

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT <i>PETER SPAR</i>	PROJECT NO(S) <i>MP-13-01</i>	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S) <i>2800-</i>	TOTAL <i>2800-</i>

Type of Review (Please check all that apply):

- | | | |
|--|--|--|
| <input type="checkbox"/> Annexation (ANX) | <input type="checkbox"/> Historic Review | <input type="checkbox"/> Subdivision (SUB) |
| <input type="checkbox"/> Appeal and Review (AP) * | <input type="checkbox"/> Legislative Plan or Change | <input type="checkbox"/> Temporary Uses * |
| <input type="checkbox"/> Conditional Use (CUP) | <input type="checkbox"/> Lot Line Adjustment (LLA) */** | <input type="checkbox"/> Time Extension * |
| <input type="checkbox"/> Design Review (DR) | <input checked="" type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan) | <input type="checkbox"/> Variance (VAR) |
| <input type="checkbox"/> Easement Vacation | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures | <input type="checkbox"/> Water Resource Area Protection/Single Lot (WAP) |
| <input type="checkbox"/> Extraterritorial Ext. of Utilities | <input type="checkbox"/> Planned Unit Development (PUD) | <input type="checkbox"/> Water Resource Area Protection/Wetland (WAP) |
| <input type="checkbox"/> Final Plat or Plan (FP) | <input type="checkbox"/> Pre-Application Conference (PA) */** | <input type="checkbox"/> Willamette & Tualatin River Greenway (WRG) |
| <input type="checkbox"/> Flood Management Area | <input type="checkbox"/> Street Vacation | <input type="checkbox"/> Zone Change |
| <input type="checkbox"/> Hillside Protection & Erosion Control | | |

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address: 960 DOLLAR STREET	Assessor's Map No.: 21E34DC
	Tax Lot(s): 00700 and 00800
	Total Land Area: 0.822 Acres

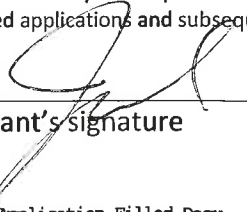
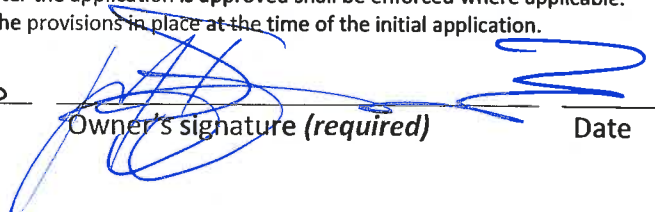
Brief Description of Proposal: APPLICANT PROPOSES A PARTITION TO CREATE TWO BUILDABLE LOTS UNDER THE R-10 ZONING DESIGNATION.

Applicant Name: JT SMITH COMPANIES <small>(please print)</small> Address: 5285 MEADOWS ROAD, SUITE 171 City State Zip: LAKE OSWEGO, OR 97035	Phone: 503-209-7555 Email: jwyland@jtsmithco.com
Owner Name (required): SMITH LF 6, LLC <small>(please print)</small> Address: 960 DOLLAR STREET City State Zip: WEST LINN, OR 97068	<div style="border: 2px solid black; padding: 10px; width: fit-content; margin: auto;"> <p style="font-size: 2em; font-weight: bold; margin: 0;">RECEIVED</p> <p style="font-size: 1.2em; font-weight: bold; margin: 5px 0 0 0;">APR 30 2013</p> <p style="font-size: 0.8em; margin: 0;">PLANNING & BUILDING CITY OF WEST LINN INT. _____ TIME _____</p> </div>
Consultant Name: ANDREW TULL, 3J CONSULTING, INC. <small>(please print)</small> Address: 10445 SW CANYON ROAD, SUITE 245 City State Zip: BEAVERTON, OR 97005	
Phone: 503-545-1907 Email: andrew.tull@3j-consulting.com	

1. All application fees are non-refundable (excluding deposit). Any overruns to deposit will result in additional billing.
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application.
One (1) complete set of digital application materials must also be submitted on CD in PDF format.
If large sets of plans are required in application please submit only two sets.

* No CD required / ** Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

	<i>4/24/13</i>		
Applicant's signature	Date	Owner's signature (required)	Date



Civil Engineering
Water Resources
Land Use Planning

TRANSMITTAL

To:	City of West Linn C/O Peter Spir	Date:	April 30, 2013
	22500 Salamo Road	Project:	Dollar Street
	West Linn, OR		
		3J Project #:	13110
From	Andrew Tull	Case/File#:	

Transmitting:

- Attached
- Separate Cover
-

Via:

- Mail
- Messenger - Same Day
- Fed Ex

Purpose:

- As Requested
- Land Use Application
-

Copies	Description
3	Land Use Application Binders
3	11x17 Plan SETs
2	Full Size Plan Sets
1	CD with Digital Application Materials
1	Check for Partition Application

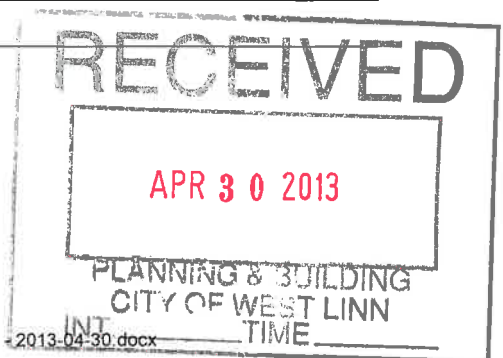
COMMENTS:

Attached hereto is the Dollar Street Partition Application.

Best Regards,

Signed:

Cc: Mr. John Wyland, JT Smith Companies
Mr. Mike Robinson, Perkins Coie



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- Appendix B- Preliminary Partition Plan set
- Appendix C - Pre-Application Conference Notes
- Appendix D – Storm Drainage Analysis
- Appendix E - Arborist Report

GENERAL INFORMATION

Property Owner and Applicant: John Wyland
LF 6, LLC
5285 Meadows Road, Suite 171
Lake Oswego, OR 97035
Phone: 503-209-7555
Email: jwyland@jtsmithco.com

Applicant's Representative: **3J Consulting, Inc**
10445 SW Canyon Road
Beaverton, OR 97005
Contact: Andrew Tull
Phone: 503-545-1907
Email: andrew.tull@3j-consulting.com

SITE INFORMATION

Parcel Numbers: 21E34DC00700
Address: 960 Dollar Street
Size: 0.52 acres
Zoning Designation: R-10
Neighborhood/Area: Willamette Neighborhood Association
Comprehensive Plan: Low Density Residential (LDR)
Existing Use: Single family residential
Street Functional Classifications: Dollar Street is a collector street and River Heights Circle is a local street.
Surrounding Zoning: North, East West - R-7 - Single Family Residential Detached and Attached
South – R-10 – Single Family Residential Detached

INTRODUCTION

APPLICANT'S REQUEST

The Applicant seeks approval of an application for Minor Partition for the creation of 2 residential lots. The site is comprised of one existing lot that was recently approved for a Lot Line Adjustment. This partition application proposes the division of one of the adjusted lots (tax lot 700) into two lots (see Appendix B- Preliminary Partition Plat plan set). No changes are proposed to the neighboring, adjusted tax lot (tax lot 800). There is an existing home on tax lot 700 proposed for demolition as part of this development. This narrative describes the proposed partition of the site and documents compliance with the relevant sections of the City of West Linn's Community Development Code ("CDC").

PROPOSED SITE IMPROVEMENTS

The project site consists of a total of 0.52 acres. The property is located on the northeast corner of the intersection of Dollar Street and River Heights Circle. There is one single-family detached home and one metal shed at the east end of the property that will be demolished as part of this development.

The intent of this land division is to provide two buildable lots, each exceeding 10,000 square feet in size, for development with single-family homes, a use permitted outright in the R-10 zone. A Public Improvement plan submitted as part of a previous lot line adjustment application has been lodged with the City showing the extent of all improvements necessary to provide services for both lots.

TRAFFIC AND PARKING

The applicant proposes to widen the existing driveway on Dollar Street to provide access to the two new lots. The lot sizes provide ample opportunity for on-site parking.

A traffic report is not being submitted with this application as it is not warranted for the creation of one additional residential lot.

APPLICABLE CRITERIA

The following sections of West Linn Community Development Code (CDC) have been extracted as they have been deemed to be applicable to the proposal. Following each applicable criteria or design standard, the Applicant has provided a series of draft findings. The intent of providing code and detailed responses and findings is to document, with absolute certainty, that the proposed development has satisfied the approval criteria for Partition Approval.

DIVISION 2. ZONING PROVISIONS

CHAPTER 11 SINGLE-FAMILY RESIDENTIAL DETACHED, R-10

11.030 PERMITTED USES

The following are uses permitted outright in this zoning district

1. Single-family detached residential unit.

Applicant's Draft Finding: The proposed use in this R-10 zone is single-family detached housing, a use permitted outright in this zone.

The requirements of this section have been satisfied.

11.070 DIMENSIONAL REQUIREMENTS, USES PERMITTED OUTRIGHT AND USES PERMITTED UNDER PRESCRIBED CONDITIONS

Except as may be otherwise provided by the provisions of this code, the following are the requirements for uses within this zone:

1. The minimum lot size shall be 10,000 square feet for a single-family detached unit.

Applicant's Draft Finding: The sizes of the 2 proposed lots are 11,391 square feet and 11,397 square feet. Both exceed the 10,000 square foot minimum.

The requirements of this section have been satisfied.

2. The minimum front lot line length or the minimum lot width at the front lot line shall be 35 feet.

Applicant's Draft Finding: The front lot lines will be 76 feet and 76 feet in width once the partition is recorded.

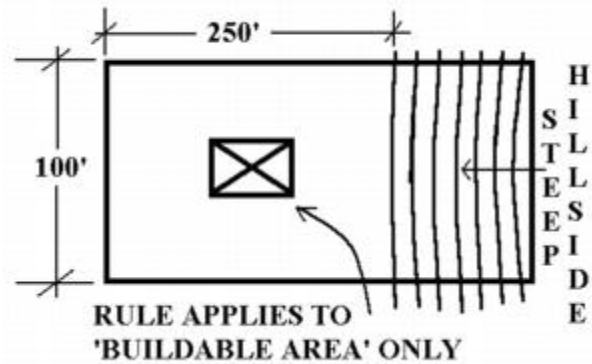
The requirements of this section have been satisfied.

3. The average minimum lot width shall be 50 feet.

Applicant's Draft Finding: The average widths of the two lots are 76 feet each. The average minimum lot widths for all lots will exceed the 50 foot minimum.

The requirements of this section have been satisfied.

4. The lot depth comprising non-Type I and II lands shall be less than two and one-half times the width, and more than an average depth of 90 feet. (See diagram below.)



Applicant's Draft Finding: This property comprises non-Type I and II lands. The average depth of the two lots is 149.93 feet, just less than two times the width of 76 feet and more than 90 feet.

The requirement listed within this section has been satisfied.

5. The minimum yard dimensions or minimum building setback area from the lot line shall be:

- a. For the front yard, 20 feet; except for steeply sloped lots where the provisions of CDC [41.010](#) shall apply; and as specified in CDC [26.040\(D\)](#) for the Willamette Historic District.
- b. For an interior side yard, seven and one-half feet; except as specified in CDC [26.040\(D\)](#) for the Willamette Historic District.
- c. For a side yard abutting a street, 15 feet.
- d. For a rear yard, 20 feet.

Applicant's Draft Finding: All minimum yard dimensions and setbacks will be met per this requirement. This will be further verified at time of building permit submittal.

The requirements of this section have been satisfied.

6. The maximum building height shall be 35 feet, except for steeply sloped lots in which case the provisions of Chapter [41](#) CDC shall apply.

7. The maximum lot coverage shall be 35 percent.

8. The minimum width of an accessway to a lot which does not abut a street or a flag lot shall be 15 feet.

9. The floor area ratio shall be 0.45. Type I and II lands shall not be counted toward lot area when determining allowable floor area ratio, except that a minimum floor area ratio of 0.30 shall be allowed regardless of the classification of lands within the property. That 30 percent shall be based upon the entire property including Type I and II lands. Existing residences in excess of this standard may be replaced to their prior dimensions when damaged without the requirement that the homeowner obtain a non-conforming structures permit under Chapter [66](#) CDC.

Applicant's Draft Finding: The height, lot coverage and floor area ratio of the homes to be built on the lots will meet these standards. This will be verified with building permit review. All lots abut a street.

The requirements of this section have been satisfied.

Division 3 SUPPLEMENTAL PROVISIONS AND EXCEPTIONS

Chapter 33. STORMWATER QUALITY AND DETENTION

33.040 APPROVAL CRITERIA

The Planning Director and City Engineer shall make written findings with respect to the following criteria when approving, approving with conditions, or denying applications for stormwater detention permits and stormwater quality permits.

A. Stormwater quality facilities shall meet non-point source pollution control standards required by the Public Works Design Standards.

Applicant's Finding: The proposed stormwater design meets non-point source pollution control standards, as shown in the storm drainage analysis report.

The requirement listed within this section has been satisfied.

B. Design of stormwater detention and pollution reduction facilities and related detention and water quality calculations shall meet Public Works Design Standards and shall be prepared by a professional engineer licensed to practice in the State of Oregon.

Applicant's Finding: The stormwater detention and pollution reduction facilities and related calculations were prepared by a professional engineer licensed to practice in the state of Oregon.

The requirement listed within this section has been satisfied.

