the clear vision standards contained in Chapter 12.24.

C. Development in Downtown Zones

Comment: This provision is not applicable as the proposed development is not within a downtown zone.

D. Development in Non-Downtown Zones

Comment: These provisions govern implementation following approval of a plan to construct a public street. Compliance can be assured through a condition of approval.

E. Street Layout and Connectivity

Comment: The applicant examined the subject property's existing conditions, as well as the surrounding street network, circulation needs and traffic safety prior to the design of the proposed internal street loop. To show the lack of possible future development of surrounding properties the applicant has provided a future connectivity and development concept plan (see Exhibit J). This plan depicts conceptually how surrounding adjacent properties to the east of the subject site may be divided under current zoning. When overall configuration, gross lot areas, existing improvements, minimum setbacks and current zoning are combined for each, adjacent parcels east are divisible as depicted on Exhibit J and in the case of all other lots along the north, and east property line not dividable. The proposed public streets in this application to allow for and provide for future development adjoining properties. There are no permanent turnarounds proposed. The applicable provision of these sections are satisfied.

F. Intersection Design and Spacing

Comment: In satisfaction of these subsections, this subdivision application proposes local public streets on the property that are designed and located to provide for traffic flow and turning movements into and through the subject site. The proposed local streets are aligned at right angles and facilitate local circulation. The proposed SE 43rd and 44th local public streets will intersect with the existing Railroad Avenue and there is no existing intersection centerline offsets involved given there is no existing street opposite the subject site on the south side of Railroad. Future extension of the proposed local street comply with block perimeter local street standards. This application proposes a 19 lot subdivision and two new local street intersections onto SE Railroad, a collector street some 150-feet east of SE 42nd, and some 300-feet west of SE 45th, with approximately 300 feet between the proposed intersections of SE 43rd and 44th the middle of the existing block between SE 42nd and 45th Avenues, which is less than 300' minimum distance between Collector intersections. The intersection location is proposed in this location due to a combination of existing conditions including the total length of public street frontage of the subject site on Railroad Road, existing driveway access of the adjacent property at the southeast corner of the subject site, underlying R5 zoning lot area and dimensional standards, and the proposed 20 feet of Railroad Road right-of-way dedication along the subject site Railroad frontage. The proposal is the best available given the size, and shape of the underlying parcel.

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19.708.2 Street Design Standards

Table 19.708.2 contains the street design elements and dimensional standards for street cross sections by functional classification. Dimensions are shown as ranges to allow for flexibility in developing the most appropriate cross section for a given street or portion of street based on existing conditions and the surrounding development pattern. The additional street design, Street, Classification, Minimum Distance Between Street Intersections, Maximum Distance Between Street Intersections, Maximum Block Perimeter. Subsection 19.708.2.A augment the dimensional standards contained in Table 19.708.2. The Engineering Director will rely on Table 19.708.2 and Subsection 19.708.2.A to determine the full-width cross section for a specific street segment based on functional classification. The full-width cross section is the sum total of the widest dimension of all individual street elements. If the Engineering Director determines that a full-width cross section is appropriate and feasible, a full-width cross section will be required. If the Engineering Director determines that a full-width cross section is not appropriate or feasible, the Engineering Director will modify the full-width cross section requirement using the guidelines provided in Subsection 19.708.2.B. Standards for design speed, horizontal/vertical curves, grades, and curb return radii are specified in the Public Works Standards.

Comment: As depicted on the preliminary plan set submitted with this application, the internal street is proposed with 28' of asphalt which provides for parking on one side of street. All proposed on-street parking will have a minimum width of 6'. The applicant has proposed sidewalks on both side of the street. The proposed 2/3rds Street on SE 44th will be 21-feet wide to permit fire access, and vehicular circulation. It is anticipated that this street will be fully improved when the property to the east is developed.

19.708.3 Sidewalk Requirements and Standards

B. Sidewalk Requirements

1. Requirements: Sidewalks shall be provided on the public street frontage of all development per the requirements of this chapter. Sidewalks shall generally be constructed within the dedicated public right-of-way, but may be located outside of the right-of-way within a public easement with the approval of the Engineering Director.
2. Design Standards: Sidewalks shall be designed and improved in accordance with the requirements of this chapter and the Public Works Standards.
3. Maintenance: Abutting property owners shall be responsible for maintaining sidewalks and landscape strips in accordance with Chapter 12.04.

Comment: The applicant has proposed curb-tight 6 foot sidewalks on the south and west side of the internal street.. Proposed sidewalks are designed to satisfy all applicable Milwaukie Development Standards. ADA compliant ramps are proposed at the end of all sidewalks (see Exhibit H). The sidewalks on the north, and east right-o-fway will be separated by a planter strip.

19.1003 APPLICATION SUBMITTAL AND COMPLETENESS REVIEW

19.1003.2 Application Submittal Requirements

- A. Application form, including signature(s) of the property owner or public agency initiating the application.
- B. Deed, title report, or other proof of ownership.
- C. Detailed and comprehensive description of all existing and proposed uses and structures, including a summary of all information contained in any site plans. The description may need to include both a written and graphic component such as elevation drawings, 3-D models, and photo simulations, etc. For applications

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- where the subjective aspects of the height and mass of the proposed development will be evaluated at a public hearing, temporary on-site “story pole” installations that simulate the proposed development, and photographic representations thereof, may be required at the time of application submittal. D. Detailed statement that demonstrates how the proposal meets all applicable approval criteria, zoning and land use regulations, and development standards. E. Site plan(s), preliminary plat, or final plat as applicable. F. All materials identified on the Submittal Requirements form, including the signature(s) of the applicant submitting the materials. G. Payment of all applicable land use application fee(s) and deposit(s), based on the fee schedule in effect on the date of application submittal. H. Copy of a valid preapplication conference report if one was required per Subsection 19.1002.2.

Comment: The applicant has satisfied this provision by submitting with this application all required materials (see page List of Exhibits)

19.1006 TYPE III REVIEW

19.1006.1 Preapplication Conference

A preapplication conference is required for Type III applications per Section 19.1002.

Comment: This provision has been satisfied as the applicant attended a pre-application conference with the City in February 2017

19.1006.2 Type III Application Requirements

A. Type III applications shall be made on forms provided by the Planning Director and shall include all of the information required by Subsection 19.1003.2.

Comment: The applicant has satisfied this provision by including with this application all submittal materials required by Subsection 19.1003.2 (see page i – List of Exhibits).

19.1203 SOLAR ACCESS FOR NEW DEVELOPMENT

19.1203.3 Design Standard: At least 80% of the lots in a development subject to these provisions shall comply with one or more of the options in this subsection; provided a development may, but is not required to, use the options in Subsections 19.1203.3.B or C below to comply with Section 19.1203.

A. Basic Requirement

A lot complies with Subsection 19.1203.3 if it:

1. Has a north-south dimension of 90 ft or more; and
2. Has a front lot line that is oriented within 30 degrees of a true east-west axis (see Figure 19.1203.3).

Figure 19.1203.3

Comment: As per the applicable provisions of this section, the design standard for solar access for a development creating lots in a single-family zone are contained in Section 19.1203.3, including the basic requirement of 80% of lots having a north-south dimension of 90 ft or more and a front lot line oriented within 30 degrees of a true east-west axis. Lots 1-10, + 15-18, or 84% of the lots meet this requirement.

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Summary and Request

The applicant has utilized a design team consisting of planning, engineering, development, and environmental disciplines to conduct research and reports and produce a detailed plan for the 2.35 acre site. The Applicant has presented substantial evidence to demonstrate that the proposed Railroad subdivision complies with all applicable standards and approval criteria, and requests approval of the Land Use Request.

19.911 VARIANCES

19.911.1 Purpose

Variations provide relief from specific code provisions that have the unintended effect of preventing reasonable development or imposing undue hardship. Variations are intended to provide some flexibility while ensuring that the intent of each development standard is met. Variations may be granted for the purpose of fostering reinvestment in existing buildings, allowing for creative infill development solutions, avoiding environmental impacts, and/or precluding an economic taking of property. Variations shall not be granted that would be detrimental to public health, safety, or welfare.

19.911.2 Applicability

A. Eligible Variations

Except for situations described in Subsection 19.911.2.B, a variance may be requested to any standard or regulation in Titles 17 or 19 of the Milwaukie Municipal Code, or any other portion of the Milwaukie Municipal Code that constitutes a land use regulation per ORS 197.015.

Comment: The applicant is requesting the following variations:

- 1) A Variance for the spacing of a local Street (SE 43rd) from the required 300-foot standard. This variance is requested to allow for the safe and functional development of the "Railroad" property with a loop Street. The design as proposed will meet the street spacing between the existing 45th, Avenue and the proposed 44th Drive, and between 44th and 43rd. The variance is necessary between 42nd and 43rd.
- 2) The applicant is also seeking a variance from the Street-side yard setback for Lot 19 to allow for a buildable envelope on said lot.
- 3) The third variance is from the requirement to allow double frontage lots, where they are necessary, in this case for lots 18 & 19

C. Exceptions

A variance application is not required where other sections of the municipal code specifically provide for exceptions, adjustments, or modifications to standards either "by right" or as part of a specific land use application review process.

Comment: the applicant has asked for a modification to the basic street standard to allow for one planter strip rather than two, to help retain a lot, and to retain the buildability of Lot 19. The applicant has also request permission for alternative access for lots 2, and 13 which have frontage on Railroad, but which will be taking access via easement from 42nd, and 44th.

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19.911.3 Review Process

A. General Provisions

1. Variance applications shall be evaluated through either a Type II or III review, depending on the nature and scope of the variance request and the discretion involved in the decision-making process.
2. Variance applications may be combined with, and reviewed concurrently with, other land use applications.
3. One variance application may include up to three variance requests. Each variance request must be addressed separately in the application. If all of the variance requests are Type II, the application will be processed through a Type II review. If one or more of the variance requests is Type III, the application will be processed through a Type III review. Additional variance requests must be made on a separate variance application.

Comment: The applicant is making a Variance Application. Said application does include multiple variances to the basic standards. All variances are necessary to allow development to proceed given the shape, and nature of the underlying parcel.

B. Type II Variances

Type II variances allow for limited variations to numerical standards. The following types of variance requests shall be evaluated through a Type II review per Section 19.1005:

1. A variance of up to 40% to a side yard width standard.
2. A variance of up to 25% to a front, rear, or street side yard width standard. A front yard width may not be reduced to less than 15 ft through a Type II review.
3. A variance of up to 10% to lot coverage or minimum vegetation standards.
4. A variance of up to 10% to lot width or depth standards.
5. A variance of up to 10% to a lot frontage standard.
6. A variance to compliance with Subsection 19.505.1.C.4 Detailed Design, or with Subsection 19.901.1.E.4.c.(1) in cases where a unique and creative housing design merits flexibility from the requirements of that subsection.

Comment: the applicant is requesting a variance to the street side yard setback from lot 19 to be reduced from 15-feet to 10 feet. This is a 33% adjustment to the standard. This is only being request for this lot to assist in the creation of a more buildable area on a heavily restricted lot layout.

7. A variance to compliance with Subsection 19.505.7.C Building Design Standards in cases where a unique design merits flexibility from the requirements of that subsection.

C. Type III Variances

Type III variances allow for larger or more complex variations to standards that require additional discretion and warrant a public hearing consistent with the Type III review process. Any variance request that is not specifically

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listed as a Type II variance per Subsection 19.911.3.B shall be evaluated through a Type III review per Section 19.1006.

Comment: The proposed street spacing, and double frontage lots require a type III variance.

19.911.4 Approval Criteria

A. Type II Variances

An application for a Type II variance shall be approved when all of the following criteria have been met:

1. The proposed variance, or cumulative effect of multiple variances, will not be detrimental to surrounding properties, natural resource areas, or public health, safety, or welfare.
2. The proposed variance will not interfere with planned future improvements to any public transportation facility or utility identified in an officially adopted plan such as the Transportation System Plan or Water Master Plan.
3. Where site improvements already exist, the proposed variance will sustain the integrity of, or enhance, an existing building or site design.
4. Impacts from the proposed variance will be mitigated to the extent practicable.

Comment: For the side yard setback variance to Lot 19, said setback will allow for the construction of a more useable home. There is no evidence to suggest that the reduction in the street side yard setback would in any way impact the public improvements, the Transportation system or any other public service. It is also the only Street side yard setback on Railroad from this development. The applicant does not anticipate any negative impacts from the granting of this relief to allow a 10-ft street side yard setback on Railroad.

B. Type III Variances

An application for a Type III variance shall be approved when all of the criteria in either Subsection 19.911.4.B.1 or 2 have been met. An applicant may choose which set of criteria to meet based upon the nature of the variance request, the nature of the development proposal, and the existing site conditions.

1. Discretionary Relief Criteria

- a. The applicant's alternatives analysis provides, at a minimum, an analysis of the impacts and benefits of the variance proposal as compared to the baseline code requirements.
- b. The proposed variance is determined by the Planning Commission to be both reasonable and appropriate, and it meets one or more of the following criteria:
 - (1) The proposed variance avoids or minimizes impacts to surrounding properties.
 - (2) The proposed variance has desirable public benefits.
 - (3) The proposed variance responds to the existing built or natural environment in a creative and sensitive manner.

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- c. Impacts from the proposed variance will be mitigated to the extent practicable.
- 2. Economic Hardship Criteria
 - a. Due to unusual site characteristics and/or other physical conditions on or near the site, the variance is necessary to allow reasonable economic use of the property comparable with other properties in the same area and zoning district.
 - b. The proposed variance is the minimum variance necessary to allow for reasonable economic use of the property.
 - c. Impacts from the proposed variance will be mitigated to the extent practicable.

Comment: *The proposed reduction in the intersection spacing between SE 42nd, and SE 43rd does not create any real world issue. The standard was put in place to allow spacing points of egress. The requirement for the construction of a loop street internally requires two points of egress. The proposed locations allow for complete access to the site, and to the adjacent property to the west. It also allows compliance with the scaping standards between 43rd, 44th, and 45th. SE 42nd is a control intersection. Likewise, 43rd will also be Stop controlled. There are no sight distance issues either vertically or horizontally on Railroad between said intersections. There are no know impacts to adjacent properties caused by an approval of this variance. Granting this variance allows the property to be developed with a loop street, and for the property to be developed at its appropriate density. This variance is in fact a response to the underlying shape of the triangular parent parcel. There are further arguments noted in 19.708 TRANSPORTATION FACILITY REQUIREMENTS, subsections E and F.*

The variance to the double frontage lots is proposed to allow the development of the parcel without the creation of a 'buffer tract' that would serve no purpose, and would in fact create more a of a maintenance problem. This variance is necessary to allow the loops street to be effectively designed to access all lots. The triangular nature of the parent parcel obviously results in a portion of the property being designed in a 'pie' shape. The variance is a necessary requirement for the proposed design solution.

Both of these variances are necessary to allow the applicant to design, and efficient and effective subdivision that is both functional and safe, and allows an unusually shaped remnant parcel be developed to respond to the ever-increasing demand for housing. The granting of these variances has an overall benefit for the public good, creating efficiencies, and allowing the construction of single family homes where there is an insufficient supply for a balanced housing market.

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19.902 AMENDMENTS TO MAPS AND ORDINANCES

Comment: The applicant is requesting a Comprehensive Plan Map Amendment to change the underlying Designation of the proposed development property from Low Density residential to Moderate Density residential. This is made a little confusing since both the R7, and R5 zoned are both included under 19.301 LOW DENSITY RESIDENTIAL ZONES. However, they have separate Low Density and Moderate Density residential land use designations in the Milwaukie Comprehensive Plan. Therefore, this Section of the Code must be addressed.