C. Soil stabilization techniques, erosion control, and adequate improvements to accommodate the intended drainage through the drainage basin shall be used. Storm drainage shall not be diverted from its natural watercourse unless no feasible alternatives exist. Interbasin transfers of storm drainage will not be permitted.

Applicant's Finding: Soil stabilization techniques, erosion control and adequate improvements to accommodate drainage are detailed in the stormwater report and meet all standards.

The requirement listed within this section has been satisfied.

D. Stormwater detention and treatment facilities shall encroach no further than 25 feet into the outside boundary of a water quality resource area. The area of encroachment must be replaced by adding an equal area to the water quality resource area on the subject property.

Applicant's Finding: No stormwater detention or treatment facilities are proposed near or encroaching into the boundary of a water quality resource area.

The requirement listed within this section has been satisfied.

E. Stormwater detention and treatment facilities shall be vegetated with plants from the Metro’s Native Plant List as described in CDC 33.070.

Applicant's Finding: Metro’s Native Plant List will be utilized for the stormwater infiltration planters on each lot.

The requirement listed within this section has been satisfied.

F. Projects must either stockpile existing topsoil for reuse on the site or import topsoil, rather than amend subsoils. Soil amendments are allowed only where the applicant can demonstrate they are the only practical alternative for enabling the soil to support healthy plantings, promoting better stormwater treatment, or improving soil infiltration capacity (where appropriate).

Applicant's Finding: No soil amendments are proposed.

The requirement listed within this section has been satisfied.

G. Interim erosion control measures, such as mulching, shall be placed immediately upon completion of grading of the facilities. (Ord. 1463, 2000)

Applicant's Finding: Interim erosion control measures will be used as necessary.

The requirement listed within this section has been satisfied.

33.060 MAINTENANCE AND ACCESS REQUIREMENTS

Maintenance and access requirements shall meet Public Works Design Standards. (Ord. 1463, 2000)

Applicant's Finding: The stormwater report includes maintenance and access pursuant to Public Works Design Standards.

The requirements of this section have been satisfied.

33.070 PLANT MATERIAL FOR WATER QUALITY FACILITIES

Metro’s Native Plant List is incorporated by reference as a part of this chapter. The applicant shall submit a detailed planting plan using species from Metro’s Native Plant List. The intent of this plan is to establish native vegetation to protect against erosion and sediment infiltration. A mix of low maintenance trees, shrubs, and groundcover is preferred with an even distribution.

A. The planting plan shall be prepared by a professional landscape architect if the development site contains more than 5,000 square feet of impervious area. The planting plan shall include a table listing the scientific names, size, and quantity of plants.

B. The plan shall include plant location, species, size, and quantity for stormwater detention and treatment facilities. Evergreen trees shall have a minimum height of four feet and deciduous trees shall be at least one-inch caliper in size at the time of planting. Shrubs shall be a minimum of one

gallon in size at the time of planting. Spaces shall be filled at mature growth but not so that overplanting occurs and overcrowding results. Temporary irrigation systems or other means of ensuring establishment of the plantings must be specified.

C. Plantings shall be designed to minimize or eliminate the need for herbicides, fertilizers, pesticides, or soil amendments at any time before, during, or after construction, or on a long-term basis. Plantings shall be designed to minimize or eliminate the need for frequent mowing and irrigation.

D. The applicant is responsible for implementing the planting plan during the next fall or spring planting season following permit approval. Prior to planting, noxious vegetation shall be removed. All soil areas must be covered with specified plants and mulch to prevent erosion.

E. Plantings shall be incorporated into a public improvement guarantee agreement, which includes a maintenance bond as required by CDC 91.010(C). The maintenance bond is required for any project involving stormwater quality and detention facilities. (Ord. 1463, 2000)

Applicant's Finding: Metro's Native Plant List will be utilized for planting within the stormwater infiltration planters on each lot.

The requirements of this section have been satisfied.

Chapter 42. CLEAR VISION AREAS

42.020 CLEAR VISION AREAS REQUIRED, USES PROHIBITED

A. A clear vision area shall be maintained on the corners of all property adjacent to an intersection as provided by CDC 42.040 and 42.050.

B. 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 feet in height, measured from the top of the curb, or, where no curb exists, from the street centerline grade, except that trees exceeding this height may be located in this area, provided all branches below eight feet are removed. (Ord. 1192, 1987)

42.030 EXCEPTIONS

The following described area in Willamette shall be exempt from the provisions of this chapter. The parcels of land zoned General Commercial which abut Willamette Falls Drive, located between 10th and 16th Streets. Beginning at the intersection of Willamette Falls Drive and 11th Street on 7th Avenue to 16th Street; on 16th Street to 9th Avenue; on 9th Avenue to 14th Street to the Tualatin River; following the Tualatin River and Willamette River to 12th Street; on 12th Street to 4th Avenue; on 4th Avenue to 11th Street; on 11th Street to Willamette Falls Drive. This described area does not include the northerly side of Willamette Falls Drive.

42.040 COMPUTATION; STREET AND ACCESSWAY 24 FEET OR MORE IN WIDTH

The clear vision area for all street intersections and street and accessway intersections (accessways having 24 feet or more in width) shall be that triangular area formed by the right-of-way or property lines along such lots and a straight line joining the right-of-way or property line at points which are 30 feet distant from the intersection of the right-of-way line and measured along such lines.

42.050 COMPUTATION; ACCESSWAY LESS THAN 24 FEET IN WIDTH

The clear vision area for street and accessway intersections (accessways having less than 24 feet in width) shall be that triangular area whose base extends 30 feet along the street right-of-way line in both directions from the centerline of the accessway at the front setback line of a single-family and two-family residence, and 30 feet back from the property line on all other types of uses.

Applicant's Finding: The Applicant proposes a shared driveway providing access to lots 1 and 2 and Dollar Street. A clear vision area will be provided that will be free of plantings, fences, walls, structures and obstructions.

The requirements of this section have been satisfied.

Chapter 44. FENCES

44.020 SIGHT-OBSCURING FENCE; SETBACK AND HEIGHT LIMITATIONS

A. A sight- or non-sight-obscuring fence may be located on the property line or in a yard setback area subject to the following:

- 1. The fence is located within:**
 - a. A required front yard area, and it does not exceed three feet, except pillars and driveway entry features subject to the requirements of Chapter 42 CDC, Clear Vision Areas, and approval by the Planning Director;**
 - b. A required side yard which abuts a street and it is within that portion of the side yard which is also part of the front yard setback area and it does not exceed three feet;**
 - c. A required side yard which abuts a street and it is within that portion of the side yard which is not also a portion of the front yard setback area and it does not exceed six feet provided the provisions of Chapter 42 CDC are met;**
 - d. A required rear yard which abuts a street and it does not exceed six feet; or**
 - e. A required side yard area which does not abut a street or a rear yard and it does not exceed six feet.**

Applicant's Finding: New fences are not indicated on the proposed plans because the exact locations have yet to be determined. All fences constructed as part of this partition will meet the requirements of these standards.

The requirements of this section have been satisfied.

B. Fence or wall on a retaining wall. When a fence is built on a retaining wall or an artificial berm, the following standards shall apply:

- 1. When the retaining wall or artificial berm is 30 inches or less in height from finished grade, the maximum fence or wall height on top of the retaining wall shall be six feet.**

2. When the retaining wall or earth berm is greater than 30 inches in height, the combined height of the retaining wall and fence or wall from finished grade shall not exceed eight and one-half feet.

3. Fences or walls located on top of retaining walls or earth berms in excess of 30 inches above finished grade may exceed the total allowed combined height of eight and one-half feet; provided, that the fence or wall is located a minimum of two feet from the retaining wall and the fence or wall height shall not exceed six feet.

Applicant's Any fences built on retaining walls will meet these standards.

Finding:

The requirements of this section have been satisfied.

44.030 SCREENING OF OUTDOOR STORAGE

A. All service, repair, and storage activities carried on in connection with any commercial, business or industrial activity and not conducted within an enclosed building shall be screened from view of all adjacent properties and adjacent streets by a sight-obscuring fence.

B. The sight-obscuring fence shall be in accordance with provisions of Chapter 42 CDC, Clear Vision Areas, and shall be subject to the provisions of Chapter 55 CDC, Design Review.

Applicant's This site is residential and no service, repair or storage activities in connection with

Finding:

commercial, business or industry activities are proposed.

The requirements of this section have been satisfied.

44.040 LANDSCAPING

Landscaping which is located on the fence line and which impairs sight vision shall not be located within the clear vision area as provided in Chapter 42 CDC.

44.050 STANDARDS FOR CONSTRUCTION

A. The structural side of the fence shall face the owner's property; and

B. The sides of the fence abutting adjoining properties and the street shall be maintained. (Ord. 1291, 1990)

Applicant's Any fences built will meet these standards.

Finding:

The requirements of this section have been satisfied.

Chapter 54. LANDSCAPING

54.020 APPROVAL CRITERIA

A. Every development proposal requires inventorying existing site conditions which include trees and landscaping. In designing the new project, every reasonable attempt should be made to preserve and protect existing trees and to incorporate them into the new landscape plan. Similarly, significant landscaping (e.g., bushes, shrubs) should be integrated. The rationale is that saving a 30-foot-tall mature tree helps maintain the continuity of the site, they are qualitatively superior to two or three two-inch caliper street trees, they provide immediate micro-climate benefits (e.g., shade), they soften

views of the street, and they can increase the attractiveness, marketability, and value of the development.

B. To encourage tree preservation, the parking requirement may be reduced by one space for every significant tree that is preserved in the parking lot area for a maximum reduction of 10 percent of the required parking. The City Parks Supervisor or Arborist shall determine the significance of the tree and/or landscaping to determine eligibility for these reductions.

C. Developers must also comply with the municipal code chapter on tree protection.

D. Heritage trees. Heritage trees are trees which, because of their age, type, notability, or historical association, are of special importance. Heritage trees are trees designated by the City Council following review of a nomination. A heritage tree may not be removed without a public hearing at least 30 days prior to the proposed date of removal. Development proposals involving land with heritage tree(s) shall be required to protect and save the tree(s). Further discussion of heritage trees is found in the municipal code.

Applicant's Finding: There are no heritage trees identified on this site. One significant tree has been identified on the site and will be preserved. Other trees on the site will also be preserved, per the included tree plan.

The requirements of this section have been satisfied.

F. Landscaping (trees) in new subdivision.

1. Street trees shall be planted by the City within the planting strips (minimum six-foot width) of any new subdivision in conformity with the street tree plan for the area, and in accordance with the planting specifications of the Parks and Recreation Department. All trees shall be planted during the first planting season after occupancy. In selecting types of trees, the City Arborist may determine the appropriateness of the trees to local conditions and whether that tree has been overplanted, and whether alternate species should be selected. Also see subsection (C) of this section.

2. The cost of street trees shall be paid by the developer of the subdivision.

3. The fee per street tree, as established by the City, shall be based upon the following:

a. The cost of the tree;

b. Labor and equipment for original placement;

c. Regular maintenance necessary for tree establishment during the initial two-year period following the City schedule of maintenance; and

d. A two-year replacement warranty based on the City's established failure rate. (Ord. 1408, 1998; Ord. 1463, 2000)

Applicant's Finding: The applicant will pay for the installation of any necessary street trees by the City and maintain the trees for the two-year establishment period.

The requirements of this section have been satisfied.

54.030 PLANTING STRIPS FOR MODIFIED AND NEW STREETS

All proposed changes in width in a public street right-of-way or any proposed street improvement shall, where feasible, include allowances for planting strips. Plans and specifications for planting such areas shall be integrated into the general plan of street improvements. This chapter requires any multi-family, commercial, or public facility which causes change in public right-of-way or street improvement to comply with the street tree planting plan and standards.

Applicant's Finding: The sidewalks and planting strips are constructed adjacent to this property on both streets. No new planting strips are required or proposed.

The requirements of this section have been satisfied.

54.040 INSTALLATION

- A. All landscaping shall be installed according to accepted planting procedures.**
- B. The soil and plant materials shall be of good quality.**
- C. Landscaping shall be installed in accordance with the provisions of this code.**
- D. Certificates of occupancy shall not be issued unless the landscaping requirements have been met or other arrangements have been made and approved by the City such as the posting of a bond.**

Applicant's Finding: All landscaping installation will meet the requirements of this section.

The requirements of this section have been satisfied.

54.050 PROTECTION OF STREET TREES

Street trees may not be topped or trimmed unless approval is granted by the Parks Supervisor or, in emergency cases, when a tree imminently threatens power lines.

Applicant's Finding: No topping or trimming of street trees is proposed.

The requirements of this section have been satisfied.

54.060 MAINTENANCE

- A. The owner, tenant and their agent, if any, shall be jointly and severally responsible for the maintenance of all landscaping which shall be maintained in good condition so as to present a healthy, neat, and orderly appearance and shall be kept free from refuse and debris.**
- B. All plant growth in interior landscaped areas shall be controlled by pruning, trimming, or otherwise so that:**

- 1. It will not interfere with the maintenance or repair of any public utility;**
- 2. It will not restrict pedestrian or vehicular access; and**

3. It will not constitute a traffic hazard because of reduced visibility.

Applicant's Finding: The owners of this property, including future homeowners, will be responsible for maintenance of landscaping.

The requirements of this section have been satisfied.

54.070 SPECIFICATION SUMMARY

*****25% of residential/multi-family site must be landscaped.**

Applicant's Finding: A minimum of 25% of this site will be landscaped as yard area surrounding the 3 homes.

The requirements of this section have been satisfied.

DIVISION 4. DESIGN REVIEW

Chapter 55. DESIGN REVIEW

55.100 APPROVAL STANDARDS - CLASS II DESIGN REVIEW

B. Relationship to the natural and physical environment.

1. The buildings and other site elements shall be designed and located so that all heritage trees, as defined in the municipal code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction.

Applicant's Finding: No heritage trees were identified on this site.

The requirements of this section have been satisfied.

2. All heritage trees, as defined in the municipal code, all trees and clusters of trees ("cluster" is defined as three or more trees with overlapping driplines; however, native oaks need not have an overlapping dripline) that are considered significant by the City Arborist, either individually or in consultation with certified arborists or similarly qualified professionals, based on accepted arboricultural standards including consideration of their size, type, location, health, long term survivability, and/or numbers, shall be protected pursuant to the criteria of subsections (B)(2)(a) through (f) of this section. In cases where there is a difference of opinion on the significance of a tree or tree cluster, the City Arborist's findings shall prevail. It is important to acknowledge that all trees are not significant and, further, that this code section will not necessarily protect all trees deemed significant.

a. Non-residential and residential projects on Type I and II lands shall protect all heritage trees and all significant trees and tree clusters by either the dedication of these areas or establishing tree conservation easements. Development of Type I and II lands shall require the careful layout of streets, driveways, building pads, lots, and utilities to avoid heritage trees and significant trees and tree clusters, and other natural resources pursuant to this code. The method for delineating the protected

trees or tree clusters (“dripline + 10 feet”) is explained in subsection (B)(2)(b) of this section. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply.

b. Non-residential and residential projects on non-Type I and II lands shall set aside up to 20 percent of the area to protect trees and tree clusters that are determined to be significant, plus any heritage trees. Therefore, in the event that the City Arborist determines that a significant tree cluster exists at a development site, then up to 20 percent of the non-Type I and II lands shall be devoted to the protection of those trees, either by dedication or easement. The exact percentage is determined by establishing the driplines of the trees or tree clusters that are to be protected. In order to protect the roots which typically extend further, an additional 10-foot measurement beyond the dripline shall be added. The square footage of the area inside this “dripline plus 10 feet” measurement shall be the basis for calculating the percentage (see figure below). The City Arborist will identify which tree(s) are to be protected. Development of non-Type I and II lands shall also require the careful layout of streets, driveways, building pads, lots, and utilities to avoid significant trees, tree clusters, heritage trees, and other natural resources pursuant to this code. Exemptions of subsections (B)(2)(c), (e), and (f) of this section shall apply. Please note that in the event that more than 20 percent of the non-Type I and II lands comprise significant trees or tree clusters, the developer shall not be required to save the excess trees, but is encouraged to do so.

c. Where stubouts of streets occur on abutting properties, and the extension of those streets will mean the loss of significant trees, tree clusters, or heritage trees, it is understood that tree loss may be inevitable. In these cases, the objective shall be to minimize tree loss. These provisions shall also apply in those cases where access, per construction code standards, to a parcel is blocked by a row or screen of significant trees or tree clusters.

d. For both non-residential and residential development, the layout shall achieve at least 70 percent of maximum density for the developable net area. The developable net area excludes all Type I and II lands and up to 20 percent of the remainder of the site for the purpose of protection of stands or clusters of trees as defined in subsection (B)(2) of this section.

e. For arterial and collector street projects, including Oregon Department of Transportation street improvements, the roads and graded areas shall avoid tree clusters where possible. Significant trees, tree clusters, and heritage tree loss may occur, however, but shall be minimized.

f. If the protection of significant tree(s) or tree clusters is to occur in an area of grading that is necessary for the development of street grades, per City construction codes, which will result in an adjustment in the grade of over or under two feet, which will then threaten the health of the tree(s), the applicant will submit evidence to the Planning Director that all reasonable alternative grading plans have been considered and cannot work. The applicant will then submit a mitigation plan to the City Arborist to compensate for the removal of the tree(s) on an “inch by inch” basis (e.g., a 48-inch Douglas fir could be replaced by 12 trees, each four-inch). The mix of tree sizes and types shall be approved by the City Arborist.

Applicant's Finding: The applicant has identified one tree located on the site which has been determined to be significant by the City's arborist. No heritage trees have been identified.

The site layout has been prepared in order to preserve the dripline plus 10 feet of the significant tree (a Douglas fir in the southeast corner) and to minimize impacts to other

trees along the north and east property lines.

The requirements of this section have been satisfied.

Division 8. LAND DIVISION

Chapter 85. GENERAL PROVISIONS

Section 85.200 APPROVAL CRITERIA

No tentative subdivision or partition plan shall be approved unless adequate public facilities will be available to provide service to the partition or subdivision area prior to final plat approval and the Planning Commission or Planning Director, as applicable, finds that the following standards have been satisfied, or can be satisfied by condition of approval.

A. Streets.

1. General. The location, width and grade of streets shall be considered in their relation to existing and planned streets, to the generalized or reasonable layout of streets on adjacent undeveloped parcels, to topographical conditions, to public convenience and safety, to accommodate various types of transportation (automobile, bus, pedestrian, bicycle), and to the proposed use of land to be served by the streets. The functional class of a street aids in defining the primary function and associated design standards for the facility. The hierarchy of the facilities within the network in regard to the type of traffic served (through or local trips), balance of function (providing access and/or capacity), and the level of use (generally measured in vehicles per day) are generally dictated by the functional class. The street system shall assure an adequate traffic or circulation system with intersection angles, grades, tangents, and curves appropriate for the traffic to be carried. Streets should provide for the continuation, or the appropriate projection, of existing principal streets in surrounding areas and should not impede or adversely affect development of adjoining lands or access thereto. To accomplish this, the emphasis should be upon a connected continuous pattern of local, collector, and arterial streets rather than discontinuous curvilinear streets and cul-de-sacs. Deviation from this pattern of connected streets should only be permitted in cases of extreme topographical challenges including excessive slopes (35 percent-plus), hazard areas, steep drainageways, wetlands, etc. In such cases, deviations may be allowed but the connected continuous pattern must be reestablished once the topographic challenge is passed. Streets should be oriented with consideration of the sun, as site conditions allow, so that over 50 percent of the front building lines of homes are oriented within 30 degrees of an east-west axis.

Internal streets are the responsibility of the developer. All streets bordering the development site are to be developed by the developer with, typically, half-street improvements or to City standards prescribed by the City Engineer. Additional travel lanes may be required to be consistent with adjacent road widths or to be consistent with the adopted Transportation System Plan and any adopted updated plans.

An applicant may submit a written request for a waiver of abutting street improvements if the Transportation System Plan prohibits the street improvement for which the waiver is requested. Those areas with numerous (particularly contiguous) under-developed or undeveloped tracts will be required to install street improvements. When an applicant

requests a waiver of street improvements and the waiver is granted, the applicant shall propose a fee amount that will be reviewed by the City Manager or the Manager’s designee. The City Manager or the Manager’s designee will revise the proposed fee as necessary and establish the amount to be paid on a case-by-case basis. The applicant shall pay an in-lieu fee for improvements to the nearest street identified by the City Manager or Manager’s designee as necessary and appropriate. The amount of the in-lieu fee shall be roughly proportional to the impact of the development on the street system as determined in subsection (A)(22) of this section.

Streets shall also be laid out to avoid and protect tree clusters and significant trees, but not to the extent that it would compromise connectivity requirements per this subsection (A)(1), or bring the density below 70 percent of the maximum density for the developable net area. The developable net area is calculated by taking the total site acreage and deducting Type I and II lands; then up to 20 percent of the remaining land may be excluded as necessary for the purpose of protecting significant tree clusters or stands as defined in CDC 55.100(B)(2).

Applicant's Finding: No streets are proposed with this partition application. Both proposed lots are adjacent to existing public streets.

The requirements of this section have been satisfied.

2. Right-of-way and roadway widths. In order to accommodate larger tree-lined boulevards and sidewalks, particularly in residential areas, the standard right-of-way widths for the different street classifications shall be within the range listed below. But instead of filling in the right-of-way with pavement, they shall accommodate the amenities (e.g., boulevards, street trees, sidewalks). The exact width of the right-of-way shall be determined by the City Engineer or the approval authority. The following ranges will apply:

<u>Street Classification</u>	<u>Right-of-Way</u>
Collector	60 – 80
Local street	40 – 60

Additional rights-of-way for slopes may be required. Sidewalks shall not be located outside of the right-of-way unless to accommodate significant natural features or trees.

Applicant's Finding: Staff has indicated that the existing Right-of-Way along Dollar street is sufficient at 60 feet in width.

The requirements of this section have been satisfied.

3. Street widths. Street widths shall depend upon which classification of street is proposed. The classifications and required cross sections are established in Chapter 8 of the adopted TSP.

Applicant's As stated above, the applicant has not proposed any modifications to the existing Right-

Finding: of-Ways or road section along Dollar Street.

The requirements of this section have been satisfied.

4. The decision-making body shall consider the City Engineer’s recommendations on the desired right-of-way width, pavement width and street geometry of the various street types within the subdivision after consideration by the City Engineer of the following criteria:

- a. The type of road as set forth in the Transportation Master Plan.
- b. The anticipated traffic generation.
- c. On-street parking requirements.
- d. Sidewalk and bikeway requirements.
- e. Requirements for placement of utilities.
- f. Street lighting.
- g. Drainage and slope impacts.
- h. Street trees.
- i. Planting and landscape areas.
- j. Existing and future driveway grades.
- k. Street geometry.
- l. Street furniture needs, hydrants.

Applicant's Finding: The City Engineer has reviewed the proposal and made recommendations to the applicant, which are incorporated into the proposed configuration.

The requirements of this section have been satisfied.

5. Additionally, when determining appropriate street width, the decision-making body shall consider the following criteria:

- a. When a local street is the only street serving a residential area and is expected to carry more than the normal local street traffic load, the designs with two travel and one parking lane are appropriate.
- b. Streets intended to serve as signed but unstriped bike routes should have the travel lane widened by two feet.
- c. Collectors should have two travel lanes and may accommodate some parking. Bike routes are appropriate.
- d. Arterials should have two travel lanes. On-street parking is not allowed unless part of a Street Master Plan. Bike lanes are required as directed by the Parks Master Plan and Transportation Master Plan.

Applicant's Finding: Street widths have been determined and constructed adjacent to this development.

The requirements of this section have been satisfied.

6. Reserve strips. Reserve strips or street plugs controlling the access to streets are not permitted unless owned by the City.

Applicant's Finding: The applicant does not propose reserve strips or street plugs with this application.

The requirements of this section have been satisfied.

7. Alignment. All streets other than local streets or cul-de-sacs, as far as practical, shall be in alignment with existing streets by continuations of the centerlines thereof. The staggering of street alignments resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the centerlines of streets having approximately the same direction and otherwise shall not be less than 100 feet.

Applicant's Finding: No new street alignment is proposed with this partition application.

The requirements of this section have been satisfied.

8. Future extension of streets. Where necessary to give access to or permit a satisfactory future subdivision of adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without turnarounds. (Temporary turnarounds built to Fire Department standards are required when the dead-end street is over 100 feet long.)

Applicant's Finding: The adjoining land was subdivided as part of the River Heights Subdivision. Future subdivision of adjoining land is not feasible under current zoning standards.

The requirements of this section have been satisfied.

9. Intersection angles. Streets shall be laid out to intersect angles as near to right angles as practical, except where topography requires lesser angles, but in no case less than 60 degrees unless a special intersection design is approved. Intersections which are not at right angles shall have minimum corner radii of 15 feet along right-of-way lines which form acute angles. Right-of-way lines at intersections with arterial streets shall have minimum curb radii of not less than 35 feet. Other street intersections shall have curb radii of not less than 25 feet. All radii shall maintain a uniform width between the roadway and the right-of-way lines. The intersection of more than two streets at any one point will not be allowed unless no alternative design exists.

Applicant's Finding: No streets or intersections are proposed with this partition application.

The requirements of this section have been satisfied.

10. Additional right-of-way for existing streets. Wherever existing street rights-of-way adjacent to or within a tract are of inadequate widths based upon the standards of this chapter, additional right-of-way shall be provided at the time of subdivision or partition.

Applicant's Finding: No streets have been determined to be in adequate therefore no widening has been proposed with this partition application.

The requirements of this section have been satisfied.

11. Cul-de-sacs. Cul-de-sacs are not allowed except as required by topography, slope, site limitations, and lot shapes. Cul-de-sacs shall have maximum lengths of 400 feet and serve no more than 12 dwelling units, unless by variance per Chapter 75 CDC. All cul-de-sacs shall terminate with a turnaround built to one of the following specifications (measurements are for the traveled way and do not include planter strips or sidewalks).***

Applicant's Finding: No cul-de-sacs are proposed with this partition.

The requirements of this section have been satisfied.

12. Street names. No street names shall be used which will duplicate or be confused with the names of existing streets within the City. Street names that involve difficult or unusual spellings are discouraged. Street names shall be subject to the approval of the Planning Commission or Planning Director, as applicable. Continuations of existing streets shall have the name of the existing street. Streets, drives, avenues, ways, boulevards, and lanes shall describe through streets. Place and court shall describe cul-de-sacs. Crescent, terrace, and circle shall describe loop or arcing roads.

Applicant's Finding: No new streets are proposed with this partition.

The requirements of this section have been satisfied.