Secondly the applicants request to remove the Historic House from 4217 Se Railroad Avenue has the consequence of requiring both a Comprehensive Plan Map Amendment, and Comprehensive Plan Text Amendment. This second request is specific to this parcel, rather than the larger development property

19.902.2 Applicability

The requirements of Section 19.902 apply to the amendments described below.

- A. Amendments to add, modify, or delete the text of the Milwaukie Comprehensive Plan or its ancillary documents.
- B. Amendments to add, modify, or delete the text of Titles 14, 17, and 19 of the Milwaukie Municipal Code, or any other portion of the Milwaukie Municipal Code that constitutes a land use regulation per ORS 197.015.
- C. Amendments to change the maps of the Milwaukie Comprehensive Plan, including maps within ancillary documents. Changes to these maps resulting from actions taken by Section 19.1104 Expedited Process are exempt from the requirements of Section 19.902.
- D. Amendments to change the "Zoning Map of Milwaukie, Oregon," which is the map established by Subsection 19.107.2. Changes to this map resulting from actions taken by Section 19.1104 Expedited Process are exempt from the requirements of Section 19.902.

Comment: the application as proposed will change both eth Comprehensive Plan Map, and the text of the code, and therefore a review under this section is applicable.

19.902.3 Comprehensive Plan Text Amendments

Changes to the text of the Milwaukie Comprehensive Plan shall be called Comprehensive Plan text amendments.

A. Review Process

Changes to the text of the Milwaukie Comprehensive Plan described by Subsection 19.902.2.A shall be evaluated through a Type V review per Section 19.1008.

B. Approval Criteria

Changes to the Milwaukie Comprehensive Plan may be approved if the following criteria are met:

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1. The proposed amendment is consistent with the goals and policies of the Comprehensive Plan, as proposed to be amended.
2. The proposed amendment is in the public interest with regard to neighborhood or community conditions.
3. The public need is best satisfied by this particular proposed amendment.
4. The proposed amendment is consistent with the Metro Urban Growth Management Functional Plan and relevant regional policies.
5. The proposed amendment is consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.

Comment: The proposed change to the Comprehensive Plan text is a requirement necessary to update the Text as it relates to Site Specific elements. In this case, the removal of the house at 4217 SE Railroad Avenue from the Historical Inventory. Changing the code to accurately reflect a change to this specific designation is a response to a request by the applicant, and does in no way set a precedent for any further Text Changes. This is a reactive change, rather than a causal text amendment. Correcting the Text of a portion of the code to reflect a change approved by the City is necessary to keep the Plan Text consistent with the map change, and the removal of the property from the inventory.

The amendment is supported by the Neighborhood Association, the local Historical Society, and City Staff. The removal of the designation is necessary to allow the demolition of the structure, which in turn is necessary to allow the development of the subdivision in a manner that is consistent with the need to provide a loop street, and to develop the property in an efficient and effective manner.

19.902.4 Comprehensive Plan Map Amendments

Changes to the maps of the Milwaukie Comprehensive Plan shall be called Comprehensive Plan map amendments.

A. Review Process

Changes to the maps of the Milwaukie Comprehensive Plan described in Subsection 19.902.2.C shall be evaluated through either a Type IV review, per Section 19.1007, or Type V review, per Section 19.1008. The City Attorney shall have the authority to determine the appropriate review process for each Comprehensive Plan map amendment. The City Attorney's review process determination is not a land use decision per ORS 197.015 and is not subject to appeal.

Generally, Comprehensive Plan map amendments that involve 5 or more properties or encompass more than 2 acres of land are legislative in nature and subject to Type V review. Comprehensive Plan map amendments that involve fewer properties and encompass a smaller area of land are quasi-judicial in nature and subject to Type IV review.

B. Approval Criteria

Changes to the maps of the Milwaukie Comprehensive Plan shall be evaluated against the approval criteria in Subsection 19.902.3.B. A quasi-judicial map amendment shall be approved if these criteria are met. A legislative map amendment may be approved if these criteria are met.

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Comment: The applicant is requesting a Comprehensive Plan Map Amendment to change the underlying Designation of the proposed development property from Low Density residential to Moderate Density residential. This property is located on the boundary between the R7 and R5 boundary. The subdivided lots adjacent to the north and east boundaries have been developed at a size, and with dimensions that would not be approvable under the R7 zone. There is a significant imbalance between the R7 and R5 zone with R7 by far the dominant zone. This is a reflection in large part of the size of the lotting patterns that were established prior to the zoning being put in place. They reflect a responsive designation. The R5 zone allows a slightly greater density that is a natural transition from larger 7,000 SF lots to the adjacent 6,000 SF lots to the proposed 5,000 SF lots. The Zoning code still considers these lots as being part of the Low Density Residential zoning.

19.902.5 Zoning Text Amendments

Changes to the text of land use regulations within the Milwaukie Municipal Code shall be called zoning text amendments, regardless of the individual titles involved.

A. Review Process

Changes to Titles 14, 17, or 19 of the Milwaukie Municipal Code, or any land use regulation as defined by ORS 197.015, that are described by Subsection 19.902.2.B shall be evaluated through a Type V review per Section 19.1008.

B. Approval Criteria

Changes to the Milwaukie Municipal Code described by Subsection 19.902.2.B may be approved if the following criteria are met:

1. The proposed amendment is consistent with other provisions of the Milwaukie Municipal Code.
2. The proposed amendment is consistent with the goals and policies of the Comprehensive Plan.
3. The proposed amendment is consistent with the Metro Urban Growth Management Functional Plan and relevant regional policies.
4. The proposed amendment is consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.
5. The proposed amendment is consistent with relevant federal regulations.

Comment: There should be no change in the Zone Text as a result of the zone change of the map from R7 to R5. Further the change in the Historical designation is a change to the Comprehensive Plan text NOT the Zoning Text.

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19.902.6 Zoning Map Amendments

Changes to the Zoning Map of Milwaukie, Oregon, shall be called Zoning Map amendments.

A. Review Process

1. Changes to the Zoning Map described in Subsection 19.902.2.D shall be evaluated through either a Type III review, per Section 19.1006, or Type V review, per Section 19.1008. The City Attorney shall have the authority to determine the appropriate review process for each Zoning Map amendment. The City Attorney's review process determination is not a land use decision per ORS 197.015 and is not subject to appeal.

Generally, Zoning Map amendments that involve 5 or more properties or encompass more than 2 acres of land are legislative in nature and subject to Type V review. Zoning Map amendments that involve fewer properties and encompass a smaller area of land are quasi-judicial in nature and subject to Type III review.

2. Changes that affect both the Zoning Map and text of Titles 14, 17, or 19, or other land use regulations within the Milwaukie Municipal Code shall be evaluated through a Type V review per Section 19.1008. These changes are subject to the approval criteria of Subsections 19.902.5.B and 19.902.6.B.

B. Approval Criteria

Changes to the Zoning Map shall be evaluated against the following approval criteria. A quasi-judicial map amendment shall be approved if the following criteria are met. A legislative map amendment may be approved if the following criteria are met:

1. The proposed amendment is compatible with the surrounding area based on the following factors:
 - a. Site location and character of the area.
 - b. Predominant land use pattern and density of the area.
 - c. Expected changes in the development pattern for the area.
2. The need is demonstrated for uses allowed by the proposed amendment.
3. The availability is shown of suitable alternative areas with the same or similar zoning designation.
4. The subject property and adjacent properties presently have adequate public transportation facilities, public utilities, and services to support the use(s) allowed by the proposed amendment, or such facilities, utilities, and services are proposed or required as a condition of approval for the proposed amendment.
5. The proposed amendment is consistent with the functional classification, capacity, and level of service of the transportation system. A transportation impact study may be required subject to the provisions of Chapter 19.700.
6. The proposed amendment is consistent with the goals and policies of the Comprehensive Plan, including the Land Use Map.

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7. The proposed amendment is consistent with the Metro Urban Growth Management Functional Plan and relevant regional policies.
8. The proposed amendment is consistent with relevant State statutes and administrative rules, including the Statewide Planning Goals and Transportation Planning Rule.

***Comment:** The applicant is requesting a zone change from R7 to R5. This property is located on the boundary between the R7 and R5 boundary. The subdivided lots adjacent to the north and east boundaries have been developed at a size, and with dimensions that would not be approvable under the R7 zone. There is a significant imbalance between the R7 and R5 zone with R7 by far the dominant zone. This is a reflection in large part of the size of the lotting patterns that were established prior to the zoning being put in place. They reflect a responsive designation. The R5 zone allows a slightly greater density that is a natural transition from larger 7,000 SF lots to the adjacent 6,000 SF lots to the proposed 5,000 SF lots. The Zoning code still considers these lots as being part of the Low Density Residential zoning.*

The frontage on Railroad Avenue, and the proximity to the Expressway reflect an ability of the site to have the capacity to absorb the increased vehicular traffic. There is also sufficient capacity in the sanitary, storm, and water systems.

The zone change was presented to the Neighborhood Association as part of the development package, and there were no objections.

There is a strong housing need in the area, and this parcel has remained an undeveloped remnant parcel for decades. The proposed Plan, and Zoning changes are necessary steps to the subdivision, and development of this parcel.

The proposal as submitted is consistent with the Housing Policies, and Goals of the City without coming into conflict with other general goals for the welfare, and growth of the City. Ultimately the development of this property will lead to a short-term employment for local trades from the Metro area, and will increase the tax base of the State, and City. This parcel has always been intended for residential development. But because of its shape, location, and the presence of several structures this property has not been able to develop for its intended use. Amendments to the Comprehensive Plan Map, the Plan Text, and the Zoning Map will aid in successful subdivision of this parcel.

PRELIMINARY STORMWATER MANAGEMENT REPORT

For

Railroad Avenue Subdivision, Milwaukie

Sustainable Infill Development, LLC
795 NW Torrey View Lane
Portland, OR 97229

Prepared for:



10722 SE Main St.
Milwaukie, OR 97222

Date:
March 10th, 2017

Site Location:
4219 SE Railroad Avenue
12E31BC 8000, 8100, 8200, & 8300 – 3.24 Acres

Prepared by:

Project Delivery Group, LLC
3772 Portland Road NE
Salem, Oregon 97301



Designer's Certification and Statement

I hereby certify that this Stormwater Management Report for SE Railroad Avenue Subdivision has been prepared by me or under my supervision and meets minimum standards of the City of Milwaukie and normal standards of engineering practice. I hereby acknowledge and agree that the jurisdiction does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities designed by me.



RENEWS:



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Project Overview and Description

Size and Location of Project

The proposed project encompasses approximately 3.24 acres and is located at 4219 SE Railroad Avenue, Milwaukie Oregon 97222 (Site). The tax map and lot numbers are 12E31BC 8000, 8100, 8200, & 8300. Refer to the preliminary drawings for the Site map.

Property Zoning

Although the property is to be subdivided, there will be no effect to the zoning.

Type of Development and Proposed Improvements

The project consists of a 19-Lot single-family residential subdivision with public streets and public utilities. The project is being designed to 2016 City of Portland Stormwater Management Manual requirements. The proposed development incorporates drywells for the exfiltration of the runoff due to impervious roofs and an infiltration basin to provide the required stormwater flow control and water quality treatment for the new impervious streets, sidewalks, and driveways. A copy of the drainage basin developed for this report is provided in Appendix A.

Description and Size of the Watershed Draining to the Site

The Site is in Milwaukie, near the Milwaukie Business – Industrial area, on the northeast side of SE Railroad Avenue, east of SE 42nd Avenue and west of SE 45th Avenue. The Site generally slopes southwest toward SE Railroad Avenue. Slopes range from 3 to 8%. The Site is bordered with upgradient properties along the northern and eastern boundaries. There is “run-on” of surface water onto the Site from these adjoining properties; yet, this water will be considered “flow-through,” since the existing properties to the north and east will remain the same in the Pre-Developed and Post-Developed Site conditions.

There is a constructed storm water collection and conveyance drainage ditch along SE Railroad Avenue which will convey both the “pass-through” water from the adjoining properties as well as the run-off from the Site. For purposes of this report, it is assumed that this existing conveyance system has adequate capacity to convey the pre-development flows from the Site.

Regulatory Permits Required

A 1200-C permit from the Oregon Department of Environmental Quality (DEQ) is required along with City of Milwaukie permits. There are not any environmental constraints on the Site or any wetlands; therefore, no additional regulatory permits are required.

Existing vs. Post Construction Conditions

The existing Site contains two single-family residences with associated landscaping and paved access ways. There are also some out-buildings and graveled access ways on the Site. The remainder of the Site is lightly forested to open areas with trees and grass. The proposed Site will have 19 single-family residences with associated driveways, all gaining access from the proposed local street. The street will have parking along one side, with a landscape strip along the other, and sidewalks on both sides. The proposed Site will replace the existing trees (many are diseased and dying or dead) with new street trees and incorporate modern landscaping to minimize stormwater runoff. Each lot will have a drywell for infiltrating the runoff from their respective roofs (see the Milwaukie Drywell Sizing Requirements provided in Appendix D). The street stormwater conveyance system will terminate at the proposed curb inlets located at the intersections of SE 43rd and 44th Avenues with SE Railroad Avenue. The water will then be



conveyed in a reconfigured and regraded roadside ditch along Railroad Avenue which will have two infiltration basins located in the downgradient portion of the ditch, with any remaining waters being conveyed off-site in the existing roadside ditch.

Methodology

Drainage Conveyance

As mentioned above, the proposed stormwater treatment and infiltration system will be primarily for the additional runoff created by the impervious street and sidewalks. It also incorporates 400 sf for driveways from each lot.

The drain basin splits along the 43rd Avenue, at the proposed crown in the street just in front of lot 7 (refer to the attached Site Plan in appendix A). From this crown along the curb to the curb inlet, the distance in either direction is less than 400 sf, so catch basins are not needed until the crosswalks. This will reduce the cost for the Developer to construct and for the City to maintain. Once the water is in the drainage ditch, it will flow west toward the edge of the Site. The last 260 ft of the ditch will be reconstructed as an infiltration basin. The overflow for the infiltration basin will be a Type D manhole at the end of the second infiltration basin ditch (at the intersection with SE 42nd Ave). The water will be treated, detained, and infiltrated by the use of the basins, with any surplus waters being conveyed into the type D catch basin and continuing down the ditch to the west and off the Site.

Infiltration Testing Results

A geotechnical evaluation of the Site has not been performed by the time this report was prepared. Groundwater elevations are expected to fluctuate seasonally in accordance with rainfall conditions, with levels greater than 80 inches from the surface for the northern half of the Site and 25 to 32 inches for the lower half of the Site according to information obtained from the Natural Resource Conservation Service (NRCS) Soil Survey website. Site grading will be accomplished to ensure that groundwater does not reach the foundation grades of the finished lots. Thus, groundwater was not included in the hydrology calculations of this report. After reviewing recent infiltration tests at nearby sites with City staff, and a review of on-site soils and soil infiltration and run-off performance during heavy and extended rainfall periods, it is assumed that the water table is deep enough and the soils are permeable enough to utilize drywells. According to City staff at the Pre-App meeting, a recent test at a nearby site yielded infiltration rates of 14 inches/hour. Using a minimum factor of safety of 2, as outlined in the infiltration testing procedures for the open pit falling head test, we utilized a design infiltration rate of 7 inches/hour for design. Once the geotechnical investigation and associated infiltration testing work has been completed, the design infiltration rate will be adjusted as needed as utilized in the final drainage design report.