13. Grades and curves. Grades shall not exceed 8 percent on major or secondary arterials, 10 percent on collector streets, or 15 percent on any other street unless by variance. Willamette Drive/Highway 43 shall be designed to a minimum horizontal and vertical design speed of 45 miles per hour, subject to Oregon Department of Transportation (ODOT) approval. Arterials shall be designed to a minimum horizontal and vertical design speed of 35 miles per hour. Collectors shall be designed to a minimum horizontal and vertical design speed of 30 miles per hour. All other streets shall be designed to have a minimum centerline radii of 50 feet. Super elevations (i.e., banking) shall not exceed four percent. The centerline profiles of all streets may be provided where terrain constraints (e.g., over 20 percent slopes) may result in considerable deviation from the originally proposed alignment.

Applicant's Finding: No changes are proposed to grades or curves of any streets.

The requirements of this section have been satisfied.

14. Access to local streets. Intersection of a local residential street with an arterial street may be prohibited by the decision-making authority if suitable alternatives exist for providing

interconnection of proposed local residential streets with other local streets. Where a subdivision or partition abuts or contains an existing or proposed major arterial street, the decision-making authority may require marginal access streets, reverse-frontage lots with suitable depth, visual barriers, noise barriers, berms, no-access reservations along side and rear property lines, and/or other measures necessary for adequate protection of residential properties from incompatible land uses, and to ensure separation of through traffic and local traffic.

Applicant's Finding: The subject property does not abut nor contain an existing or proposed Major Arterial Street, nor is an intersection of a Local Residential Street with an Arterial Street proposed.

The requirements of this section have been satisfied.

15. Alleys. Alleys shall be provided in commercial and industrial districts unless other permanent provisions for access to off-street parking and loading facilities are made as approved by the decision-making authority. While alley intersections and sharp changes in alignment should be avoided, the corners of necessary alley intersections shall have radii of not less than 10 feet. Alleys may be provided in residential subdivisions or multi-family projects. The decision to locate alleys shall consider the relationship and impact of the alley to adjacent land uses. ***

Applicant's Finding: No alleys are proposed with this partition.

The requirements of this section have been satisfied.

16. Sidewalks. Sidewalks shall be installed per CDC 92.010(H), Sidewalks. The residential sidewalk width is six feet plus planter strip as specified below. Sidewalks in commercial zones shall be constructed per subsection (A)(3) of this section. See also subsection C of this section. Sidewalk width may be reduced with City Engineer approval to the minimum amount (e.g., four feet wide) necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or to match existing sidewalks or right-of-way limitations.

Applicant's Finding: Sidewalks have been installed along all right-of-way adjacent to this property.

The requirements of this section have been satisfied.

17. Planter strip. The planter strip is between the curb and sidewalk providing space for a grassed or landscaped area and street trees. The planter strip shall be at least 6 feet wide to accommodate a fully matured tree without the boughs interfering with pedestrians on the sidewalk or vehicles along the curblines. Planter strip width may be reduced or eliminated, with City Engineer approval, when it cannot be corrected by site plan, to the minimum amount necessary to respond to site constraints such as grades, mature trees, rock outcroppings, etc., or in response to right-of-way limitations.

Applicant's Finding: Planter strips have been installed along all right-of-way adjacent to this property.

The requirements of this section have been satisfied.

18. Streets and roads shall be dedicated without any reservations or restrictions.

Applicant's Finding: No reservations or restrictions are proposed with the street dedication.

The requirements of this section have been satisfied.

19. All lots in a subdivision shall have access to a public street. Lots created by partition may have access to a public street via an access easement pursuant to the standards and limitations set forth for such accessways in Chapter 48 CDC.

Applicant's Finding: Both lots will have access to a public street.

The requirements of this section have been satisfied.

20. Gated streets. Gated streets are prohibited in all residential areas on both public and private streets. A driveway to an individual home may be gated.

Applicant's Finding: Gated streets are not proposed.

The requirements of this section have been satisfied.

21. Entryway treatments and street isle design. When the applicant desires to construct certain walls, planters, and other architectural entryway treatments within a subdivision, the following standards shall apply:

- a. All entryway treatments except islands shall be located on private property and not in the public right-of-way.
- b. Planter islands may be allowed provided there is no structure (i.e., brick, signs, etc.) above the curbline, except for landscaping. Landscaped islands shall be set back a minimum of 24 feet from the curbline of the street to which they are perpendicular.
- c. All islands shall be in public ownership. The minimum aisle width between the curb and center island curbs shall be 14 feet. Additional width may be required as determined by the City Engineer.
- d. Brick or special material treatments are acceptable at intersections with the understanding that the City will not maintain these sections except with asphalt overlay, and that they must meet the Americans with Disabilities Act (ADA) standards. They shall be laid out to tie into existing sidewalks at intersections.
- e. Maintenance for any common areas and entryway treatments (including islands) shall be guaranteed through homeowners association agreements, CC&Rs, etc.

f. Under Chapter 52 CDC, subdivision monument signs shall not exceed 32 square feet in area.

Applicant's Finding: The applicant does not propose to construct entryway treatments to the partition at this time.

The requirements of this section have been satisfied.

22. Based upon the determination of the City Manager or the Manager's designee, the applicant shall construct or cause to be constructed, or contribute a proportionate share of the costs, for all necessary off-site improvements identified by the transportation analysis commissioned to address CDC 85.170(B)(2) that are required to mitigate impacts from the proposed subdivision. The proportionate share of the costs shall be determined by the City Manager or Manager's designee, who shall assume that the proposed subdivision provides improvements in rough proportion to identified impacts of the subdivision. Off-site transportation improvements will include bicycle and pedestrian improvements as identified in the adopted City of West Linn TSP.

Applicant's Finding: Right-of-way dedication, street improvements, and off-site improvements have not been determined to be necessary or proportionate to mitigate impacts from this 2-lot partition.

The requirements of this section have been satisfied.

B. Blocks and lots.

1. General. The length, width, and shape of blocks shall be designed with due regard for the provision of adequate building sites for the use contemplated; consideration of the need for traffic safety, convenience, access, circulation, and control; and recognition of limitations and opportunities of topography and solar access.

Applicant's Finding: The block pattern adjacent to this site is established. The proposed lots are the last remaining development potential in the block. All lots are situated for safe and convenient access and circulation and all have a southern (solar) frontage.

The requirements of this section have been satisfied.

2. Sizes. The recommended block size is 400 feet in length to encourage greater connectivity within the subdivision. Blocks shall not exceed 800 feet in length between street lines, except for blocks adjacent to arterial streets or unless topographical conditions or the layout of adjacent streets justifies a variation. Designs of proposed intersections shall demonstrate adequate sight distances to the City Engineer's specifications. Block sizes and proposed accesses must be consistent with the adopted TSP.

Applicant's The block between River Heights Circle and Fields Drive along Dollar Street, a collector,

Finding: does not exceed 800 feet in length. The block between Dollar Street and Nicole Street along River Heights Circle, a local street, does not exceed 400 feet in length.

The requirements of this section have been satisfied.

3. Lot size and shape. Lot size, width, shape, and orientation shall be appropriate for the location of the subdivision, for the type of use contemplated, for potential utilization of solar access, and for the protection of drainageways, trees, and other natural features. No lot shall be dimensioned to contain part of an existing or proposed street. All lots shall be buildable, and the buildable depth should not exceed two and one-half times the average width. "Buildable" describes lots that are free of constraints such as wetlands, drainageways, etc., that would make home construction impossible. Lot sizes shall not be less than the size required by the zoning code unless as allowed by planned unit development (PUD). Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street parking and service facilities required by the type of use proposed.

Chapter 12- Single-Family Residential Detached and Attached, R-10 standards are as follows:

Lot Size (Detached Dwelling Units)	10,000 square feet
Front Lot Line Length/Minimum Lot Width at Front Lot Line	35 feet
Average Minimum Lot Width	50 feet
Lot Depth	> 2.5x Width and < Avg Depth of 90 feet

Applicant's Finding: All proposed lots exceed 10,000 square feet in size to accommodate single-family detached dwelling units. Both proposed lots exceed the minimum requirements for front lot line length, lot width and lot depth.

The requirements of this section have been satisfied.

4. Access. Access to subdivisions, partitions, and lots shall conform to the provisions of Chapter 48 CDC, Access, Egress and Circulation.

Applicant's Finding: The proposed access to the partition conforms to the provisions of CDC Chapter 48. The existing access point on Dollar Street, a collector, will be utilized as a shared access for two of the lots.

The requirements of this section have been satisfied.

5. Through lots and parcels. Through lots have frontage on a street at the front and rear of the lot. They are also called double-frontage lots. Through lots and parcels shall be avoided except where they are essential to provide separation of residential development from arterial streets or adjacent non-residential activities, or to overcome specific disadvantages of topography and orientation. A planting screen or impact mitigation easement at least 10

feet wide, and across which there shall be no right of access, may be required along the line of building sites abutting such a traffic artery or other incompatible use.

Applicant's Finding: No through lots are proposed with this application.

The requirements of this section have been satisfied.

6. Lot and parcel side lines. The lines of lots and parcels, as far as is practicable, should run at right angles to the street upon which they face, except that on curved streets they should be radial to the curve.

Applicant's Finding: The lines of the proposed lots run at right angles to Dollar Street.

The requirements of this section have been satisfied.

7. Flag lots. Flag lots can be created where it can be shown that no other reasonable street access is possible to achieve the requested land division. A single flag lot shall have a minimum street frontage of 15 feet for its accessway. Where two to four flag lots share a common accessway, the minimum street frontage and accessway shall be eight feet in width per lot. Common accessways shall have mutual maintenance agreements and reciprocal access and utility easements. ***

- a. Setbacks applicable to the underlying zone shall apply to the flag lot.
- b. Front yard setbacks may be based on the rear property line of the parcel which substantially separates the flag lot from the street from which the flag lot gains access. Alternately, the house and its front yard may be oriented in other directions so long as some measure of privacy is ensured, or it is part of a pattern of development, or it better fits the topography of the site.
- c. The lot size shall be calculated exclusive of the accessway; the access strip may not be counted towards the area requirements.
- d. The lot depth requirement contained elsewhere in this code shall be measured from the rear property line of the parcel which substantially separates the flag lot from the street from which the flag lot gains access.
- e. As per CDC 48.030, the accessway shall have a minimum paved width of 12 feet.
- f. If the use of a flag lot stem to access a lot is infeasible because of a lack of adequate existing road frontage, or location of existing structures, the proposed lot(s) may be accessed from the public street by an access easement of a minimum 15-foot width across intervening property.

Applicant's Finding: Both proposed lots have frontage on Dollar Street and, therefore, no flag lots are proposed.

The requirements of this section have been satisfied.

8. **Large lots.** In dividing tracts into large lots or parcels which, at some future time, are likely to be redivided, the approval authority may require that the blocks be of such size and shape, and be so divided into building sites, and contain such easements and site restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any tract into lots or parcels of smaller size. Alternately, in order to prevent further partition of oversized lots, restrictions may be imposed on the subdivision or partition plat.

Applicant's Finding: The lots of the proposed partition, ranging in size from 11,397 square feet to 11,391 square feet, are not large enough for future division in the R-10 zone.

The requirements of this section have been satisfied.

C. Pedestrian and bicycle trails.

1. Trails or multi-use pathways shall be installed, consistent and compatible with federal ADA requirements and with the Oregon Transportation Planning Rule, between subdivisions, cul-de-sacs, and streets that would otherwise not be connected by streets due to excessive grades, significant tree(s), and other constraints natural or manmade. Trails shall also accommodate bicycle or pedestrian traffic between neighborhoods and activity areas such as schools, libraries, parks, or commercial districts. Trails shall also be required where designated by the Parks Master Plan.

2. The all-weather surface (asphalt, etc.) trail should be eight feet wide at minimum for bicycle use and six feet wide at minimum for pedestrian use. Trails within 10 feet of a wetland or natural drainageway shall not have an all-weather surface, but shall have a soft surface as approved by the Parks Director. These trails shall be contained within a corridor dedicated to the City that is wide enough to provide trail users with a sense of defensible space. Corridors that are too narrow, confined, or with vegetative cover may be threatening and discourage use. Consequently, the minimum corridor width shall be 20 feet. Sharp curves, twists, and blind corners on the trail are to be avoided as much as possible to enhance defensible space. Deviations from the corridor and trail width are permitted only where topographic and ownership constraints require it.

3. Defensible space shall also be enhanced by the provision of a three- to four-foot-high matte black chain link fence or acceptable alternative along the edge of the corridor. The fence shall help delineate the public and private spaces.

4. The bicycle or pedestrian trails that traverse multi-family and commercial sites should follow the same defensible space standards but do not need to be defined by a fence unless required by the decision-making authority.

5. Except for trails within 10 feet of a wetland or natural drainageway, soft surface or gravel trails may only be used in place of a paved, all-weather surface where it can be shown to the Planning Director that the principal users of the path will be recreational, non-destination-oriented foot traffic, and that alternate paved routes are nearby and accessible.

6. The trail grade shall not exceed 12 percent except in areas of unavoidable topography, where the trail may be up to a 15 percent grade for short sections no longer than 50 feet. In

any location where topography requires steeper trail grades than permitted by this section, the trail shall incorporate a short stair section to traverse the area of steep grades.

Applicant's Finding: The sidewalk adjacent to this site on both Dollar Street was constructed with the River Heights subdivision. The pre-application notes dated February 14, 2013 indicate no deficiencies adjacent to this property listed in the Pedestrian Master Plan.

The requirements of this section have been satisfied.

D. Transit facilities.

1. The applicant shall consult with Tri-Met and the City Engineer to determine the appropriate location of transit stops, bus pullouts, future bus routes, etc., contiguous to or within the development site. If transit service is planned to be provided within the next two years, then facilities such as pullouts shall be constructed per Tri-Met standards at the time of development. More elaborate facilities, like shelters, need only be built when service is existing or imminent. Additional rights-of-way may be required of developers to accommodate buses.
2. The applicant shall make all transit-related improvements in the right-of-way or in easements abutting the development site as deemed appropriate by the City Engineer.
3. Transit stops shall be served by striped and signed pedestrian crossings of the street within 150 feet of the transit stop where feasible. Illumination of the transit stop and crossing is required to enhance defensible space and safety. ODOT approval may be required.
4. Transit stops should include a shelter structure bench plus eight feet of sidewalk to accommodate transit users, non-transit-related pedestrian use, and wheelchair users. Tri-Met must approve the final configuration.

Applicant's Finding: Transit facilities have not been identified by Tri-Met or the City Engineer adjacent to this property.

The requirements of this section have been satisfied.

E. Lot grading. Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:

1. All cuts and fills shall comply with the excavation and grading provisions of the Uniform Building Code and the following:
 - a. Cut slopes shall not exceed one and one-half feet horizontally to one foot vertically (i.e., 67 percent grade).
 - b. Fill slopes shall not exceed two feet horizontally to one foot vertically (i.e., 50 percent grade). Please see the following illustration.***
2. The character of soil for fill and the characteristics of lot and parcels made usable by fill shall be suitable for the purpose intended.
3. If areas are to be graded (more than any four-foot cut or fill), compliance with CDC 85.170(C) is required.

4. The proposed grading shall be the minimum grading necessary to meet roadway standards, and to create appropriate building sites, considering maximum allowed driveway grades.

5. Where landslides have actually occurred, where the area is identified as a hazard site in the West Linn Comprehensive Plan Report, or where field investigation by the City Engineer confirms the existence of a severe landslide hazard, development shall be prohibited unless satisfactory evidence is additionally submitted by a registered geotechnical engineer which certifies that methods of rendering a known hazard site safe for construction are feasible for a given site. The City Engineer's field investigation shall include, but need not be limited to, the following elements:

- a. Occurrences of geotropism.
- b. Visible indicators of slump areas.
- c. Existence of known and verified hazards.
- d. Existence of unusually erosive soils.
- e. Occurrences of unseasonably saturated soils.

The City Engineer shall determine whether the proposed methods or designs are adequate to prevent landslide or slope failure. The City Engineer may impose conditions consistent with the purpose of these ordinances and with standard engineering practices including limits on type and intensity of land use, which have been determined necessary to assure landslide or slope failure does not occur.

6. All cuts and fills shall conform to the Uniform Building Code.

7. On land with slopes in excess of 12 percent, cuts and fills shall be regulated as follows:

- a. Toes of cuts and fills shall be set back from the boundaries of separate private ownerships at least three feet, plus one-fifth of the vertical height of the cut or fill. Where an exception is required from that requirement, slope easements shall be provided.
- b. Cuts shall not remove the toe of any slope where a severe landslide or erosion hazard exists (as described in subsection (G)(5) of this section).
- c. Any structural fill shall be designed by a registered engineer in a manner consistent with the intent of this code and standard engineering practices, and certified by that engineer that the fill was constructed as designed.
- d. Retaining walls shall be constructed pursuant to Section 2308(b) of the Oregon State Structural Specialty Code.
- e. Roads shall be the minimum width necessary to provide safe vehicle access, minimize cut and fill, and provide positive drainage control.

8. Land over 50 percent slope shall be developed only where density transfer is not feasible.

The development will provide that:

- a. At least 70 percent of the site will remain free of structures or impervious surfaces.
- b. Emergency access can be provided.
- c. Design and construction of the project will not cause erosion or land slippage.
- d. Grading, stripping of vegetation, and changes in terrain are the minimum necessary to construct the development in accordance with subsection J of this section.

Applicant's Finding: All grading on site will be completed in conformance with these standards.

The requirements of this section have been satisfied.

F. Water.

1. A plan for domestic water supply lines or related water service facilities shall be prepared consistent with the adopted Comprehensive Water System Plan, plan update, March 1987, and subsequent superseding revisions or updates.
2. Adequate location and sizing of the water lines.
3. Adequate looping system of water lines to enhance water quality.
4. For all non-single-family developments, there shall be a demonstration of adequate fire flow to serve the site.
5. A written statement, signed by the City Engineer, that water service can be made available to the site by the construction of on-site and off-site improvements and that such water service has sufficient volume and pressure to serve the proposed development's domestic, commercial, industrial, and fire flows.

Applicant's Finding: The subject property is located in the Willamette water pressure zone. The applicant will install a new 1" water service line and meters to service the site from Dollar Street. The existing water line from Dollar Street will serve the second lot. This plan is consistent with the adopted Comprehensive Water System Plan.

The requirements of this section have been satisfied.

G. Sewer.

1. A plan prepared by a licensed engineer shall show how the proposal is consistent with the Sanitary Sewer Master Plan (July 1989). Agreement with that plan must demonstrate how the sanitary sewer proposal will be accomplished and how it is gravity-efficient. The sewer system must be in the correct basin and should allow for full gravity service.
2. Sanitary sewer information will include plan view of the sanitary sewer lines, including manhole locations and depth or invert elevations.
3. Sanitary sewer lines shall be located in the public right-of-way, particularly the street, unless the applicant can demonstrate why the alternative location is necessary and meets accepted engineering standards.
4. Sanitary sewer line should be at a depth that can facilitate connection with down-system properties in an efficient manner.
5. The sanitary sewer line should be designed to minimize the amount of lineal feet in the system.
6. The sanitary sewer line shall avoid disturbance of wetland and drainageways. In those cases where that is unavoidable, disturbance shall be mitigated pursuant to Chapter 32 CDC, Water Resource Area Protection, all trees replaced, and proper permits obtained. Dual sewer lines may be required so the drainageway is not disturbed.
7. Sanitary sewer shall be extended or stubbed out to the next developable subdivision or a point in the street that allows for reasonable connection with adjacent or nearby properties.

8. The sanitary sewer system shall be built pursuant to DEQ, City, and Tri-City Service District sewer standards. The design of the sewer system should be prepared by a licensed engineer, and the applicant must be able to demonstrate the ability to satisfy these submittal requirements or standards at the pre-construction phase.

9. A written statement, signed by the City Engineer, that sanitary sewers with sufficient capacity to serve the proposed development and that adequate sewage treatment plant capacity is available to the City to serve the proposed development.

Applicant's Finding: A 15-foot public sanitary sewer easement containing a new 6" main is proposed along the north side of both lots. The new main will connect to the main in River Heights Circle. Each lot will be served via a 4" lateral from the new main. The proposed sanitary sewer system is consistent with the Sanitary Sewer Master Plan, is in the correct basin and allows for full gravity service.

The requirements of this section have been satisfied.

H. Storm

1. A stormwater quality and detention plan shall be submitted which complies with the submittal criteria and approval standards contained within Chapter 33 CDC. It shall include profiles of proposed drainageways with reference to the adopted Storm Drainage Master Plan.

2. Storm treatment and detention facilities shall be sized to accommodate a 25-year storm incident. A registered civil engineer shall prepare a plan and statement which shall be supported by factual data that clearly shows that there will be no adverse off-site impacts from increased intensity of runoff downstream or constriction causing ponding upstream. The plan and statement shall identify all on- or off-site impacts and measures to mitigate those impacts. The plan and statement shall, at a minimum, determine the off-site impacts from a 25-year storm.

3. Plans shall demonstrate how storm drainage will be collected from all impervious surfaces including roof drains. Storm drainage connections shall be provided to each dwelling unit/lot. The location, size, and type of material selected for the system shall correlate with the 25-year storm incident.

4. Treatment of storm runoff shall meet municipal code standards.

Applicant's Finding: Stormwater infiltration planters are proposed for each lot at time of construction of the homes. The proposed stormwater treatment and detention is designed to meet city standards, as detailed in the submitted storm drainage analysis report.

The requirements of this section have been satisfied.

I. Utility easements. Subdivisions and partitions shall establish utility easements to accommodate the required service providers as determined by the City Engineer. The developer of the subdivision shall make accommodation for cable television wire in all utility trenches and easements so that cable can fully serve the subdivision.

Applicant's Finding: The applicant will establish utility easements as determined by the City Engineer and shown on the preliminary plat.

The requirements of this section have been satisfied.

J. Supplemental provisions.

1. Wetland and natural drainageways. Wetlands and natural drainageways shall be protected as required by Chapter 32 CDC, Water Resource Area Protection. Utilities may be routed through the protected corridor as a last resort, but impact mitigation is required.

Applicant's Finding: The proposed subdivision does not impact any wetlands or natural drainageways.

The requirements of this section have been satisfied.

2. Willamette and Tualatin Greenways. The approval authority may require the dedication to the City or setting aside of greenways which will be open or accessible to the public. Except for trails or paths, such greenways will usually be left in a natural condition without improvements. Refer to Chapter 28 CDC for further information on the Willamette and Tualatin River Greenways.

Applicant's Finding: No greenways have been identified for dedication on this property. This property is not adjacent to the Willamette or Tualatin River and, therefore, a river greenway is not feasible on this site.

The requirements of this section have been satisfied.

3. Street trees. Street trees are required as identified in the appropriate section of the municipal code and Chapter 54 CDC.

Applicant's Finding: Street trees were planted previously along Dollar Street and River Heights Circle. As indicated in the pre-application notes, if needed, additional street trees will be installed as part of the public improvements with the development of this partition.

The requirements of this section have been satisfied.

4. Lighting. To reduce ambient light and glare, high or low pressure sodium light bulbs shall be required for all subdivision street or alley lights. The light shall be shielded so that the light is directed downwards rather than omni-directional.

Applicant's Finding: Any street light installation with the subdivision will utilize high or low pressure sodium light bulbs.

The requirements of this section have been satisfied.

5. Dedications and exactions. The City may require an applicant to dedicate land and/or construct a public improvement that provides a benefit to property or persons outside the property that is the subject of the application when the exaction is roughly proportional. No exaction shall be imposed unless supported by a determination that the exaction is roughly proportional to the impact of development.

Applicant's Finding: The applicant is not proposing any dedications as part of this partition application.

The requirements of this section have been satisfied.

6. Underground utilities. All utilities, such as electrical, telephone, and television cable, that may at times be above ground or overhead shall be buried underground in the case of new development. The exception would be in those cases where the area is substantially built out and adjacent properties have above-ground utilities and where the development site's frontage is under 200 feet and the site is less than one acre. High voltage transmission lines, as classified by Portland General Electric or electric service provider, would also be exempted. Where adjacent future development is expected or imminent, conduits may be required at the direction of the City Engineer. All services shall be underground with the exception of standard above-grade equipment such as some meters, etc.

Applicant's Finding: All utilities will be installed in compliance with this section.

The requirements of this section have been satisfied.

7. Density requirement. Density shall occur at 70 percent or more of the maximum density allowed by the underlying zoning. These provisions would not apply when density is transferred from Type I and II lands as defined in CDC [02.030](#). Development of Type I or II lands are exempt from these provisions. Land divisions of three lots or less would also be exempt.

Applicant's Finding: The proposed partition meets the density requirement even though a land division of three or fewer lots is exempt from this standard.

The R-10 zone permits a maximum density of 4.35 dwelling units per net acre. Net acre is defined as "The total gross acres less the public right-of-way and other acreage deductions, as applicable". The net acreage of this site after removal of dedicated right-of way is 0.52 acres. At 4.35 dwelling units per net acre, the maximum number of dwelling units on this site is 2.2. The proposed 2 dwelling units would be 100 percent of the maximum density, exceeding the 70 percent minimum.

The requirements of this section have been satisfied.

8. Mix requirement. The "mix" rule means that developers shall have no more than 15 percent of the R-2.1 and R-3 development as single-family residential. The intent is that the majority of the site shall be developed as medium high density multi-family housing.

Applicant's Finding: This property is zoned R-10 and, therefore, the use of the parcel as an entirely residential development is permitted.

The requirements of this section have been satisfied.

9. Heritage trees/significant tree and tree cluster protection. All heritage trees, as defined in the Municipal Code, shall be saved. Diseased heritage trees, as determined by the City Arborist, may be removed at his/her direction. All non-heritage trees and clusters of trees (three or more trees with overlapping dripline; however, native oaks need not have an overlapping dripline) that are considered significant by virtue of their size, type, location, health, or numbers shall be saved pursuant to CDC 55.100(B)(2). Trees are defined per the municipal code as having a trunk six inches in diameter or 19 inches in circumference at a point five feet above the mean ground level at the base of the trunk.

Applicant's Finding: No heritage trees have been identified on this site. However, the applicant's arborist worked with the City Arborist to create the tree plan included with this submittal.

The requirements of this section have been satisfied.

10. Annexation and street lights. Developer and/or homeowners association shall, as a condition of approval, pay for all expenses related to street light energy and maintenance costs until annexed into the City, and state that: "This approval is contingent on receipt of a final order by the Portland Boundary Commission, approving annexation of the subject property." This means, in effect, that any permits, public improvement agreements, final plats, and certificates of occupancy may not be issued until a final order is received. (Ord. 1377, 1995; Ord. 1382, 1995; Ord. 1401, 1997; Ord. 1403, 1997; Ord. 1408, 1998; Ord. 1425, 1998; Ord. 1442, 1999; Ord. 1463, 2000; Ord. 1526, 2005; Ord. 1544, 2007; Ord. 1584, 2008; Ord. 1590 § 1, 2009; Ord. 1604 § 64, 2011)

Applicant's Finding: This property is within the City limits.