Stormwater Hierarchy Category Justification

This Site incorporates two categories of stormwater hierarchy. The first category is the roofs, which will use individual drywells for treatment and disposal. This falls into the hierarchy “Category 2” as identified in Figure 1-5 Stormwater Infiltration and Discharge Hierarchy of the 2016 City of Portland Stormwater Management Manual. The City of Milwaukie Drywell Sizing Requirements in Appendix D was used to select the drywell size. The second is the streets, driveways, and sidewalks that will run into the reconstructed drainage ditch along SE Railroad Avenue. These waters will be treated/detained/infiltrated and overflow discharged to the existing drainage way, eventually making its way to the wetlands, which is west of the Site. This falls into “Category 3” as identified in Figure 1-5 Stormwater Infiltration and Discharge Hierarchy of the 2016 City of Portland Stormwater Management Manual.



Proposed Stormwater Management Techniques

Analysis

Design assumptions

Downstream System is Adequate

It is assumed that there are no downstream capacity problems in the existing systems in SE Railroad Avenue, as the outflows from the Site are being limited to the calculated peak flow rates of the existing conditions of the Site (i.e. pre-development), for the various storm events, and the downgradient public storm drain systems should have been designed to accommodate these existing peak flow rates from the adjoining upgradient lands and the Site in a pre-development condition.

Description of Soil Types and Any Other Geologic Features Impacting Stormwater Infrastructure Design

Per the Natural Resource Conservation Service (NRCS) Soil Survey, the Site predominately (73.5%) consists of Woodburn silt loam (91B) hydrologic soil group C and (26.5%) Latourell loam (53B) hydrologic group B. See Appendix B for the NRCS soils report for this Site. The Latourell loam is primarily on the northern third of the Site according to the Soil Survey. Based on existing soil characteristics noted during the site walk during a period of intense and extended rainfall (i.e. noting very little run-off or and no ponded water presence), it is our belief that the Latourell loam type soil cover the Site more extensively. This will be confirmed with the geotechnical investigation for the final drainage report. The Site visit occurred on a rainy day, with intermittent precipitation for the prior week, yet, the Site appeared to drain very well; there was no accumulation of water in the low lying southern area and the ground still felt firm. Because of the infiltration properties of the Latourell loam, it is assumed that the drywells can be strategically located where this material occurs. There are no other geological features impacting stormwater infrastructure design or installation noted for the Site.

Computation Methods and Software Utilized

In accordance with 2016 City of Portland Stormwater Management Manual, the City of Portland Environmental Services online Stormwater Presumptive Approach Calculator (PAC) was utilized to calculate the treatment/detention facility. The storms, which the program utilizes, are as follows:

- 2 year 24-hour storm (2.40 inches)
- 5 year 24-hour storm (2.90 inches)
- 10 year 24-hour storm (3.40 inches)
- 25 year 24-hour storm (3.90 inches)

The Site has been modeled as 1 drainage basin

The Site will drain along the proposed curb and gutter before entering the catch basins at the crosswalks and then discharging into the drainage ditch. Roof drain laterals from each lot will be connected to drywells.

The drainage basin is illustrated on the drainage basin map provided in Appendix A.

The storm runoff will be treated and discharged utilizing drywells

Because of the limited space in the lots the house footprint will not be large. This coupled with high infiltration rates make this site an excellent candidate for the use of drywells. The Milwaukie Drywell Sizing Requirements were used



in selecting the correct size of drywell. It is assumed that the roofs per lot will be approximately 1600SF, thus a 48 inch diameter drywell with a depth of 5.09 feet will be sufficient. In the event that a larger or smaller home is built, the drywell size will be adjusted accordingly.

Infiltration Basin Assumptions:

As mentioned above, the infiltration basin will act as the detention and treatment facility. In accordance with 2016 City of Portland Stormwater Management Manual, the basin has been designed to have a 3H:1V slope. The basin has been sized to maintain a freeboard of 6-inch from the 25-year design storm water elevation as shown in the calculations in Appendix C. A riprap protected scour pad will be installed at the inflow into the drainage ditch from the proposed pipe outflow from the catch basins, to protect from erosion.

Approved Results from the Presumptive Approach Calculator

The Presumptive Approach Calculator was used for the design of the infiltration basin to be used for treating the streets, driveways, and sidewalk. The results of the Presumptive Approach Calculator are attached in Appendix C. Both the Pollution Reduction and the Flow Control as designed passed the requirements.

Conveyance Requirements and Design

For run-off estimation, a pre- and post-development flow path was determined for the drainage basin as illustrated in the drainage basin maps provided in Appendix A. The pre-development flow paths typically consist of sheet flow that transitions into shallow concentrated flow. The post-development flow paths typically consist of sheet flow across the lot and street. They then transition to shallow concentrated flow, down the gutter and drainage ditch to the infiltration basin. The Pre-Developed and Post-Developed areas and runoff CNs are shown below in Table A:

Table A: Pre and Post-Development Areas and CNs

PRE-DEVELOPMENT				
	Area (SF)	CN	Description	Notes
	35,432	69	50-75% Grass cover, Fair, HSG B	
	3,968	98	Roofs, HSG B	
	4,183	96	Gravel surface, HSG B	
	928	98	Unconnected pavement, HSG B	
	2,432	82	Dirt roads, HSG B	
	9,323	83	1/4 acre lots, 38% imp, HSG C	Run-on from neighboring lots
	618	98	Unconnected pavement, HSG C	Existing Sidewalk at SE 42nd Ave
Total	156,884			
Weighted CN	72			
POST-DEVELOPMENT				
	Area (SF)	CN	Description	Notes
	82,831	61	>75% Grass cover, Good, HSG B	
	30,530	98	Paved parking, HSG B	Streets and sidewalks
	3,800	98	Paved parking, HSG B	private driveways
	9,323	83	1/4 acre lots, 38% imp, HSG C	Run-on from neighboring lots
Total	126,484		30,400sf of roofs (1,600 sf/lot) treated by drywells. 126,484 + 30,400 = 156,484sf	
Weighted CN	73			

Table A: Calculated CN



The characteristics of each flow path and the associated runoff CN and areas were input into the Presumptive Approach Calculator and a pre- and post-development derived time of concentration (Tc) for the drainage basin was determined. A listing of the Tc for the basin, is shown below in Table B.

PRE-DEVELOPMENT							
	TC (Minutes)	Method	Description	Mannings's No	Velocity Factor (ft/sec)	Flow Length (ft)	Slope
	5.0	Direct	ODOT prescribed lag time between when rainfall starts and run-off begins				
	14.4	Sheet	Sheet Flow Across Grass	0.150		300	0.0930
	2.6	Shallow	Concentrated Flow Across Grass		7.0	152	0.0197
Total	22.0						
POST-DEVELOPMENT							
	TC (Minutes)	Method	Description	Mannings's No	Velocity Factor (ft/sec)	Flow Length (ft)	Slope
	5.0	Direct	ODOT Allowed Delay				
	6.3	Sheet	Sheet Flow Across Grass	0.150		131	0.1400
	0.8	Sheet	Sheet Flow Across Road	0.011		55	0.0200
	1.1	Shallow	Concentrated Flow Along Gutter		20.3	275	0.0400
	2.9	Shallow	Concentrated Flow Through the Ditch		15.0	407	0.0250
Total	16.1						

Table B: Calculated TC

Using the derived Tc's, and other drainage basin parameters, the following peak pre-and post-development flow rates (with and without stormwater conveyance system outlet control) for the water quality, 2-year, 10-year, and 25-year-design storm events were determined, and are as summarized in the Figure2-35 below: see output from the Presumptive Approach Calculator in Appendix C.

Figure 2-35. Catchment and Facility Summary

Catchment or Facility ID	IA Type (roof, road)	Impervious Area (SF)	Ownership (Private/Public)	Facility Type	Facility Size (SF)	CN
1	Street & Sidewalk	30,530	Public	Infiltration Basin	520	98
1	Driveways	7,600	Private			98

Detention Basin and Flow Control for the 2, 10, and 25-year Storm Event

The estimated peak pre-development flow rate for the project Site for the 2, 5, 10, and 25-year storm events are 0.035, 0.085, 0.146, and 0.216 cubic feet per second (cfs) respectively (summarized in the Presumptive Approach Calculator report in Appendix C). In order to obtain post-development outflow rates equal to or less than peak pre-development outflow rates, supplemental stormwater detention (with outlet control) will be required. To reduce the outflow to pre-development flow rate, a total of 2,580 cubic feet (cf) of supplemental storage is required for the Project's drainage basin, as determined by the Presumptive Approach Calculator for the 25-year storm event. Detention will be facilitated by utilizing the detention storage volume of the proposed infiltration basin.



Infiltration / Detention Basin:

An outlet control type “D” ditch inlet (outlet control structure) will be placed at the downgradient end of the infiltration basin for head control. The Type “D” inlet grate will be set at an elevation 59.5 feet. The 2, 5, and 10 year storms will be infiltrated while the PAC model indicated the outflow from the 25-year design storm event will peak at 0.213 cfs, with a storage requirement of 2,580 cf. The PAC results indicated that there would be approximately 0.5 feet of freeboard at the peak of the 25-year storm event. The calculated peak predevelopment flow rate during the same storm event was 0.213 cfs.

The infiltration basin incorporates a permeable bottom, with an 18-inch depth of growing medium. The design assumes a minimum percolation rate through the permeable bottom of 2.0 inches per hour. PAC model results for the infiltration basin are provided in Appendix C and summarized below in Figure 2-36.

Figure 2-36. Pre vs. Post Construction Flow Rates

Catchment ID	Peak Flow Rate (CFS)								Time of Concentration	
	2 YR		5 YR		10 YR		25 YR		Pre	Post
	Pre	Post	Pre	Post	Pre	Post	Pre	Post		
1	0.035	0.000	0.085	0.000	0.146	0.022	0.216	0.213	22min	15min

Escape route for the 100-year storm

The escape route for the stormwater runoff from the Site due to a 100-year storm event will be via the overflow device (type D inlet grate in the outlet control structure) and existing storm drainage ditch along SE Railroad Avenue. Refer to the Post-Developed basin map provided in Appendix A.

Engineering Conclusions

The stormwater treatment and flow control for the Site have been designed and sized to be in compliance with the 2016 City of Portland Stormwater Management Manual (available online) and Milwaukie Drywell Sizing Requirements (copy provided in Appendix D).

For the streets, driveways and sidewalks, water quality improvement of the surface/storm water run-off will be provided using an infiltration basin. Stormwater detention storage will be provided in the same basin. A flow control structure is provided at the downgradient end the infiltration basin with an overflow type “D” inlet, which releases the runoff into the existing drainage ditch flowing west from the Site. The flow control structure limits the discharge from the Site to no more than the Pre-Developed flow rate for the 2-year, 5-year, 10-year, and 25-year design storm events. Flow control is designed and sized so that the drainage basin of the Site complies by limiting peak stormwater run-off discharge rates to be at or below the calculated peak pre-development runoff rates.

For the runoff created by the roofs, water quality improvement of the surface/storm water run-off will be provided using drywells.

The sizing of water quality and detention storage facilities are preliminary, and with detailed infrastructure design may change from what is presented in this report. It is possible that the areas of infiltration basin will be reduced with refinements in design. A final drainage report, documenting the resulting final design of the storm water infrastructure for the subdivision, will be submitted with the final improvement drawings for City of Milwaukie approval for infrastructure development of the subdivision.

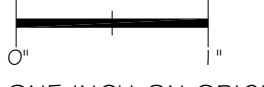


APPENDIX A—DRAINAGE BASIN MAPS



DATE SIGNED:

Sustainable Infill Development LLC
SE RAILROAD AVENUE SUBDIVISION
 City of Milwaukie, Oregon

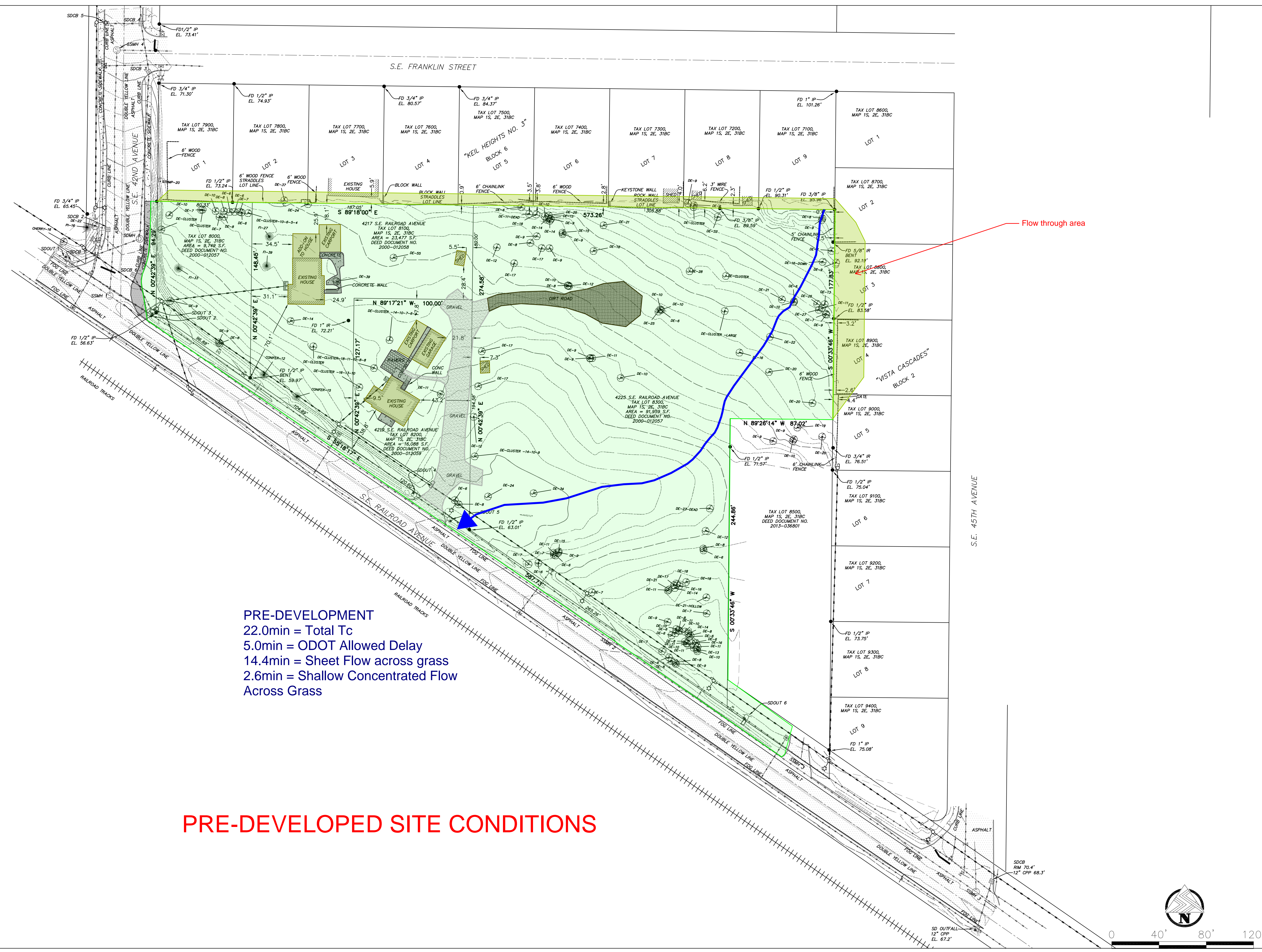
SCALE NOTE:

 BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

NO.	REVISIONS DESCRIPTION	DATE	BY

PROJECT NO: ###	HORIZ DATUM: ###
VERT SCALE: AS SHOWN	HORIZ SCALE: AS SHOWN
DRAWN: ###	DESIGN: ###
APPROVED: ###	

SHEET TITLE:
PRE-DEVELOPED SITE

EXHIBIT 1



PRE-DEVELOPMENT
 22.0min = Total Tc
 5.0min = ODOT Allowed Delay
 14.4min = Sheet Flow across grass
 2.6min = Shallow Concentrated Flow
 Across Grass

PRE-DEVELOPED SITE CONDITIONS

DATE SIGNED:

Sustainable Infill Development LLC
SE RAILROAD AVENUE SUBDIVISION
 City Of Milwaukie, Oregon

SCALE NOTE:

 BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

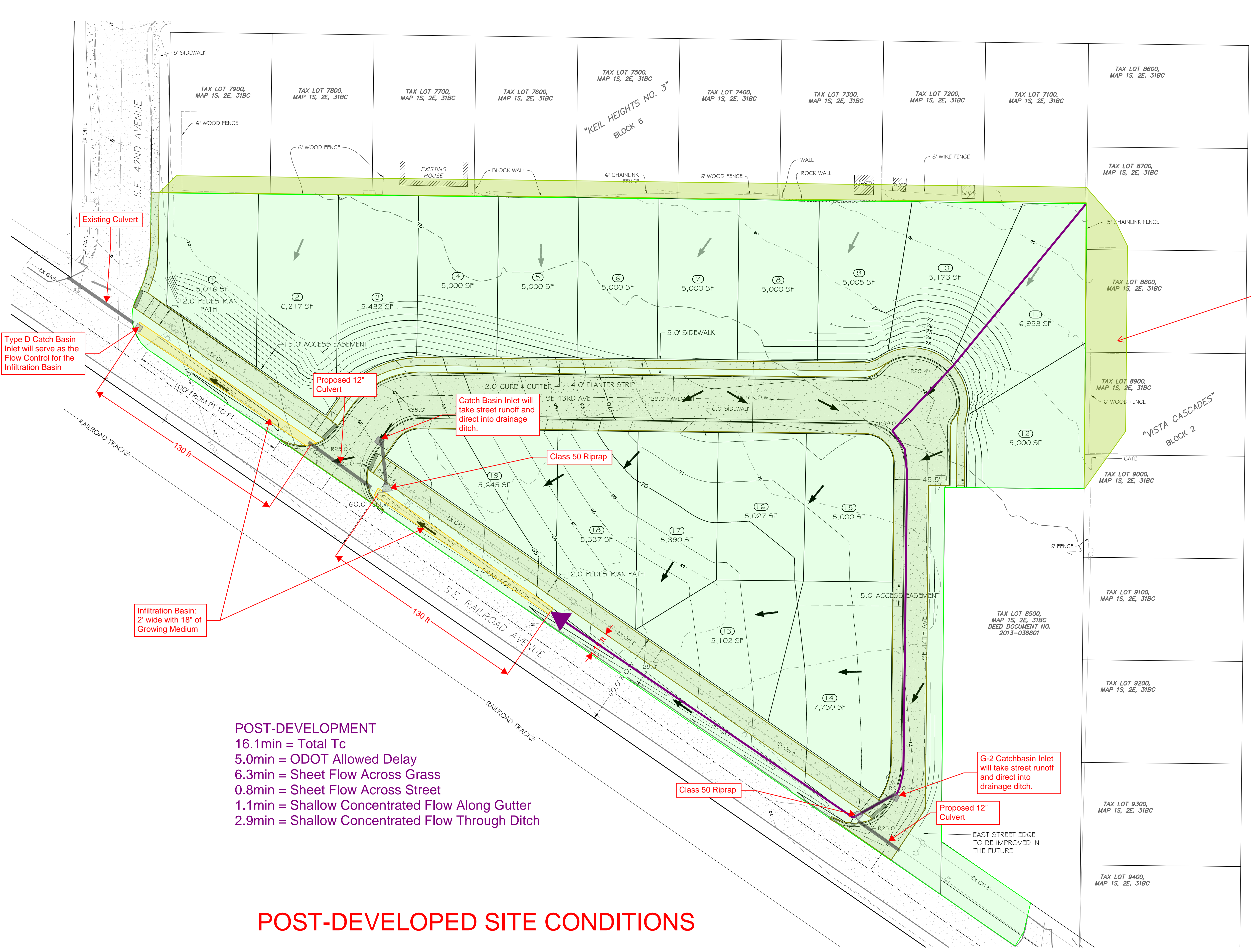
NO.	REVISIONS	DESCRIPTION	DATE	BY

PROJECT NO:	17022
HORIZ DATUM:	LOCAL
VERT SCALE:	AS SHOWN
VERT SCALE:	AS SHOWN
DRAWN:	SHS
DESIGN:	JL
APPROVED:	JL

SHEET TITLE:
POST-DEVELOPED SITE

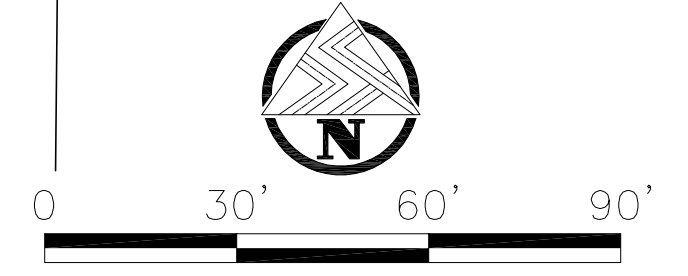
EXHIBIT 2

- DRAINAGE NOTES**
1. EACH LOT TO HAVE A SEPARATE DRYWELL TO DISCHARGE ROOF DRAIN STORMWATER.
 2. STREET STORMWATER TO DISCHARGE INTO DRAINAGE DITCH



POST-DEVELOPMENT
 16.1min = Total Tc
 5.0min = ODOT Allowed Delay
 6.3min = Sheet Flow Across Grass
 0.8min = Sheet Flow Across Street
 1.1min = Shallow Concentrated Flow Along Gutter
 2.9min = Shallow Concentrated Flow Through Ditch

POST-DEVELOPED SITE CONDITIONS



P:\2017 Projects\17022 Milwaukie Subdivision - RS Property\The CAD\CAD\Tentative Subdivision Plan\17022_GRADING.dwg 3/1/2017 2:54:01 PM

APPENDIX B— NRCS SOIL REPORT





United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Clackamas County Area, Oregon**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

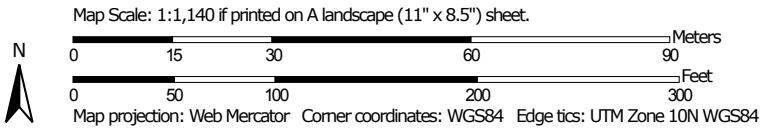
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map




Soil Map may not be valid at this scale.




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

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 11, Sep 16, 2016

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.

Map Unit Legend

Clackamas County Area, Oregon (OR610)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
53B	Latourell loam, 3 to 8 percent slopes	0.9	26.5%
91B	Woodburn silt loam, 3 to 8 percent slopes	2.6	73.5%
Totals for Area of Interest		3.5	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the

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development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Clackamas County Area, Oregon

53B—Latourell loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 225k
Elevation: 50 to 400 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Latourell and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Latourell

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 15 inches: loam
H2 - 15 to 48 inches: loam
H3 - 48 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

91B—Woodburn silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 227z

Custom Soil Resource Report

Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodburn and similar soils: 90 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodburn

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 16 inches: silt loam
H2 - 16 to 38 inches: silty clay loam
H3 - 38 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 25 to 32 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Other vegetative classification: Moderately Well Drained < 15% Slopes (G002XY004OR)
Hydric soil rating: No

Minor Components

Huberly

Percent of map unit: 2 percent
Landform: Swales on terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Aquolls

Percent of map unit: 1 percent

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Landform: Flood plains

Hydric soil rating: Yes

Dayton

Percent of map unit: 1 percent

Landform: Terraces

Landform position (three-dimensional): Tread

Down-slope shape: Linear

Across-slope shape: Linear

Other vegetative classification: Poorly Drained (G002XY006OR)

Hydric soil rating: Yes

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX C – PRESUMPTIVE APPROACH CALCULATIONS RESULTS



PAC Report

Project Name SE Railroad Avenue Subdivision	Permit No.	Created 3/8/17 10:34 AM
Project Address 4219 SE Railroad Ave Milwaukie, OR 97222	Designer Lee Brennan	Last Modified 3/10/17 12:36 PM
	Company Project Delivery Group	Report Generated 3/10/17 12:36 PM

Project Summary

The proposed project encompasses approximately 3.24 acres and is located at 4219 SE Railroad Avenue, Milwaukie Oregon 97222(Site). Tax map and lot numbers 12E31BC 8000, 8100, 8200, & 8300.

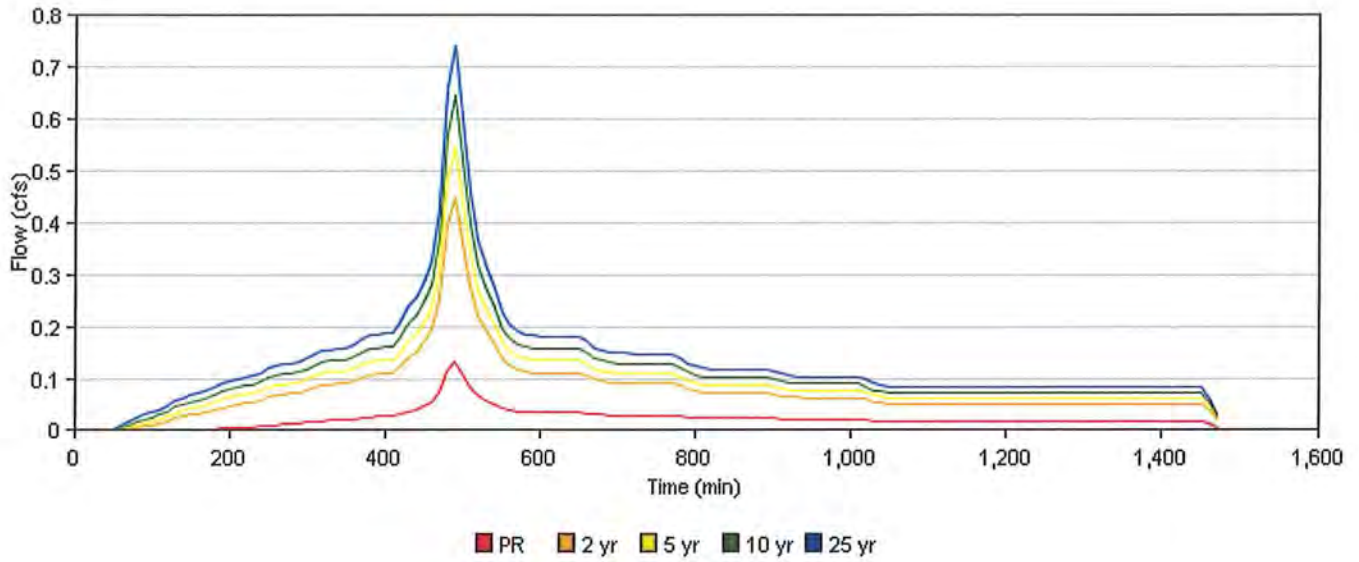
The project consists of a 19-Lot single-family residential subdivision with public streets and public utilities. The project is being designed to 2016 City of Portland Stormwater Management Manual. The development incorporates drywells for the exfiltration of the runoff due to impervious roofs and a Combination Swale to provide the required stormwater flow control and water quality treatment for the new impervious streets.

Catchment Name	Impervious Area (sq ft)	Native Soil Design Infiltration Rate	Hierarchy Category	Facility Type	Facility Config	Facility Size (sq ft)	Facility Sizing Ratio	PR Results	Flow Control Results
Streets, Sidewalks	38130	14.00	3	Basin	A	520	9.9%	Pass	Pass

Catchment Streets, Sidewalks

Site Soils & Infiltration Testing Data	Infiltration Testing Procedure	Open Pit Falling Head
	Native Soil Infiltration Rate (I_{test})	14.00
Correction Factor	CF_{test}	2
Design Infiltration Rates	Native Soil (I_{dsgn})	7.00 in/hr
	Imported Growing Medium	2.00 in/hr
Catchment Information	Hierarchy Category	3
	Disposal Point	B
	Hierarchy Description	Off-site flow to drainageway, river, or storm-only pipe system
	Pollution Reduction Requirement	Pass
	10-year Storm Requirement	N/A
		If discharging to an overland drainage system or to a storm sewer that discharges to an overland drainage system, including streams, drainageways, and ditches, the 2-year post-development peak flow must be equal or less than half of the 2-year pre-development rate and the 5, 10, and 25-year post-development peak rate must be equal or less than the pre-development rates for the corresponding design storms.
	Flow Control Requirement	
	Impervious Area	38130 sq ft 0.875 acre
	Time of Concentration (T_c)	15
	Pre-Development Curve Number (CN_{pre})	72
	Post-Development Curve Number (CN_{post})	98

SBUH Results



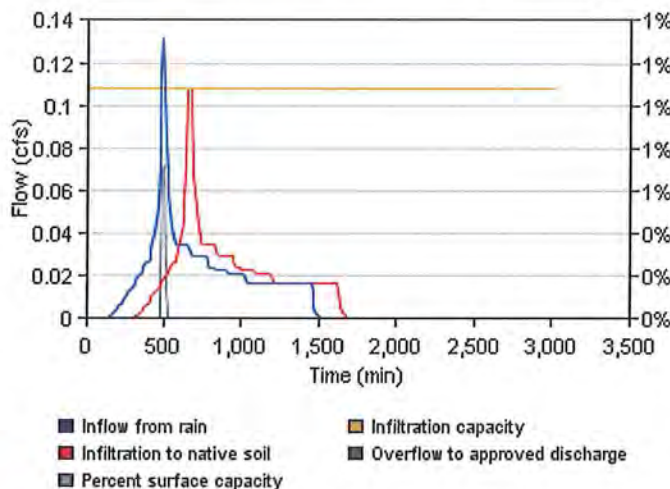
	Pre-Development Rate and Volume		Post-Development Rate and Volume	
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)
PR	0	2.199	0.131	1992.4
2 yr	0.035	1517.285	0.447	6899.466
5 yr	0.085	2380.743	0.546	8479.789
10 yr	0.146	3355.594	0.644	10062.477
25 yr	0.216	4418.006	0.742	11646.657

Facility Streets, Sidewalks

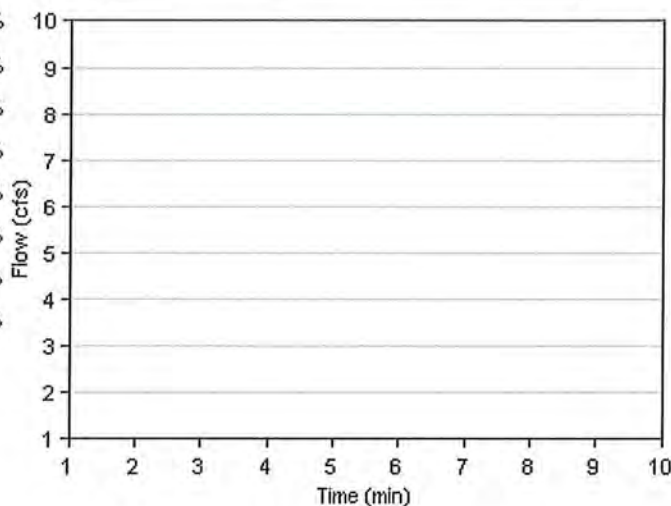
Facility Details	Facility Type	Basin
	Facility Configuration	A: Infiltration (Infl.)
	Facility Shape	Rectangle
	Above Grade Storage Data	
	Bottom Area	520 sq ft
	Bottom Width	2.00 ft
	Side Slope	3.0:1
	Storage Depth 1	18.0 in
	Growing Medium Depth	18 in
	Freeboard Depth	6.00 in
Facility Facts	Surface Capacity at Depth 1	2580.3 cu ft
	Design Infiltration Rate for Native Soil	0.377 in/hr
	Infiltration Capacity	0.108 cfs
Facility Facts	Total Facility Area Including Freeboard	3777.10 sq ft
	Sizing Ratio	9.9%
Pollution Reduction Results	Pollution Reduction Score	Pass
	Overflow Volume	0.000 cf
	Surface Capacity Used	1%
Flow Control Results	Flow Control Score	Pass
	Overflow Volume	100.758 cf
	Surface Capacity Used	100%