The requirements of this section have been satisfied.

Chapter 92. REQUIRED IMPROVEMENTS

92.010 PUBLIC IMPROVEMENTS FOR ALL DEVELOPMENT

The following improvements shall be installed at the expense of the developer and meet all City codes and standards:

A. Streets within subdivisions.

- 1. All streets within a subdivision, including alleys, shall be graded for the full right-of-way width and improved to the City's permanent improvement standards and specifications which include sidewalks and bicycle lanes, unless the decision-making authority makes the following findings:**

- a. The right-of-way cannot be reasonably improved in a manner consistent with City road standards or City standards for the protection of wetlands and natural drainageways.
- b. The right-of-way does not provide a link in a continuous pattern of connected local streets, or, if it does provide such a link, that an alternative street link already exists or the applicant has proposed an alternative street which provides the necessary connectivity, or the applicant has proven that there is no feasible location on the property for an alternative street providing the link.

2. When the decision-making authority makes these findings, the decision-making authority may impose any of the following conditions of approval:

- a. A condition that the applicant initiate vacation proceedings for all or part of the right-of-way.
- b. A condition that the applicant build a trail, bicycle path, or other appropriate way.

If the applicant initiates vacation proceedings pursuant to subsection (A)(2)(a) of this section, and the right-of-way cannot be vacated because of opposition from adjacent property owners, the City Council shall consider and decide whether to process a City-initiated street vacation pursuant to Chapter [271](#) ORS.

Construction staging area shall be established and approved by the City Engineer. Clearing, grubbing, and grading for a development shall be confined to areas that have been granted approval in the land use approval process only. Clearing, grubbing, and grading outside of land use approved areas can only be approved through a land use approval modification and/or an approved Building Department grading permit for survey purposes. Catch basins shall be installed and connected to pipe lines leading to storm sewers or drainageways.

B. Extension of streets to subdivisions. The extension of subdivision streets to the intercepting paving line of existing streets with which subdivision streets intersect shall be graded for the full right-of-way width and improved to a minimum street structural section and width of 24 feet.

C. Local and minor collector streets within the rights-of-way abutting a subdivision shall be graded for the full right-of-way width and approved to the City's permanent improvement standards and specifications. The City Engineer shall review the need for street improvements and shall specify whether full street or partial street improvements shall be required. The City Engineer shall also specify the extent of storm drainage improvements required. The City Engineer shall be guided by the purpose of the City's systems development charge program in determining the extent of improvements which are the responsibility of the subdivider.

D. Monuments. Upon completion of the first pavement lift of all street improvements, monuments shall be installed and/or reestablished at every street intersection and all points of curvature and points of tangency of street centerlines with an iron survey control rod. Elevation benchmarks shall be established at each street intersection monument with a cap (in a monument box) with elevations to a U.S. Geological Survey datum that exceeds a distance of 800 feet from an existing benchmark.

E. Surface drainage and storm sewer system. A registered civil engineer shall prepare a plan and statement which shall be supported by factual data that clearly shows that there will be no adverse impacts from increased intensity of runoff off site of a 100-year storm, or the plan and statement shall

identify all off-site impacts and measures to mitigate those impacts commensurate to the particular land use application. Mitigation measures shall maintain pre-existing levels and meet buildout volumes, and meet planning and engineering requirements.

F. **Sanitary sewers.** Sanitary sewers shall be installed to City standards to serve the subdivision and to connect the subdivision to existing mains.

1. If the area outside the subdivision to be directly served by the sewer line has reached a state of development to justify sewer installation at the time, the Planning Commission may recommend to the City Council construction as an assessment project with such arrangement with the subdivider as is desirable to assure financing his share of the construction.

2. If the installation is not made as an assessment project, the City may reimburse the subdivider an amount estimated to be a proportionate share of the cost for each connection made to the sewer by property owners outside of the subdivision for a period of 10 years from the time of installation of the sewers. The actual amount shall be determined by the City Administrator considering current construction costs.

G. **Water system.** Water lines with valves and fire hydrants providing service to each building site in the subdivision and connecting the subdivision to City mains shall be installed. Prior to starting building construction, the design shall take into account provisions for extension beyond the subdivision and to adequately grid the City system. Hydrant spacing is to be based on accessible area served according to the City Engineer's recommendations and City standards. If required water mains will directly serve property outside the subdivision, the City may reimburse the developer an amount estimated to be the proportionate share of the cost for each connection made to the water mains by property owners outside the subdivision for a period of 10 years from the time of installation of the mains. If oversizing of water mains is required to areas outside the subdivision as a general improvement, but to which no new connections can be identified, the City may reimburse the developer that proportionate share of the cost for oversizing. The actual amount and reimbursement method shall be as determined by the City Administrator considering current or actual construction costs.

H. **Sidewalks.**

1. Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision, except that in the case of primary or secondary arterials, or special type industrial districts, or special site conditions, the Planning Commission may approve a subdivision without sidewalks if alternate pedestrian routes are available.

In the case of the double-frontage lots, provision of sidewalks along the frontage not used for access shall be the responsibility of the developer. Providing front and side yard sidewalks shall be the responsibility of the land owner at the time a request for a building permit is received. Additionally, deed restrictions and CC&Rs shall reflect that sidewalks are to be installed prior to occupancy and it is the responsibility of the lot or homeowner to provide the sidewalk, except as required above for double-frontage lots.

2. On local streets serving only single-family dwellings, sidewalks may be constructed during home construction, but a letter of credit shall be required from the developer to ensure construction of all missing sidewalk segments within four years of final plat approval pursuant to CDC 91.010(A)(2).

3. The sidewalks shall measure at least six feet in width and be separated from the curb by a six-foot minimum width planter strip. Reductions in widths to preserve trees or other topographic features, inadequate right-of-way, or constraints, may be permitted if approved by the City Engineer in consultation with the Planning Director.

4. Sidewalks should be buffered from the roadway on high volume arterials or collectors by landscape strip or berm of three and one-half-foot minimum width.

5. The City Engineer may allow the installation of sidewalks on one side of any street only if the City Engineer finds that the presence of any of the factors listed below justifies such waiver:

- a. The street has, or is projected to have, very low volume traffic density;
- b. The street is a dead-end street;
- c. The housing along the street is very low density; or
- d. The street contains exceptional topographic conditions such as steep slopes, unstable soils, or other similar conditions making the location of a sidewalk undesirable.

I. **Bicycle routes.** If appropriate to the extension of a system of bicycle routes, existing or planned, the Planning Commission may require the installation of separate bicycle lanes within streets and separate bicycle paths.

J. **Street name signs.** All street name signs and traffic control devices for the initial signing of the new development shall be installed by the City with sign and installation costs paid by the developer.

K. **Dead-end street signs.** Signs indicating “future roadway” shall be installed at the end of all discontinued streets. Signs shall be installed by the City per City standards, with sign and installation costs paid by the developer.

L. **Signs indicating future use** shall be installed on land dedicated for public facilities (e.g., parks, water reservoir, fire halls, etc.). Sign and installation costs shall be paid by the developer.

M. **Street lights.** Street lights shall be installed and shall be served from an underground source of supply. The street lighting shall meet IES lighting standards. The street lights shall be the shoe-box style light (flat lens) with a 30-foot bronze pole in residential (non-intersection) areas. The street light shall be the cobra head style (drop lens) with an approximate 50-foot (sized for intersection width) bronze pole. The developer shall submit to the City Engineer for approval of any alternate residential, commercial, and industrial lighting, and alternate lighting fixture design. The developer and/or homeowners association is required to pay for all expenses related to street light energy and maintenance costs until annexed into the City.

N. **Utilities.** The developer shall make necessary arrangements with utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting, and cable television, shall be placed underground.

O. **Curb cuts and driveways.** Curb cuts and driveway installations are not required of the subdivider at the time of street construction, but, if installed, shall be according to City standards. Proper curb cuts and hard-surfaced driveways shall be required at the time buildings are constructed.

P. Street trees. Street trees shall be provided by the City Parks and Recreation Department in accordance with standards as adopted by the City in the Municipal Code. The fee charged the subdivider for providing and maintaining these trees shall be set by resolution of the City Council.

Q. Joint mailbox facilities shall be provided in all residential subdivisions, with each joint mailbox serving at least two, but no more than eight, dwelling units. Joint mailbox structures shall be placed in the street right-of-way adjacent to roadway curbs. Proposed locations of joint mailboxes shall be designated on a copy of the tentative plan of the subdivision, and shall be approved as part of the tentative plan approval. In addition, sketch plans for the joint mailbox structures to be used shall be submitted and approved by the City Engineer prior to final plat approval. (Ord. 1180, 1986; Ord. 1192, 1987; Ord. 1287, 1990; Ord. 1321, 1992; Ord. 1339, 1993; Ord. 1401, 1997; Ord. 1408, 1998; Ord. 1442, 1999)

Applicant's Finding: All improvements will be installed per the submitted plans and in conformance with the requirements of this title.

The requirements of this section have been satisfied.

92.020 IMPROVEMENTS IN PARTITIONS

The same improvements shall be installed to serve each lot of a partition as are required of a subdivision. However, if the approval authority finds that the nature of development in the vicinity of the partition makes installation of some improvements unreasonable, at the written request of the applicant those improvements may be waived. If the street improvement requirements are waived, the applicant shall pay an in-lieu fee for off-site street improvements, pursuant to the provisions of CDC 85.200(A)(1).

In lieu of accepting an improvement, the Planning Director may recommend to the City Council that the improvement be installed in the area under special assessment financing or other facility extension policies of the City. (Ord. 1192, 1987; Ord. 1287, 1990; Ord. 1442, 1999; Ord. 1544, 2007)

Applicant's Finding: The applicant has not proposed any new improvements to Dollar Street as all existing frontages and necessary improvements have been constructed. A Public Improvement plan submitted as part of a previous lot line adjustment application has been lodged with the City showing the extent of all improvements necessary to provide services for both lots.

The requirements of this section have been satisfied.

92.030 IMPROVEMENT PROCEDURES

In addition to other requirements, improvements installed by the developer, either as a requirement of these regulations or at the developer's own option, shall conform to the requirements of this title and permanent improvement standards and specifications adopted by the City and shall be installed in accordance with the following procedure:

A. Improvement work shall not be commenced until plans have been checked for adequacy and approved by the City. To the extent necessary for evaluation of the proposal, the improvement plans may be required before approval of the tentative plan of a subdivision or partition. Plans shall be prepared in accordance with the requirements of the City.

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

C. Improvements shall be constructed under the Engineer. The City may require changes in typical sections and details in the public interest if unusual conditions arise during construction to warrant the change.

D. All underground utilities, sanitary sewers, and storm drains installed in streets by the subdivider or by any utility company shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities and sanitary sewers shall be placed to a length obviating the necessity for disturbing the street improvements when service connections are made.

E. A digital and mylar map showing all public improvements as built shall be filed with the City Engineer upon completion of the improvements. (Ord. 1408, 1998)

Applicant's All improvements will be installed in conformance with the requirements of this title.

Finding: The requirements of this section have been satisfied.

Chapter 99 PROCEDURES FOR DECISION MAKING: QUASI-JUDICIAL

99.030 APPLICATION PROCESS: WHO MAY APPLY, PRE-APPLICATION CONFERENCE, REQUIREMENTS, REFUSAL OF APPLICATION, FEES

A. Who may apply.

1. Applications for approval required under this chapter may be initiated by:

a. The owner of the property that is the subject of the application or the owner's duly authorized representative;

b. The purchaser of such property who submits a duly executed written contract or copy thereof, which has been recorded with the Clackamas Clerk;

c. A lessee in possession of such property who submits written consent of the owner to make such application; or

d. Motion by the Planning Commission or City Council.

2. Any person authorized by this chapter to submit an application for approval may be represented by an agent who is authorized in writing by such a person to make the application.

Applicant's The owner of the property is initiating this application for approval.

Finding: The requirements of this section have been satisfied.

B. Pre-application conferences.

1. Subject to subsection (B)(4) of this section, a pre-application conference is required for, but not limited to, ***j. land divisions.

Applicant's A pre-application meeting was held February 14, 2013.

Finding:

The requirements of this section have been satisfied.

C. The requirements for making an application.

1. The application shall be made on forms provided by the Director as provided by CDC 99.040(A)(1);

2. The application shall be complete and shall contain the information requested on the form, shall address the appropriate submittal requirements and approval criteria in sufficient detail for review and action, and shall be accompanied by the deposit or fee required by CDC 99.033. No application will be accepted if not accompanied by the required fee or deposit. In the event an additional deposit is required by CDC 99.033 and not provided within the time required, the application shall be rejected without further processing or deliberation and all application materials shall be returned to the applicant, notwithstanding any determination of completeness. (Ord. 1527, 2005; Ord. 1568, 2008; Ord. 1590 § 1, 2009; Ord. 1599 § 6, 2011)

Applicant's This application has been made on forms provided by the City's Planning Department.

Finding: The application contains the necessary information and the required fee.

The requirements of this section have been satisfied.

99.033 FEES

The Council shall adopt a schedule of fees reasonably calculated to defray the expenses of the administrative process. The Council may establish either a set fee or a deposit system in which the applicant pays a deposit and the City determines the total administrative cost at the end of the process and refunds any unused amount of the deposit to the applicant. No additional deposit shall be required for additional costs that are incurred because the matter is referred to or called up by a higher decision-making authority. The Council shall charge no fees for City-initiated land use applications or appeals filed by a recognized neighborhood association pursuant to the provisions of CDC 99.240. (Ord. 1527, 2005; Ord. 1568, 2008; Ord. 1604 § 70, 2011)

Applicant's The required fee was submitted with the land use application.

Finding: The requirements of this section have been satisfied.

SUMMARY AND CONCLUSION

Based upon the materials submitted herein, the Applicant respectfully requests that the City's Planning Director approve this Minor Partition application.

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT	PROJECT NO(S).	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL

Type of Review (Please check all that apply):

- | | | |
|--|--|--|
| <input type="checkbox"/> Annexation (ANX) | <input type="checkbox"/> Historic Review | <input type="checkbox"/> Subdivision (SUB) |
| <input type="checkbox"/> Appeal and Review (AP) * | <input type="checkbox"/> Legislative Plan or Change | <input type="checkbox"/> Temporary Uses * |
| <input type="checkbox"/> Conditional Use (CUP) | <input type="checkbox"/> Lot Line Adjustment (LLA) */** | <input type="checkbox"/> Time Extension * |
| <input type="checkbox"/> Design Review (DR) | <input checked="" type="checkbox"/> Minor Partition (MIP) (Preliminary Plat or Plan) | <input type="checkbox"/> Variance (VAR) |
| <input type="checkbox"/> Easement Vacation | <input type="checkbox"/> Non-Conforming Lots, Uses & Structures | <input type="checkbox"/> Water Resource Area Protection/Single Lot (WAP) |
| <input type="checkbox"/> Extraterritorial Ext. of Utilities | <input type="checkbox"/> Planned Unit Development (PUD) | <input type="checkbox"/> Water Resource Area Protection/Wetland (WAP) |
| <input type="checkbox"/> Final Plat or Plan (FP) | <input type="checkbox"/> Pre-Application Conference (PA) */** | <input type="checkbox"/> Willamette & Tualatin River Greenway (WRG) |
| <input type="checkbox"/> Flood Management Area | <input type="checkbox"/> Street Vacation | <input type="checkbox"/> Zone Change |
| <input type="checkbox"/> Hillside Protection & Erosion Control | | |

Home Occupation, Pre-Application, Sidewalk Use, Sign Review Permit, and Temporary Sign Permit applications require different or additional application forms, available on the City website or at City Hall.

Site Location/Address:
960 DOLLAR STREET

 Assessor's Map No.: **21E34DC**

 Tax Lot(s): **00700 and 00800**

 Total Land Area: **0.822 Acres**
Brief Description of Proposal: APPLICANT PROPOSES A PARTITION TO CREATE TWO BUILDABLE LOTS UNDER THE R-10 ZONING DESIGNATION.
Applicant Name: **JT SMITH COMPANIES**
(please print)

 Phone: **503-209-7555**

 Address: **5285 MEADOWS ROAD, SUITE 171**

 Email: **jwyland@jtsmithco.com**

 City State Zip: **LAKE OSWEGO, OR 97035**
Owner Name (required): **SMITH**
(please print)

Phone:

 Address: **960 DOLLAR STREET**

Email:

 City State Zip: **WEST LINN, OR 97068**
Consultant Name: **ANDREW TULL, 3J CONSULTING, INC.**
(please print)

 Phone: **503-545-1907**

 Address: **10445 SW CANYON ROAD, SUITE 245**

 Email: **andrew.tull@3j-consulting.com**

 City State Zip: **BEAVERTON, OR 97005**

1. All application fees are non-refundable (excluding deposit). **Any overruns to deposit will result in additional billing.**
2. The owner/applicant or their representative should be present at all public hearings.
3. A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
4. **Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application.**
One (1) complete set of digital application materials must also be submitted on CD in PDF format.
If large sets of plans are required in application please submit only two sets.

* No CD required / ** Only one hard-copy set needed

The undersigned property owner(s) hereby authorizes the filing of this application, and authorizes on site review by authorized staff. I hereby agree to comply with all code requirements applicable to my application. Acceptance of this application does not infer a complete submittal. All amendments to the Community Development Code and to other regulations adopted after the application is approved shall be enforced where applicable. Approved applications and subsequent development is not vested under the provisions in place at the time of the initial application.

 Applicant's signature

 Date

 Owner's signature (**required**)

 Date

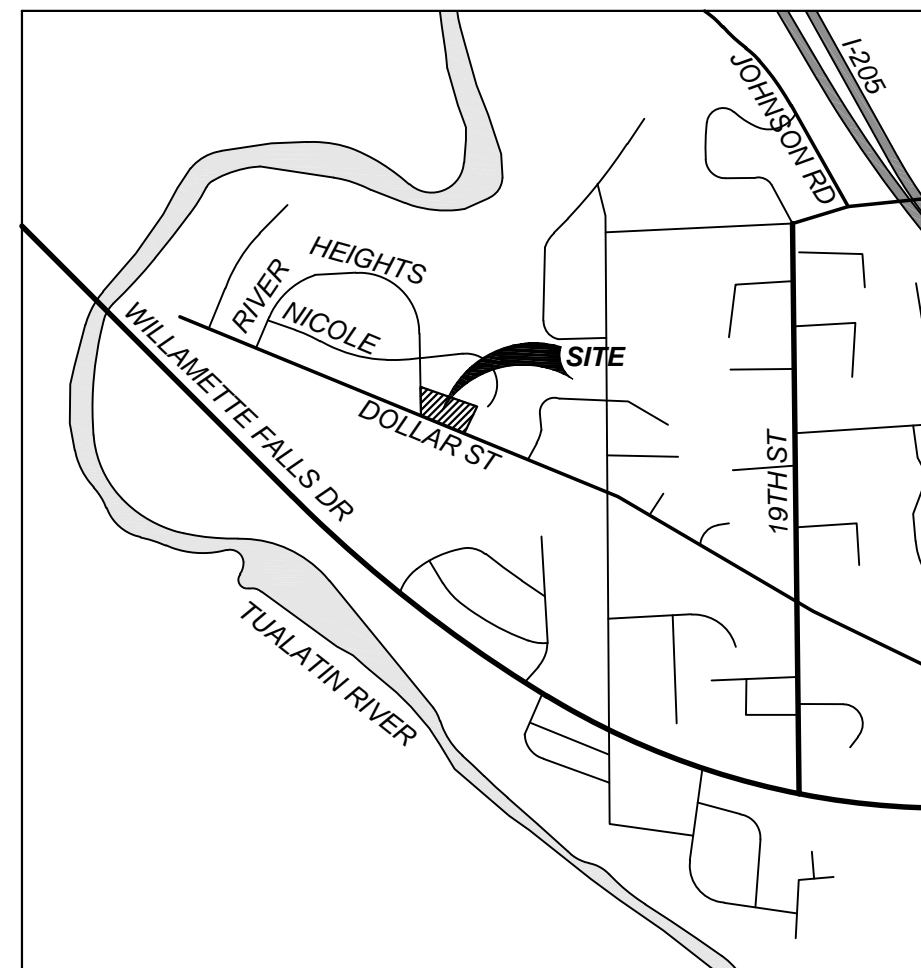
DEVELOPMENT PLANS

FOR

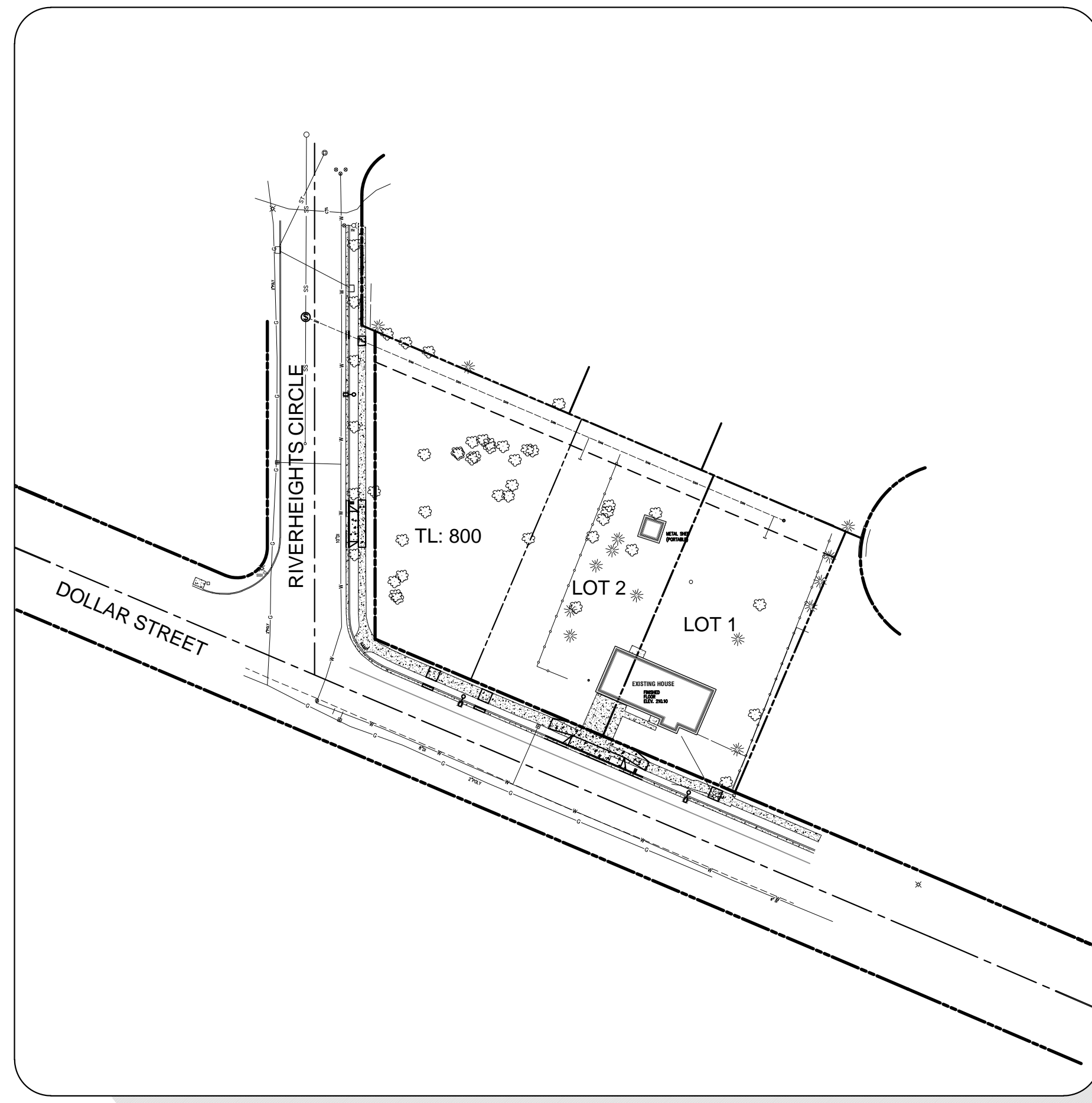
960 DOLLAR STREET

LOT PARTITION

PREPARED FOR
LF6, LLC



SITE VICINITY MAP
N.T.S.



SITE MAP
Scale: 1 inch = 60 feet

PROJECT TEAM

OWNER | APPLICANT

LF6, LLC
JOHN WYLAND
5285 MEADOWS ROAD, SUITE #171
LAKE OSWEGO, OR 97035

CIVIL ENGINEER

3J CONSULTING, INC
10445 SW CANYON ROAD, SUITE 245
BEAVERTON, OR 97005
CONTACT: BRIAN FEENEY, PE
PHONE: 503-946-9365
EMAIL: brian.feeneey@3j-consulting.com

PLANNING

3J CONSULTING, INC
10445 SW CANYON ROAD, SUITE 245
BEAVERTON, OR 97005
CONTACT: ANDREW TULL
PHONE: 503-946-9365
EMAIL: andrew.tull@3j-consulting.com

LAND SURVEYING

COMPASS SURVEYING
4107 SE INTERNATIONAL WAY, SUITE 705
MILWAUKIE, OR 97222
CONTACT: DON DEVLAMINCK, PLS
PHONE: 503-653-9093

UTILITIES & SERVICES

WATER, STORM, SEWER

CITY OF WEST LINN
CONTACT: KHOI LE
PHONE: (503) 722 - 5517

POWER

PGE
CONTACT: MIKE HIEB
PHONE: (503) 570-4412

GAS

NORTHWEST NATURAL
CONTACT: LANCE CHEELEY
PHONE: (503) 220-2357

CABLE

COMCAST

FIRE

TUALATIN VALLEY FIRE & RESCUE

POLICE, SCHOOLS, ROADS, PARKS
CITY OF WEST LINN

SITE INFORMATION

SITE ADDRESS

960 DOLLAR STREET
WEST LINN, OR 97068

TAX LOT(S)