	Post-development outflow (cfs)		Pre-development inflow (cfs)	
2 year	0	≤ ½ of	0.035	Pass
5 year	0	≤	0.085	Pass
10 year	0.022	≤	0.146	Pass
25 year	0.213	≤	0.216	Pass

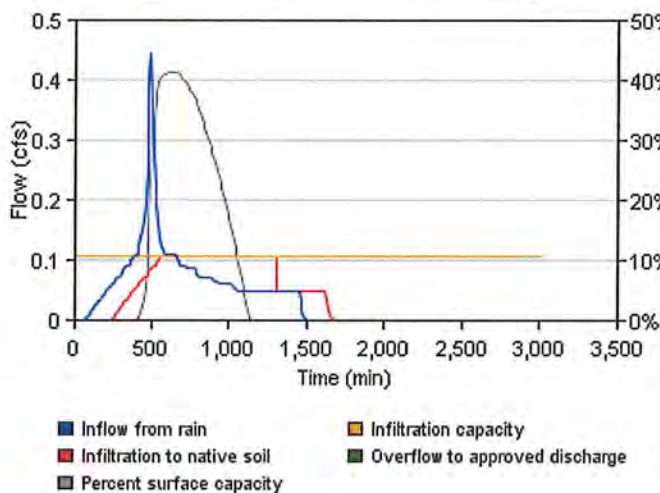
Pollution Reduction Event Surface Facility Modeling



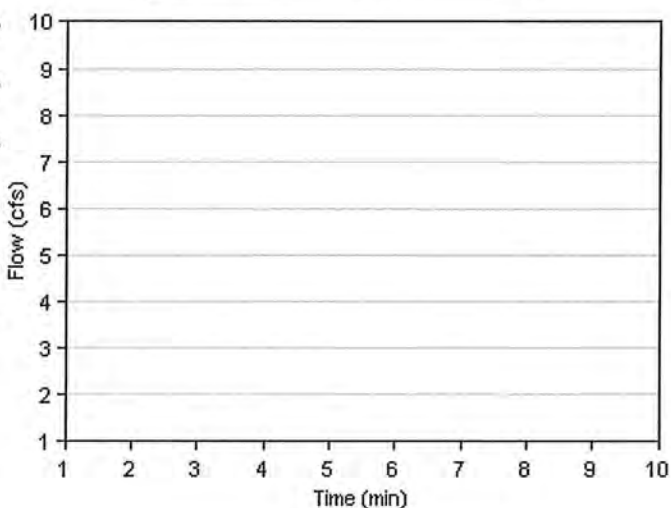
Pollution Reduction Event Below Grade Modeling



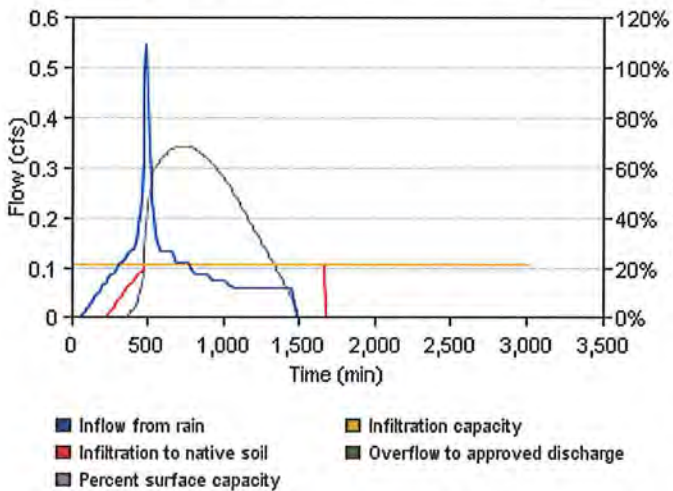
2 Year Event Surface Facility Modeling



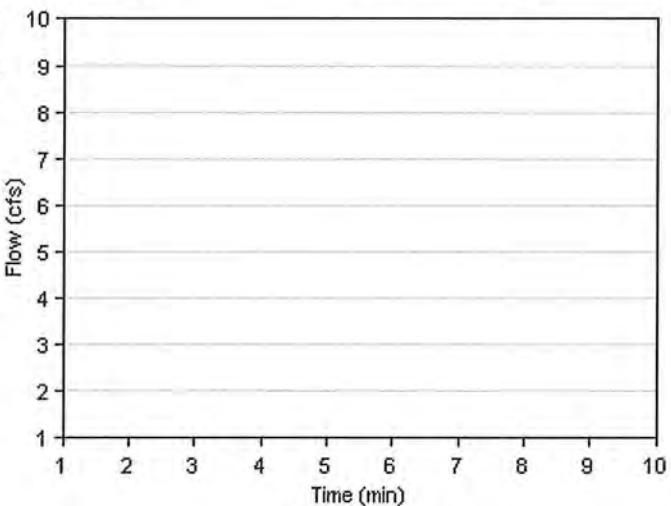
2 Year Event Below Grade Modeling



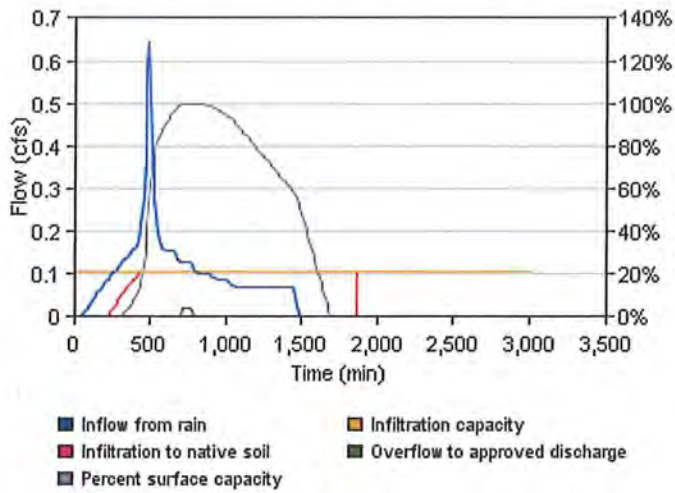
5 Year Event Surface Facility Modeling



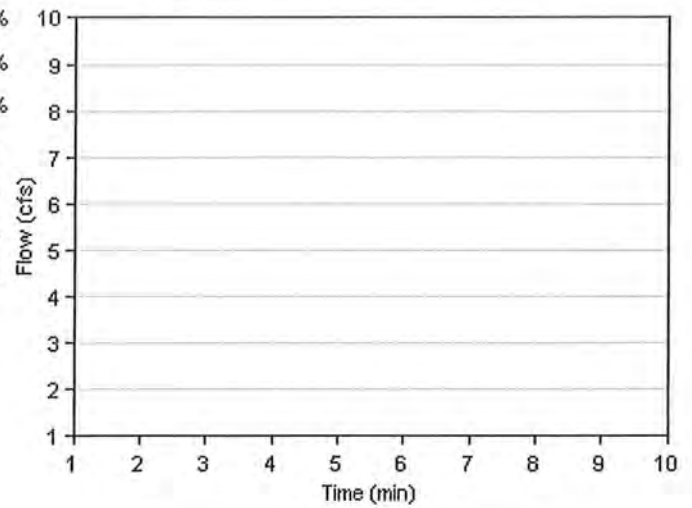
5 Year Event Below Grade Modeling



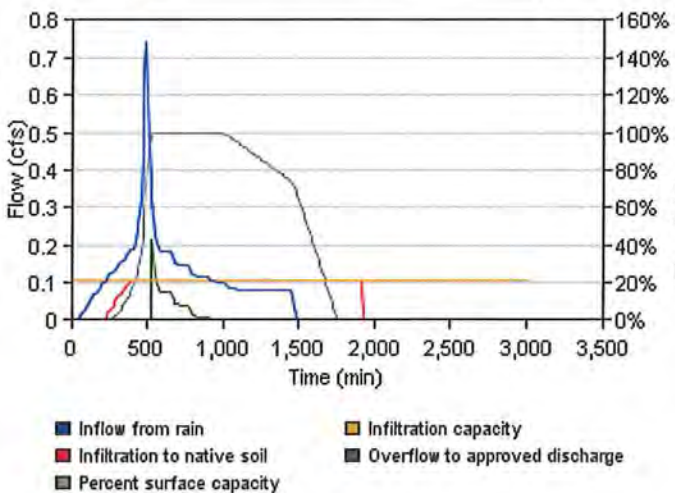
10 Year Event Surface Facility Modeling



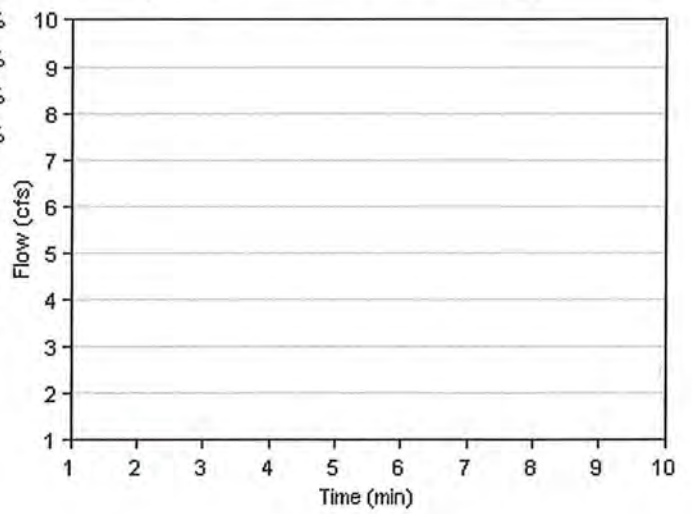
10 Year Event Below Grade Modeling



25 Year Event Surface Facility Modeling



25 Year Event Below Grade Modeling



APPENDIX D – MILWAUKIE DRYWELL SIZING REQUIREMENTS





ENGINEERING DEPARTMENT

6101 SE Johnson Creek Blvd
Milwaukie OR 97206

INSPECTIONS: 503-786-7575
PHONE: 503-786-7606
FAX: 503-774-8236
E-MAIL: engineering@ci.milwaukie.or.us

Residential/Light Traffic Drywell Requirements

AUTHORIZATION:

City of Milwaukie Municipal Code Section 13.12.060(B) authorizes the use of drywells for the disposal of runoff water from roof rain drains and parking areas. **The City may require percolation tests** as proof that soil conditions are suitable for drywells.

INSTALLATION:

The installation of drywells shall meet or exceed the requirements of Chapter 11 of the Oregon Plumbing Specialty Code (OPSC) as authorized by ORS 447.020(2), April 1, 2000. Installation shall further be in accordance with City of Milwaukie standard drawing 613B for residential drywells and shall meet all specifications and requirements stated in this outline.

SIZES:

Drywells are intended to handle a known capacity of water based on the area in square feet being drained. The OPSC, Chapter 11, Section 1107, requires that reinforced concrete rings have a **minimum inside diameter** of twenty-eight (28) inches and a **minimum depth** of five (5) feet. Sizes larger than the minimum are determined by calculations for a specific drainage area. Larger sizes of rings for specific areas to be drained are shown on the attached drywell size chart.

MATERIALS:

Drywells within the city of Milwaukie shall be reinforced concrete rings, constructed to the dimensions and specifications shown on standard drawing 613B. All other materials shall meet the sizes and specifications shown on drawing 613B. The City **may require certification** by an independent testing laboratory as proof that all drywell materials meet the stated specifications.

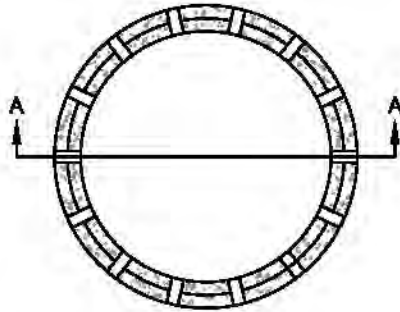
PERMITS:

Property owners may install drywells on their own property if they do all of their own work. All **contractors must provide proof that they are licensed** by the State of Oregon and that they have a City of Milwaukie or Metro business license and a certificate of liability insurance. Any person seeking to install a drywell within the city of Milwaukie must first obtain a permit from the Building Department and pay all fees pertaining to such permit. Installation of a drywell without a permit is a violation of City Ordinance and may result in fines, additional fees, and the added expense for removal and disposal of unacceptable materials from the site.

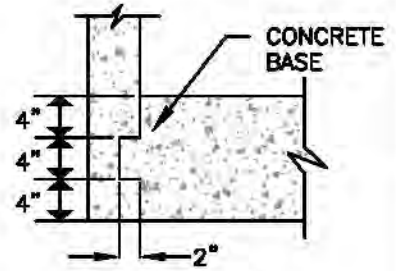
INSPECTIONS:

Inspection and final approval of drywell installation and materials shall be by personnel of the City of Milwaukie Building Department. To avoid delays, **requests for inspection must be made before 7:30 a.m. of the day inspection is desired. Call 503-786-7575.**

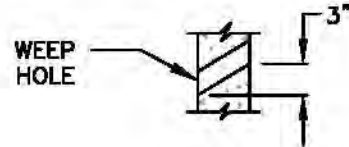
Two inspections are required: (1) when excavation is complete, **before** placing drywell rings or any other materials, and (2) when filter fabric and drywell rings are in place, **prior** to placing drain rock.



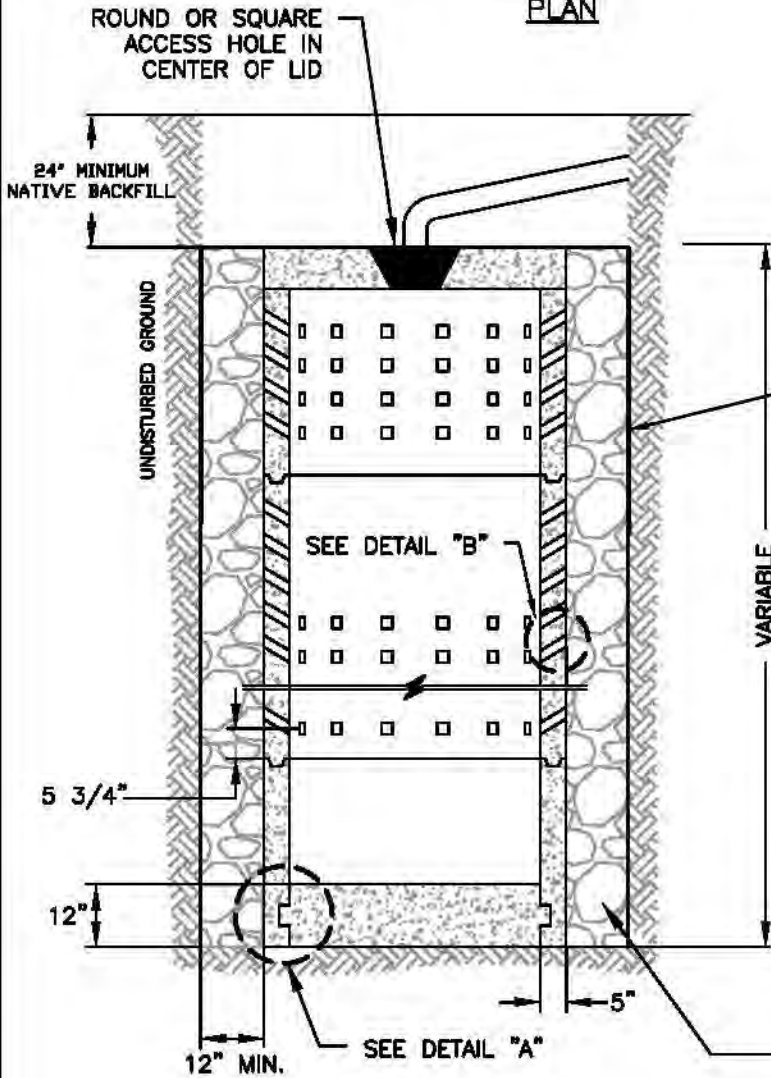
PLAN



DETAIL "A"



DETAIL "B"



SECTION A-A

GEOTEXTILE FABRIC - AMOCO
NONWOVEN GEOTEXTILE NO. 4545,
OR APPROVED EQUAL

NOTES:

1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C 478.
2. INVERT SHALL BE LEVEL AND SMOOTH.
3. EDGE OF DRYWELL RINGS MUST BE LOCATED A MINIMUM OF TEN (10) FEET FROM ANY BUILDING FOUNDATION AND A MINIMUM FIVE (5) FEET FROM ANY PROPERTY LINE.

3"-6" CLEAN ROUND
RIVER DRAIN ROCK



CITY OF MILWAUKIE, OREGON - PUBLIC WORKS DEPT.

Drywell - Residential

DRAWING NO.

613B

APPROVED
[Signature] 12/14
CITY ENGINEER DATE

NO.	REVISIONS	DATE	BY
1	NEW DRAWING	12/14	AJR



ENGINEERING DEPARTMENT
 6101 SE Johnson Creek Blvd
 Milwaukie OR 97206

INSPECTIONS: 503-786-7575
 PHONE: 503-786-7606
 FAX: 503-774-8236
 E-MAIL: engineering@ci.milwaukie.or.us

Drywell Sizes

DRAINAGE AREA (square feet)	2.33' Diameter* (28 inches) Depth shown in feet	2.5' Diameter (30 inches) Depth shown in feet	3.0' Diameter (36 inches) Depth shown in feet	4.0' Diameter (48 inches) Depth shown in feet
<550	5.00*	5.00*	5.00*	5.00*
550	5.16	"	"	"
600	5.63	"	"	"
700	6.57	5.70	"	"
800	7.50	6.52	"	"
900	8.44	7.33	5.09	"
1000	9.38	8.15	5.66	"
1100	10.32	8.96	6.22	"
1200	11.26	9.78	6.79	"
1300	12.20	10.59	7.36	"
1400	13.13	11.41	7.92	"
1500	14.07	12.22	8.49	"
1600		13.04	9.05	5.09
1700		13.85	9.62	5.41
1800		14.66	10.18	5.73
1900		15.48	10.75	6.05
2000			11.32	6.36
2100			11.88	6.68
2200			12.45	7.00
2300			13.01	7.32
2400			13.58	7.64
2500			14.14	7.96
2600			14.71	8.27
2700			15.28	8.59
2800			15.84	8.91
2900			16.41	9.23
3000			16.98	9.55
3100			17.54	9.87
3200			18.11	10.19
3300				10.51
3400				10.83
3500				11.15

The above chart indicates the depth of drywell required to serve a specified drainage area. Diameters shown are those generally available from suppliers.

	DEPTH	=	$\frac{(A \times 0.04 \text{ feet})}{[(\frac{1}{2} \text{ diameter})^2 \times \pi]}$	NOTE:
Depth	=		depth, in feet, of drywell excluding thickness of cover	Preferred Maximum depth to diameter ratio is 6:1
A	=		total drainage area in square feet	
0.04	=		constant for depth of water covering the drainage area	
diameter	=		the diameter, in feet, of the drywell to be installed	
π	=		3.1416	

Oregon P.S.C. requires minimum **inside** diameter of 28" and min. depth of 5.0 ft of reinforced concrete rings.

Section 1107.0 Dry Wells; Construction, Use and Limitations

1107.0 Dry Wells; Construction, Use and Limitations

1107.1 Construction. Where permitted by the Administrative Authority, dry wells may be used. The Administrative Authority may require soil percolation tests. When authorized, dry wells may be of reinforced concrete rings with an inside diameter of not less than twenty-eight (28) inches (0.7 m) with a minimum depth of five (5) feet (1.5 m), measured from the bottom to the top of the reinforced concrete cover and set on undisturbed soil. All dry wells shall be covered with at least two (2) feet (0.6 m) of compacted earth when measured from the top of the lid to the finished grade. When first approved by the Administrative Authority, dry wells may be constructed of brick or other approved material in of not less than four (4) inches (0.1 m) thickness. Brick or block may be assembled with or without openings, provided the openings on the outside of the dry well are not greater than three (3) inches (7.5

cm). This type of dry well shall have a brick arched top or an arched top of other approved materials.

1107.2 Location. No dry well shall be located closer than five (5) feet (1.5 m) of a property line nor closer than ten (10) feet (3 m) to any building unless approved by the Administrative Authority. Each drainage connection to a dry well shall be made at the top center of the lid by the use of an approved ninety (90) degree waste fitting. Support of piping shall be as required by Chapter 3 of this Code. Special permission may be granted to enter the side of the dry well when grade and structural conditions make top entrance impractical.

1107.3 Backfill. The particle size of the backfill surrounding a dry well shall be of sufficient size to prevent its incursion into the interior of the dry well. The backfill shall form a continuous layer around the dry well not less than six (6) inches (150 mm) in thickness and shall extend to the full height of the dry well.

Exception: When the dry well is installed in sandy-type soil an approved filter material shall be placed around the exterior of the liner to prevent infiltration of sand. The backfill shall be of native soil properly compacted.

1107.4 Abandonment. When required by the Administrative Authority, every drywell which has been abandoned or has been otherwise discontinued from further use shall be completely filled with earth, sand, gravel, concrete, or other approved material.



ENGINEERING DEPARTMENT

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FAX: 503-774-8236
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Drywell Materials Specifications & Suppliers

Specifications

Geotextile Filter Fabric

The following geotextile filter fabrics are approved "equals" for use in drywells within the city of Milwaukie. Fabrics manufactured by other suppliers, which meet or exceed the quoted specifications, are also acceptable **if the City receives verifiable written specifications prior to installation.**

	LINQ GTF 125EX	MIRAFI 140NL	AMOCO 4545
Grab	95	90	90
Elongation	50	50	50
Puncture	55	55	55
Tear	45	35	40
Mullen burst	215	185	185
AOS	70	70	70
Permitivity	2.0	2.0	2.1

All three of the above fabrics meet ODOT requirements for Type I drainage geotextile.

Suppliers:

The following are lists of local suppliers who carry some or all of the required materials for drywells. These lists are provided as **information only, and do not constitute recommendations.**

Geotextile Filter Fabric

Note: Some suppliers will cut fabric to size, while others sell only full rolls. **Ask before you buy!**

ACF West Inc.

Geosynthetic Products

8951 SE 76th Dr.
Portland OR 97206
ph) 503-771-5115 fax) 503-771-1161
1-800-878-5115

ADS Advanced Drainage Systems Inc

3695 Truman St
Washougal WA 98671
ph) 1-360-835-8522 fax) 1-360-835-3822
1-800-733-8523

CSI Geosynthetics

3500 SE Columbia Way
Bldg 44 Suite 100
Vancouver WA 98661
ph) 1-360-699-1426 fax) 1-360-699-1344
1-800-426-7976

Familiar Northwest Inc

Clackamas Showroom
14600 SE 82nd Dr
Clackamas OR 97015
ph) 503-655-1911

Fowler HD Co Inc

15632 SE 102nd
Clackamas OR 97015
ph) 503-656-3900

Oregon Culvert Co

Tualatin Sherwood Rd
ph) 503-692-0410

United Pipe & Supply Co Inc

7600 SE Johnson Creek Blvd
Portland OR 97206
ph) 503-788-8813 fax) 503-788-9747
1-800-933-8813

Drywell Rings

Johnson Cement Products

6500 SE Johnson Creek Blvd
Portland OR 97206
ph) 503-774-2351

Others may be available

Drain Rock

Many suppliers—listed in yellow pages under "Rock"

DATE SIGNED:

SUSTAINABLE INFILL DEVELOPMENT, LLC
KEIL GARDENS SUBDIVISION
 MILWAUKIE, OR

SCALE NOTE:

BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

NO.	REVISIONS DESCRIPTION	DATE	BY

PROJECT NO: 17022	HORIZ DATUM: LOCAL	VERT DATUM: LOCAL	HORIZ SCALE: AS SHOWN	VERT SCALE: AS SHOWN	DRAWN: JDL	DESIGN: JDL	APPROVED: JDL
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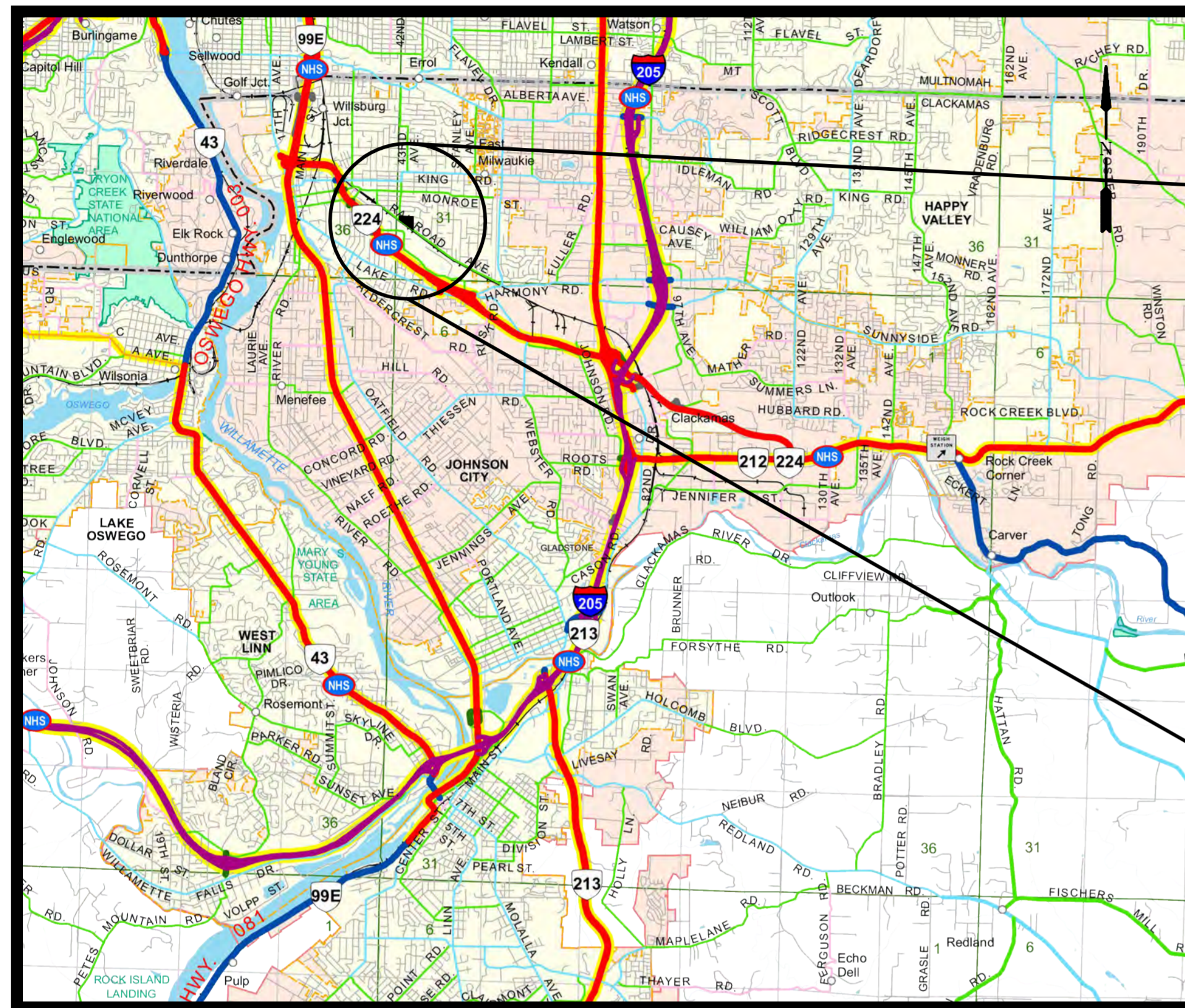
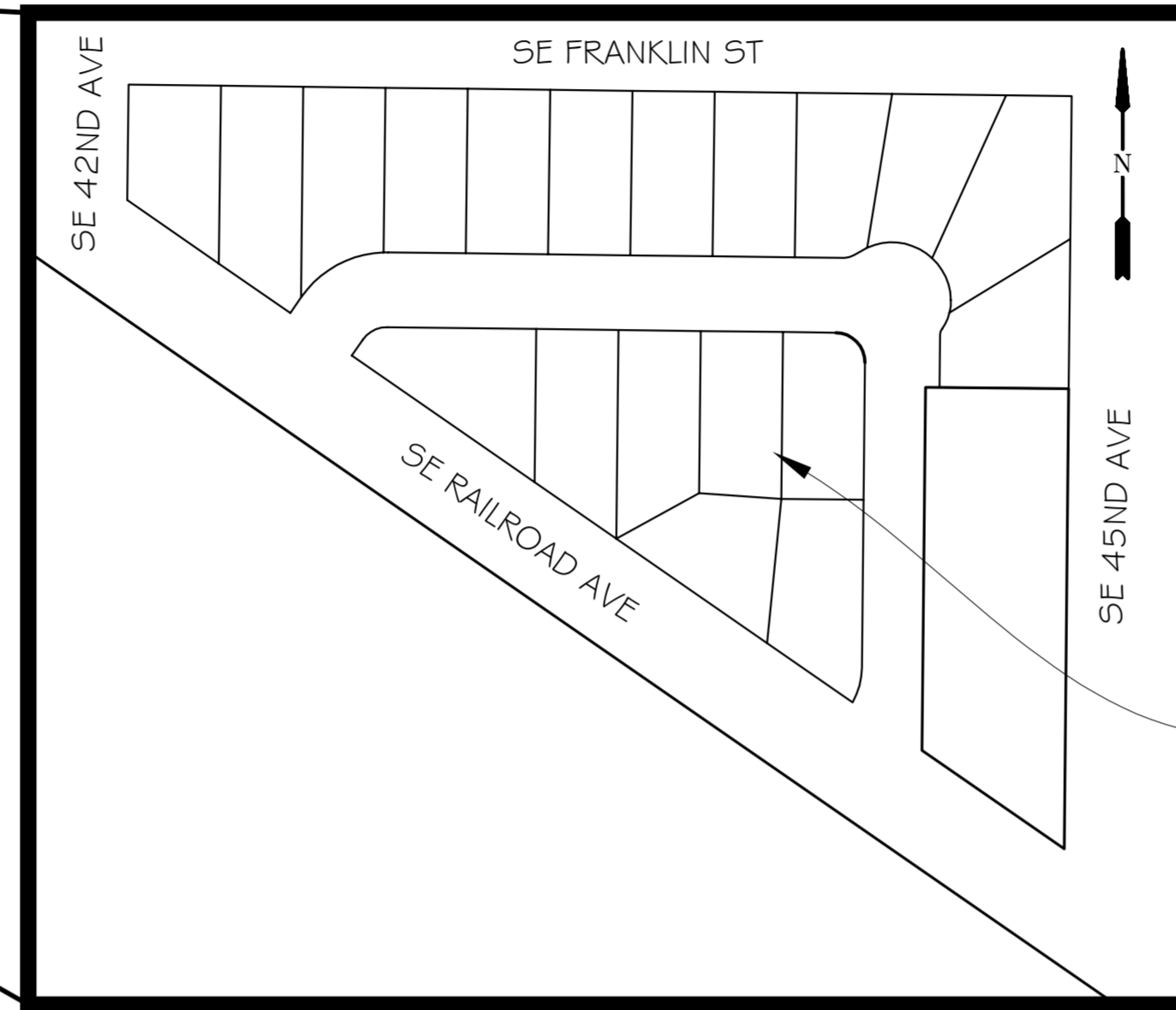
SHEET TITLE:
COVER SHEET
 G-0.01

PRELIMINARY SUBDIVISION PLANS FOR KEIL GARDENS SUBDIVISION

A PROPOSED SUBDIVISION
 MILWAUKIE, CLACKAMAS COUNTY, OREGON
 April 2017

KEIL GARDENS
 SUBDIVISION

SITE PLAN
 1" = 100'



OVERALL VICINITY MAP
 NTS

SHEET INDEX	
Sheet Number	DRAWING NAME
G-0.01	COVER SHEET
C-1.01	EXISTING CONDITIONS & DEMO PLAN
C-1.03	SITE PLAN
C-1.05	GRADING PLAN
C-1.07	SANITARY AND WATER PLAN
C-1.09	PRE-PLAT

PROJECT CONTACTS

OWNER:
 FRANCAR LLC
 6920 NE ST. JOHNS ROAD
 VANCOUVER, WA 98665

SURVEYOR:
 CENTERLINE CONCEPTS LAND
 SURVEYING, INC.
 TOBY BOLDEN, PLS
 19376 MOLALLA AVE SUITE 120,
 OREGON CITY, OR 97045
 503-650-0188 (OFFICE)
 TOBYB@CENTERLINECONCEPTS.COM

CIVIL ENGINEER:
 PROJECT DELIVERY GROUP, LLC
 JAMES LOFTON, PE
 3772 PORTLAND RD NE
 SALEM, OREGON 97301
 503-364-4004 (OFFICE)
 JAMESL@PDGNW.COM

LOCAL JURISDICTION:
 CITY OF MILWAUKIE
 6101 SE JOHNSON CREEK BLVD
 MILWAUKIE, OR, 97206
 503-786-7600 (OFFICE)

811
 Know what's below.
 Call before you dig.

ATTENTION:
 OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER AT (503) 232-1987.



DATE SIGNED:

SUSTAINABLE INFILL DEVELOPMENT, LLC
KEIL GARDENS SUBDIVISION
 MILWAUKEE, OR

SCALE NOTE:

 BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

PROJECT NO.:	REVISIONS NO.	DESCRIPTION	BY	
			DATE	
17022				

HORIZ DATUM:	LOCAL
VERT SCALE:	AS SHOWN
VERT SCALE:	AS SHOWN
DRAWN:	JBL
DESIGN:	JDL
APPROVED:	JDL

SHEET TITLE:
EXISTING CONDITIONS & DEMO PLAN

C-1.01

- GENERAL CONSTRUCTION NOTES
- ALL EXISTING HOUSES AND STRUCTURES ON SIGHT TO BE REMOVED.
- KEYNOTES - WORK BY CONTRACTOR
- REMOVE EXISTING BUILDING
 - ABANDON EXISTING UTILITIES
 - SAWCUT AND REMOVE EXISTING PAVEMENT AS SHOWN
 - RELOCATE EXISTING CATCH BASIN TO LOCATION SHOWN ON GRADING PLAN
 - PROTECT EXISTING FENCEWALL

LEGEND
 REMOVE EXISTING TREE



0 30' 60' 90'



DATE SIGNED:

SUSTAINABLE INFILL DEVELOPMENT, LLC
KEIL GARDENS SUBDIVISION
 MILWAUKEE, OR

SCALE NOTE:

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REVISIONS NO.	DESCRIPTION	DATE	BY

PROJECT NO: 17022	HORIZ DATUM: LOCAL
VERT SCALE: AS SHOWN	HORIZ SCALE: AS SHOWN
DRAWN: JDL	DESIGN: JDL
APPROVED: JDL	

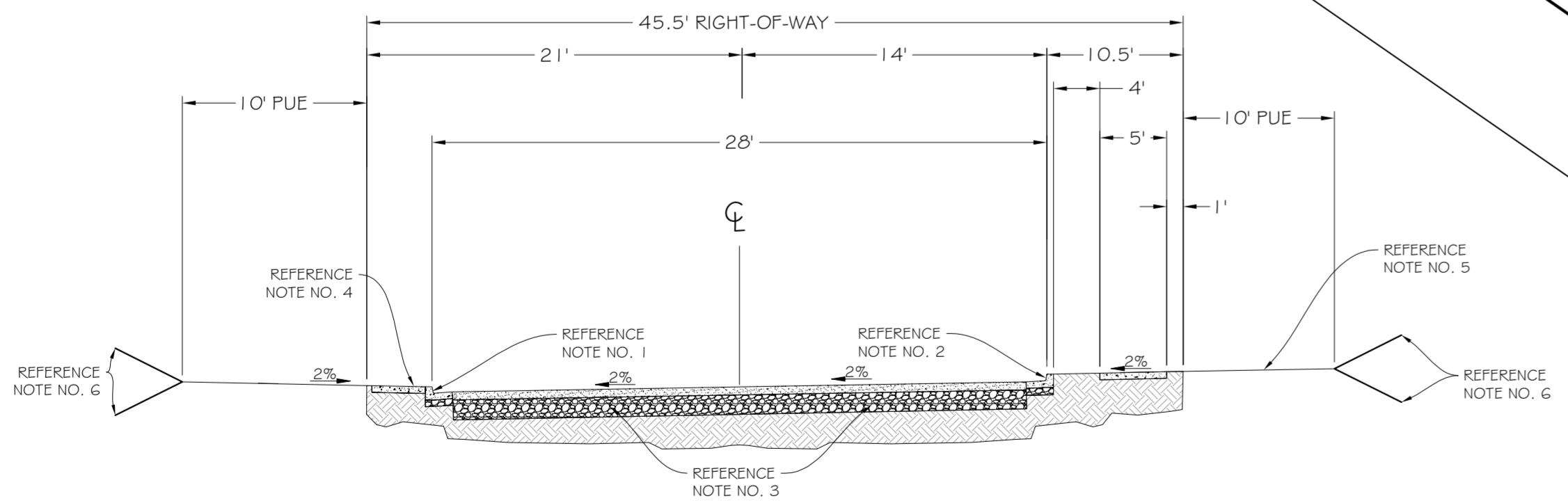
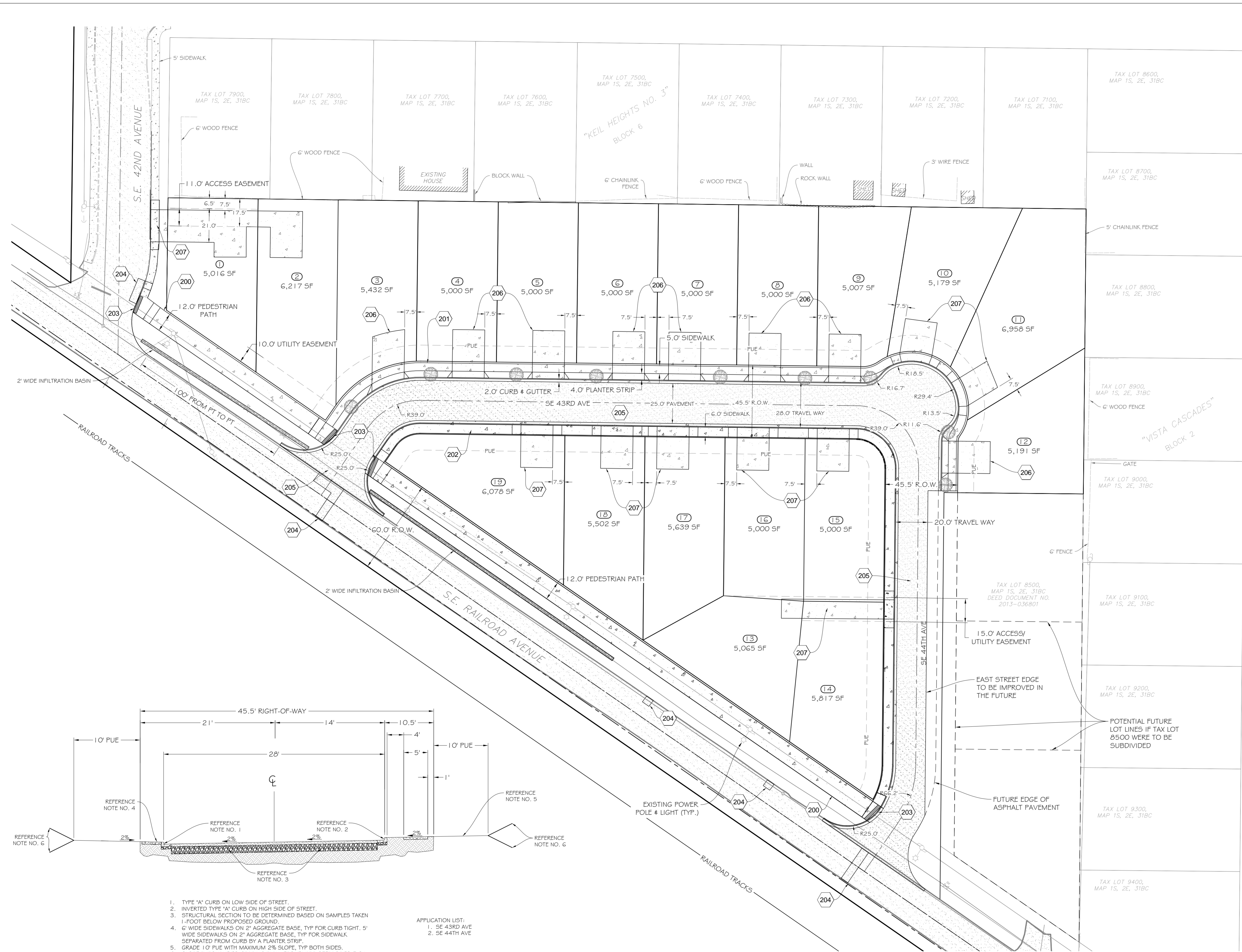
SHEET TITLE:
SITE PLAN
 C-1.03

GENERAL CONSTRUCTION NOTES

- REFERENCE SHEET C-1.01 FOR EXISTING CONDITIONS AND DEMOLITION PLAN
- REFERENCE SHEET C-1.05 FOR GRADING AND DRAINAGE PLAN
- REFERENCE SHEET C-1.07 FOR SANITARY AND WATER PLAN

KEYNOTES - WORK BY CONTRACTOR

- CONSTRUCT 12' PEDESTRIAN WALKWAY
- CONSTRUCT 5' SIDEWALK
- CONSTRUCT 6' CURBSIDE SIDEWALK
- CONSTRUCT ADA COMPLIANT RAMP
- PATCH PAVEMENT OVER TRENCH CUT AFTER INSTALLATION OF UTILITIES
- CONSTRUCT 5" ASPHALT IN TWO LIFTS OVER 8" 3/4" O CRUSHED ROCK AGGREGATE
- CONSTRUCT DRIVEWAY PER MILWAUKEE STANDARD DRAWING 502 A
- CONSTRUCT DRIVEWAY PER MILWAUKEE STANDARD DRAWING 502 C



- TYPE "A" CURB ON LOW SIDE OF STREET.
 - INVERTED TYPE "A" CURB ON HIGH SIDE OF STREET.
 - STRUCTURAL SECTION TO BE DETERMINED BASED ON SAMPLES TAKEN 1-FOOT BELOW PROPOSED GROUND.
 - 6" WIDE SIDEWALKS ON 2" AGGREGATE BASE, TYP FOR CURB TIGHT. 5' WIDE SIDEWALKS ON 2" AGGREGATE BASE, TYP FOR SIDEWALK SEPARATED FROM CURB BY A PLANTER STRIP.
 - GRADE 1' 0" PUE WITH MAXIMUM 2% SLOPE, TYP BOTH SIDES.
 - SLOPE PURSUANT TO GRADING PLAN. FRONT YARD SETBACK TO FLOW TO STREET AT 2% IF REMAINING PORTION OF LOT DRAINS TO REAR LOT LINE.
- APPLICATION LIST:
 1. SE 43RD AVE
 2. SE 44TH AVE
- 1 TYPICAL SECTION - SHED SECTION - 45.5 FT ROW
 SCALE: NTS

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DATE SIGNED:

SUSTAINABLE INFILL DEVELOPMENT, LLC
KEIL GARDENS SUBDIVISION
 MILWAUKIE, OR

SCALE NOTE:

 BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

NO.	REVISIONS DESCRIPTION	DATE	BY

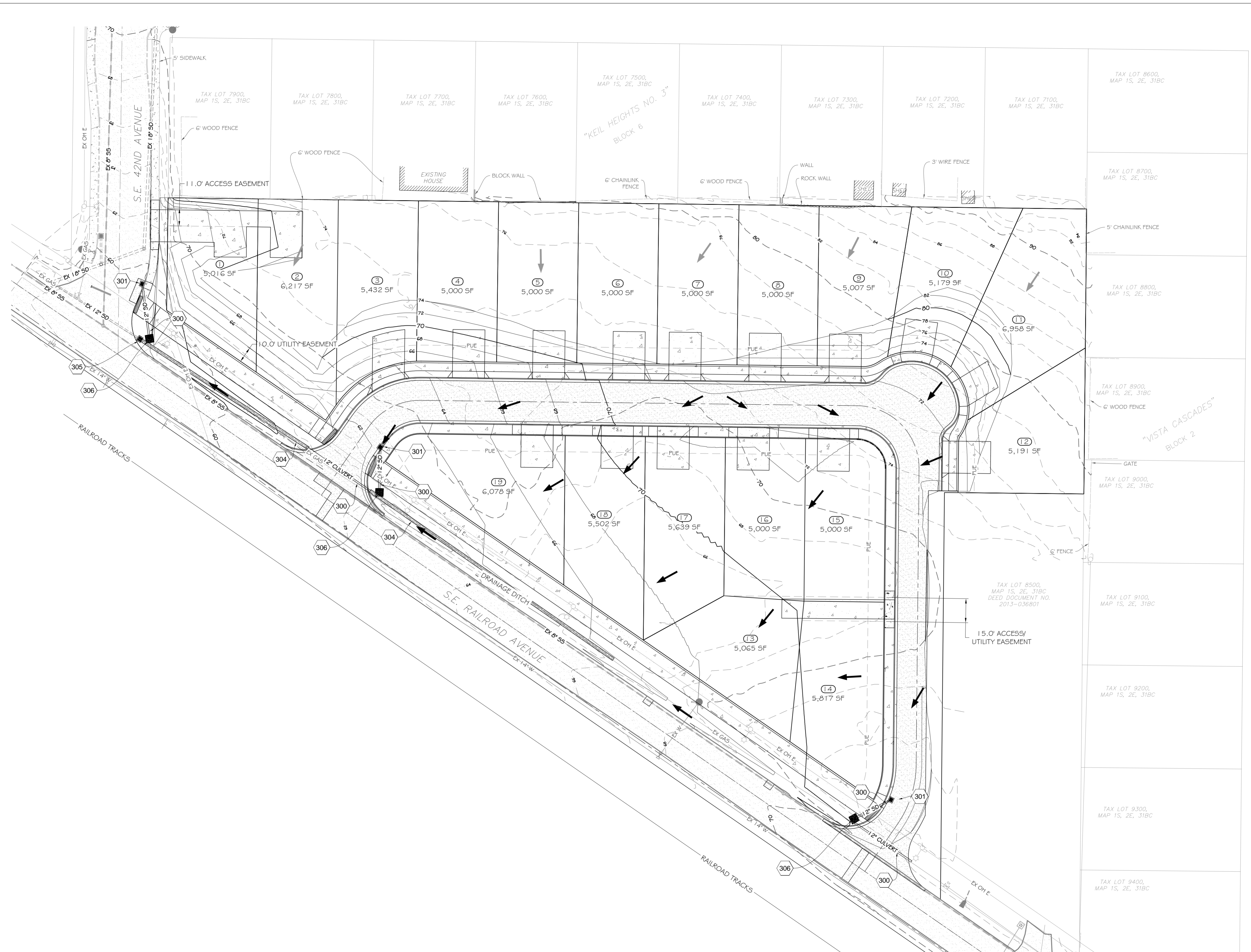
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VERT SCALE: AS SHOWN	HORIZ SCALE: AS SHOWN
DRAWN: JBL	DESIGN: JDL
APPROVED: JDL	

SHEET TITLE:
GRADING PLAN
 C-1.05

- DRAINAGE NOTES**
- EACH LOT TO HAVE A SEPARATE DRYWELL TO DISCHARGE ROOF DRAIN STORMWATER
 - STREET STORMWATER TO DISCHARGE INTO DRAINAGE DITCH

- GENERAL CONSTRUCTION NOTES**
- REFERENCE SHEET C-1.01 FOR EXISTING CONDITIONS AND DEMOLITION PLAN
 - REFERENCE SHEET C-1.07 FOR SANITARY AND WATER PLAN

- KEYNOTES - WORK BY CONTRACTOR**
- INSTALL 12" ADS-12 PVC CULVERT
 - INSTALL G-2 CATCH BASIN INLET PER MILWAUKIE STANDARD DRAWING 600
 - CONSTRUCT 2' WIDE INFILTRATION BASIN. PROVIDE 18" OF GROWING MEDIUM.
 - INSTALL TYPE D CATCH BASIN WITH FLOW CONTROL ORRIFICE(S) AS SPECIFIED BY ENGINEER
 - INSTALL 5 X 5 X 1 CLASS 50 RIPRAP SPLASH PAD



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DATE SIGNED:

SUSTAINABLE INFILL DEVELOPMENT, LLC
KEIL GARDENS SUBDIVISION
 MILWAUKIE, OR

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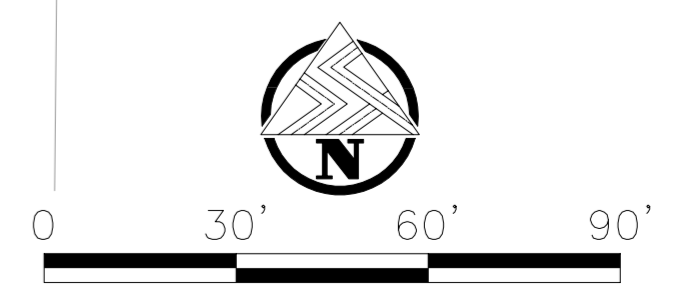
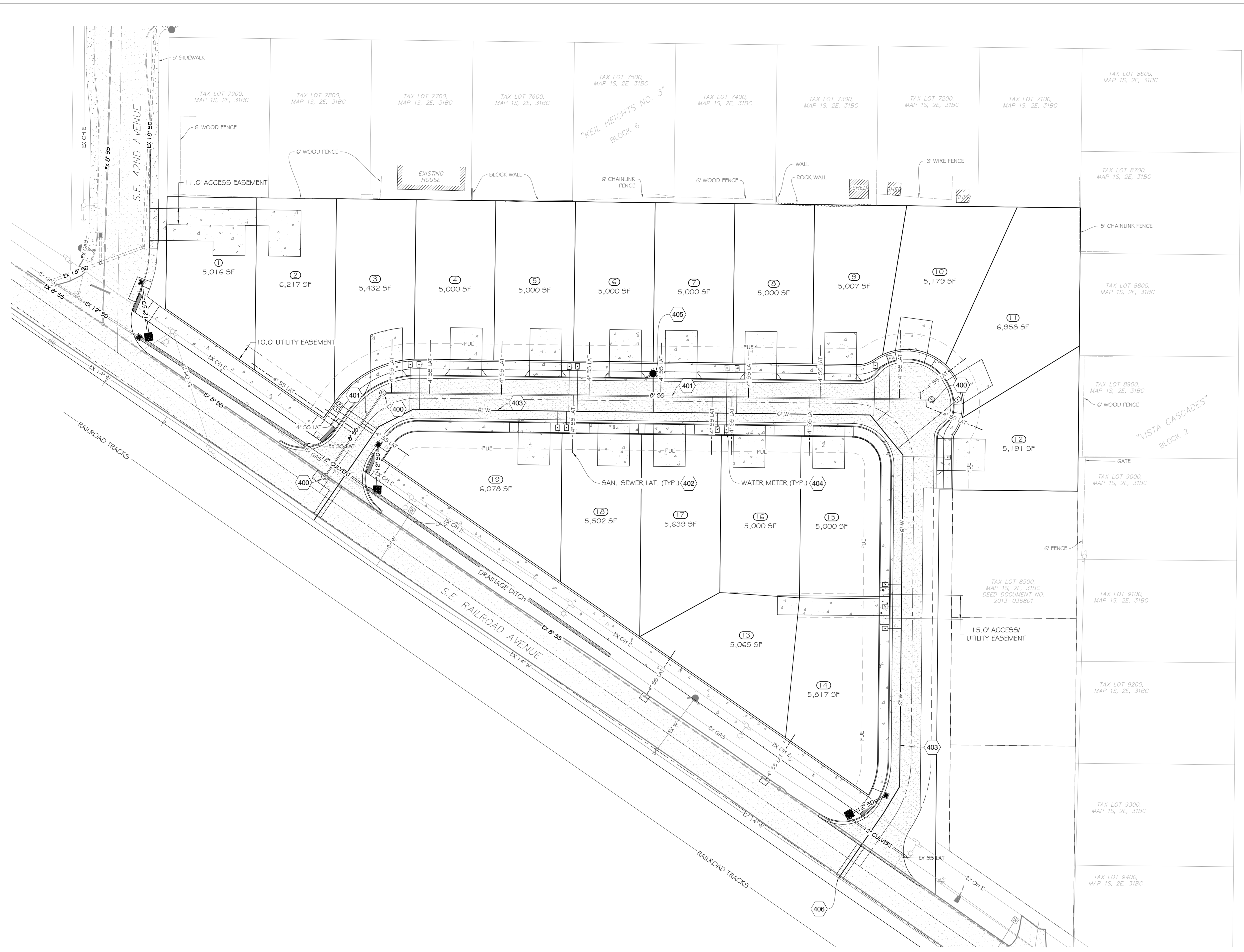
PROJECT NO:	REVISIONS NO.	DESCRIPTION	DATE	BY
17022				

SHEET TITLE:
SANITARY AND WATER PLAN

C-1.07

- GENERAL CONSTRUCTION NOTES
- REFERENCE SHEET C-1.01 FOR EXISTING CONDITIONS AND DEMOLITION PLAN
 - REFERENCE SHEET C-1.05 FOR GRADING AND DRAINAGE PLAN

- KEYNOTES - WORK BY CONTRACTOR
- INSTALL 48" SANITARY SEWER MANHOLE
 - INSTALL 8" SANITARY SEWER LATERAL
 - INSTALL 6" WATER MAIN
 - INSTALL WATER SERVICE INCLUDING WATER METER, BOX, 1" COPPER LINE, COVER STOP AND TAP
 - INSTALL FIRE HYDRANT
 - INSTALL HOT TAP



SIGNED ON:
 REGISTERED PROFESSIONAL LAND SURVEYOR
 OREGON
 JULY 13, 2004
 TOBY G. BOLDEN
 60377LS
 RENEWS: DECEMBER 31, 2017

DATE SIGNED:
 PREPARED BY:
 CENTERLINE CONCEPTS LAND SURVEYING, INC.
 TOBY BOLDEN, PLS
 19376 MOLALLA AVE SUITE 120,
 OREGON CITY, OR 97045
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KEIL GARDENS SUBDIVISION
 MILWAUKIE, OR

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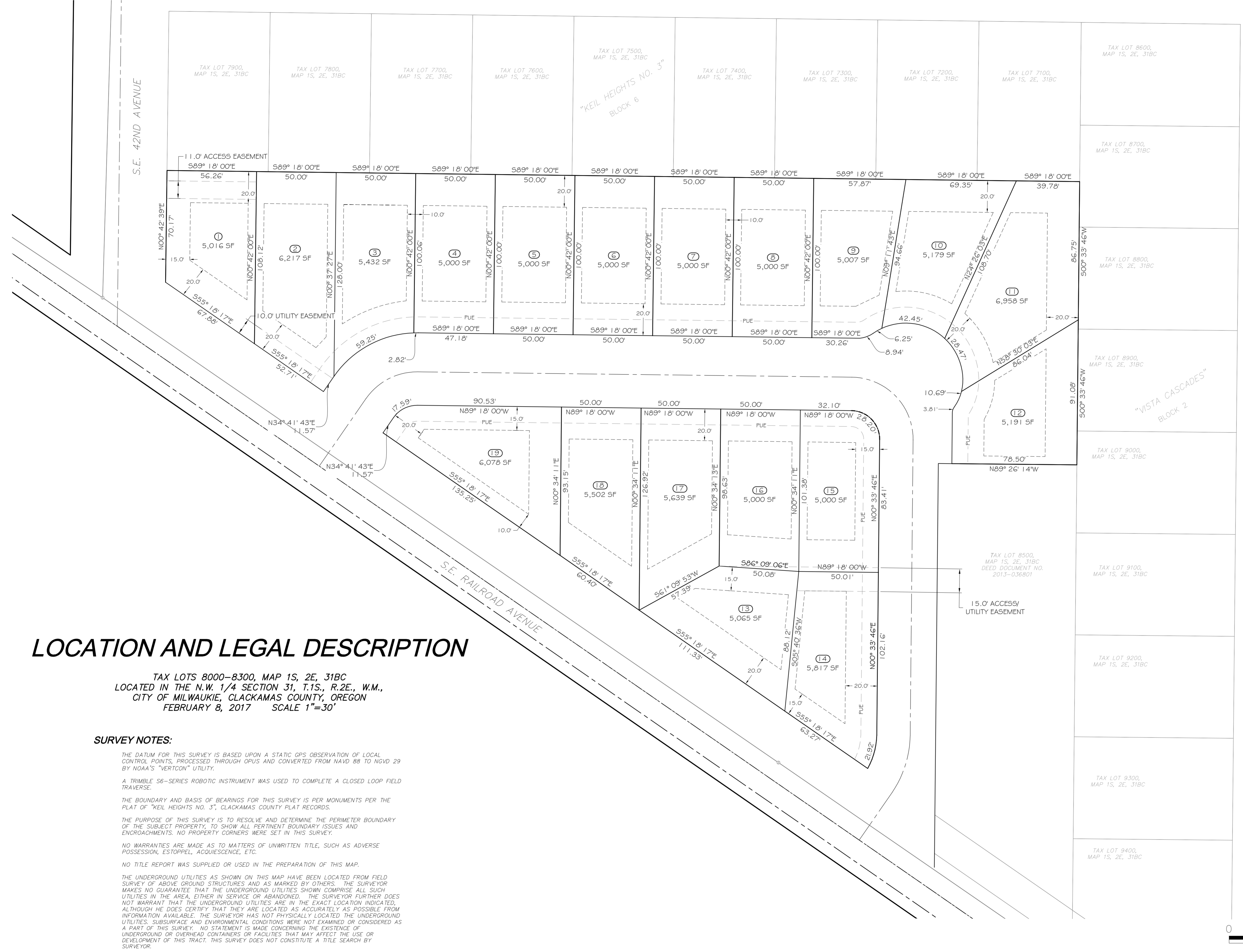
NO.	REVISIONS DESCRIPTION	DATE	BY

PROJECT NO: 17022	HORIZ DATUM: LOCAL
VERT SCALE: AS SHOWN	VERT SCALE: AS SHOWN
DRAWN: JBL	DESIGN: JDL
APPROVED: JDL	

SHEET TITLE:
 PRE-PLAT
 C-1.09

GENERAL NOTES
 SETBACKS:
 -FRONT=20'
 -SIDE=5'
 -BACK=20'
 -SIDE STREET=15'

PREPARED BY:
 CENTERLINE CONCEPTS LAND SURVEYING, INC.
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LOCATION AND LEGAL DESCRIPTION

TAX LOTS 8000-8300, MAP 1S, 2E, 31BC
 LOCATED IN THE N.W. 1/4 SECTION 31, T.1S., R.2E., W.M.,
 CITY OF MILWAUKIE, CLACKAMAS COUNTY, OREGON
 FEBRUARY 8, 2017 SCALE 1"=30'

SURVEY NOTES:

THE DATUM FOR THIS SURVEY IS BASED UPON A STATIC GPS OBSERVATION OF LOCAL CONTROL POINTS, PROCESSED THROUGH OPUS AND CONVERTED FROM NAVD 88 TO NVD 29 BY NOAA'S "VERTCON" UTILITY.
 A TRIMBLE S6-SERIES ROBOTIC INSTRUMENT WAS USED TO COMPLETE A CLOSED LOOP FIELD TRAVERSE.
 THE BOUNDARY AND BASIS OF BEARINGS FOR THIS SURVEY IS PER MONUMENTS PER THE PLAT OF "KEIL HEIGHTS NO. 3", CLACKAMAS COUNTY PLAT RECORDS.
 THE PURPOSE OF THIS SURVEY IS TO RESOLVE AND DETERMINE THE PERIMETER BOUNDARY OF THE SUBJECT PROPERTY, TO SHOW ALL PERTINENT BOUNDARY ISSUES AND ENCROACHMENTS. NO PROPERTY CORNERS WERE SET IN THIS SURVEY.
 NO WARRANTIES ARE MADE AS TO MATTERS OF UNWRITTEN TITLE, SUCH AS ADVERSE POSSESSION, ESTOPPEL, ACQUESCENCE, ETC.
 NO TITLE REPORT WAS SUPPLIED OR USED IN THE PREPARATION OF THIS MAP.
 THE UNDERGROUND UTILITIES AS SHOWN ON THIS MAP HAVE BEEN LOCATED FROM FIELD SURVEY OF ABOVE GROUND STRUCTURES AND AS MARKED BY OTHERS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES, SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS A PART OF THIS SURVEY. NO STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS TRACT. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY SURVEYOR.