251E34DC 700

JURISDICTION

CITY OF WEST LINN

ZONING

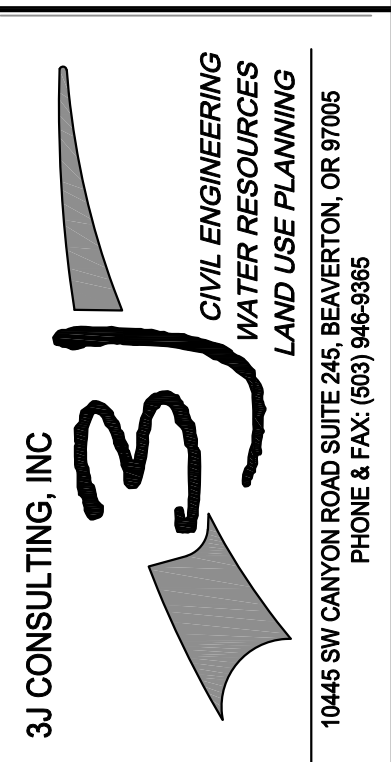
R-10

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LOT PARTITION 4/30/13
BY DATE

COVER SHEET
960 DOLLAR STREET
LOT PARTITION
WEST LINN, OR
LF6, LLC



3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
COVER SHEET

SHEET NUMBER
CS

SANITARY SEWER NOTES

- PIPE SHALL BE PVC SEWER PIPE CONFORMING TO ASTM D-3034 SDR 35. MINIMUM STIFFNESS SHALL BE 46 PSI AND JOINT TYPE SHALL BE ELASTOMERIC GASKET CONFORMING TO ASTM D-3212.
- MANHOLE BASE SHALL BE POURED IN PLACE CONCRETE BASE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3300 PSI OR PRECAST. MANHOLE RISERS AND TOPS SHALL BE PRECAST SECTIONS WITH MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. TOPS SHALL BE ECCENTRIC CONES EXCEPT WHERE INSUFFICIENT HEADROOM REQUIRES FLAT TOPS. INVERTS SHALL BE CONSTRUCTED SO AS TO PROVIDE SMOOTH FLOW-THROUGH CHARACTERISTICS AND CHANNELS MUST BE ABLE TO PASS A 7"X30" CYLINDER INTO PIPES. PVC PIPE SHALL BE CONNECTED TO MANHOLE BY MEANS OF A FLEXIBLE CONNECTION AND SHALL HAVE A SHEAR JOINT LOCATED 18" OUTSIDE OF MANHOLE. CEMENT GROUT FOR CONNECTING PVC SEWER PIPE TO MANHOLE WILL NOT BE PERMITTED.
- ALL MANHOLES LOCATED IN EASEMENT AREAS REQUIRE TAMPER PROOF LIDS AND THE LID SHALL BE SET 6" ABOVE THE PROPOSED GRADE WHEN PLACED IN UNPAVED AREAS.
- CLEANOUT PIPE, FITTINGS, AND JOINTS SHALL BE THE SAME SPECIFICATIONS AS FOR PIPE. CASTINGS ARE AS SHOWN ON DETAIL AND SHALL CONFORM TO ASTM A48 (GRADE 30). CLEANOUT RISER SHALL MATCH DOWNSTREAM PIPE DIAMETER. FRAME SHALL SIT ON 18"X24" CONCRETE PAD.
- GRANULAR BACKFILL (3/4"-0) IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 95% OF IN-PLACE DRY DENSITY OF SURROUNDING SOIL. EXCAVATION, BEDDING, AND BACKFILL SHALL BE IN ACCORDANCE WITH DIVISION 204 OF THE CITY OF WEST LINN STANDARD CONSTRUCTION SPECIFICATIONS. BACKFILL UNDER NEW STREETS SHALL BE CLASS "B" AND BACKFILL IN EXISTING STREETS SHALL BE CLASS "E".
- PVC SERVICE LATERALS SHALL BE 4" PIPE CONFORMING TO THE SAME SPECIFICATIONS AS THE SEWER MAINS. SERVICE LATERALS SHALL BE INSTALLED TO A POINT BEYOND THE LINE OF THE SEWER OR UTILITY EASEMENT AS SHOWN ON THE PLAN. THE SERVICE LATERAL SHALL BE PLUGGED WITH A 4" RUBBER RING PLUG, AND THE LOCATION OF THE LATERAL'S END MARKED WITH A 2"X4" STAKE PAINTED GREEN.
- SANITARY SEWER PIPE AND APPURTENANCES SHALL BE TESTED FOR LEAKAGE IN ACCORDANCE WITH W.L.S.C.S. DIVISION 301.03.09 AND MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH W.L.S.C.S. DIVISION 302.03.07. ALL TESTS SHALL BE WITNESSED BY THE ENGINEER AND THE CITY OF WEST LINN. CONTRACTOR IS RESPONSIBLE FOR COORDINATING TESTING SO THAT ALL TEST SHALL BE PASSED AND NEW LINE SHALL BE ACCEPTED PRIOR TO CONNECTION TO EXISTING SYSTEM.
- A PLUMBING PERMIT FROM THE CITY OF WEST LINN BUILDING DEPARTMENT IS REQUIRED FOR SANITARY SEWER LATERALS BEYOND THE FIRST CLEANOUT.
- ALL MATERIALS, INSTALLATION, TEST, AND INSPECTIONS TO BE MADE IN STRICT ACCORDANCE WITH CITY OF WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS.

GENERAL GRADING AND EROSION CONTROL (PART 1)

- APPROVAL OF THIS EROSION CONTROL (ESC) PLAN DOES NOT CONSTITUTE ON APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)
- THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED, AND VEGETATION OF LANDSCAPING IS ESTABLISHED.
- THE ESC FACILITIES ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
- THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT LEAVE THE SITE.
- THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
- THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH, OR WITHIN 24 HOURS FOLLOWING A STORM EVENT.
- AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

WATER NOTES

- WATER MAINS SHALL BE DUCTILE IRON PIPE CONFORMING TO AWWA C151 CLASS 52. PIPE IS TO HAVE CEMENT MORTAR LINING AND BITUMINOUS SEAL COAT CONFORMING TO AWWA C104. JOINTS ARE TO BE PUSH-ON RUBBER GASKETED JOINTS UNLESS NOTED OTHERWISE ON THE PLAN. PIPE FITTINGS ARE TO BE OF THE SAME MATERIAL AND CLASS AS PIPE OF DOMESTIC ORIGIN.
- WATER MAINS HAVE A MINIMUM COVER OF 36".
- THRUST BLOCKS ARE TO BE PROVIDED AT ALL CHANGES IN DIRECTION AND BRANCHES. THRUST BLOCKING CONCRETE STRENGTH IS TO BE 3000 PSI. SEE DETAILS FOR THRUST BLOCK SIZING. POUR THRUST BLOCKS AGAINST UNDISTURBED EARTH.
- GATE VALVES SHALL BE RESILIENT SEAT, NON-RISING STEM WITH "O" RING PACKING, COMPLYING WITH AWWA CLASS "C" SPECIFICATIONS. THE VALVES SHALL BE DESIGNED TO WITHSTAND A WORKING PRESSURE OF 150 PSI. GATE VALVES SHALL BE FURNISHED WITH A TWO-INCH SQUARE OPERATING NUT AND SHALL OPEN COUNTERCLOCKWISE WHEN VIEWING FROM ABOVE. BUTTERFLY VALVES SHALL BE RUBBER SEAT TYPE AND BUBBLE-TIGHT AT 150 PSI, AND SHALL CONFORM TO AWWA C504. BUTTERFLY VALVES SHALL BE MUELLER OR APPROVED EQUAL. OPERATING NUT SHALL BE LOCATED ON THE SIDE OF THE MAIN SHOWN ON THE PLANS. VALVE BOXES SHALL BE "VANCOUVER" PATTERN.
- GRANULAR BACKFILL (3/4"-0) IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T 180 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 95% OF IN-PLACE DRY DENSITY OF SURROUNDING SOIL. EXCAVATION, BEDDING, AND BACKFILL SHALL BE IN ACCORDANCE WITH DIVISION 204 OF THE CITY OF WEST LINN STANDARD CONSTRUCTION SPECIFICATIONS. BACKFILL UNDER NEW STREETS SHALL BE CLASS "E".
- SERVICE LATERALS SHALL BE TYPE K COPPER LATERAL SIZES SHALL BE 1". FOR DOUBLE SERVICES TWO 1" WATER SERVICES SHALL BE LAID SIDE BY SIDE. CORPORATION STOPS SHALL BE MUELLER H 15008 OR FORD F1000 4Q. ANGLE METER STOP SHALL BE MUELLER H 14258 OR FORD 1" KV43-444W-Q. METER BOXES SHALL BE EQUAL TO BROOKS #37 WITH A 37-S LID AND COVER. METER BOXES ARE TO BE INSTALLED 3/4" ABOVE FINISH GRADE AND 2- 1/2" FROM THE CURB IN PLANTER STRIPS OR FLUSH WITH SIDEWALK SURFACE IN A SIDEWALK.
- ALL WATERLINES WILL BE PRESSURE TESTED AND PURIFICATION TESTED BEFORE CONNECTION TO THE CITY WATER SYSTEM. PRESSURE TEST SHALL BE CONDUCTED AT 180 PSI OR 1.5 TIMES THE NORMAL WORKING PRESSURE, WHICHEVER IS HIGHER AND SHALL MEET THE REQUIREMENTS OF DIVISION 403.14 OF THE WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS.
- CHLORINATION SHALL CONFORM WITH DIVISION 403.13 OF THE W.L.S.C.S.
- DO NOT CONNECT NEW PIPE TO EXISTING PIPE PRIOR TO TESTING. THE CITY OF WEST LINN REQUIRES ACCEPTANCE OF NEW WATERLINE PRIOR TO CONNECTION TO EXISTING WATER SYSTEM.
- A PLUMBING PERMIT IS REQUIRED FOR SERVICE LATERAL INSTALLATIONS BEYOND THE WATER METER.
- ALL MATERIALS, INSTALLATION, TESTS, AND CHLORINATION TO BE IN STRICT ACCORDANCE WITH THE CITY OF WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS, AND THE OREGON STATE HEALTH DIVISION ADMINISTRATION RULES, CHAPTER 333.

GENERAL GRADING AND EROSION CONTROL (PART 2)

- CLEAN WASTE MATERIAL EXCAVATED FROM ROAD CUT OR TRENCHING AREAS NOT USED IN STREET FILL AREAS MAY BE SPREAD EVENLY ACROSS LOT AREAS IN DEPTHS NOT TO EXCEED SIX INCHES, EXCEPT WHERE NOTED OTHERWISE ON THE PLANS.
- DURING CONSTRUCTION, STRAW BALES, CUTOFF TRENCHES OR SOME OTHER METHOD OF RUNOFF CONTROL SHALL BE USED TO PREVENT EROSION AND/OR SILTATION FROM CROSSING OUTSIDE THE WORK AREA BOUNDARIES.
- LARGE ORGANIC MATERIAL, MISCELLANEOUS PIPE OR CONSTRUCTION MATERIAL MUST BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY.
- NO FILLING OR CUTTING SHALL BE DONE OUTSIDE OF APPROVED GRADING AREAS.
- ALL EROSION CONTROL FACILITIES SHALL MEET THE REQUIREMENTS OF THE CLACKAMAS COUNTY DEPARTMENT OF UTILITIES, EROSION PREVENTION AND SEDIMENT CONTROL PLANS TECHNICAL GUIDANCE HANDBOOK (ECTGH), REVISED AUGUST, 1994; CHAPTER 31 OF THE COMMUNITY DEVELOPMENT CODE; AND THE OREGON ADMINISTRATIVE RULES.

STORM SEWER NOTES

- EIGHT INCH TO 24-INCH STORM DRAIN PIPE IS PREFERRED TO BE SEAMLESS RIBBED PVC PIPE CONFORMING TO ASTM F 794. WHERE LARGER PIPE IS REQUIRED OR LACK OF COVER PREVENTS USE OF RIBBED PVC PIPE, PIPE SHALL BE CLASS 3 NON-REINFORCED, CONCRETE PIPE CONFORMING TO ASTM C14. REINFORCED CONCRETE PIPE CONFORMING TO ASTM C-76, CLASS IV, OR DUCTILE IRON PIPE CONFORMING TO AWWA C151 CLASS 52. RUBBER JOINTS ARE REQUIRED FOR ALL CONCRETE PIPE, SIX INCH AND SMALLER STORM DRAIN PIPE SHALL CONFORM TO ASTM D 3034 PIPE.
- GUTTER INLETS SHALL BE POURED IN-PLACE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3300 PSI. FRAME SHALL BE FABRICATED OF STRUCTURAL STEEL, ASTM A-7, A-36, A-373.
- MANHOLE BASE MAY BE POURED IN PLACE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3300 PSI OF PRECAST. MANHOLE RISERS AND TOPS SHALL BE PRECAST SECTIONS WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. TOPS SHALL BE ECCENTRIC CONES EXCEPT WHERE INSUFFICIENT HEADROOM REQUIRES FLAT TOPS. INTERIOR DIMENSIONS NOTED ON THE PLANS ARE MINIMUMS. SOME OR ALL OF THE STORM DRAIN REQUIRED WILL BE OVERSIZED MANHOLES, CONTRACTOR SHALL CHECK WITH MANHOLE MANUFACTURER FOR ACTUAL SIZE OF MANHOLE NEEDED FOR TYPE AND SIZE OF PIPE TO BE USED. INVERTS SHALL BE CONSTRUCTED SO AS TO PROVIDE SMOOTH FLOW-THROUGH CHARACTERISTICS. PIPE SHALL BE CONNECTED TO MANHOLE BY MEANS OF A FLEXIBLE CONNECTION AND SHALL HAVE A SHEAR JOINT LOCATED 18" OUTSIDE OF THE MANHOLE.
- ALL MANHOLES LOCATED IN EASEMENT AREAS REQUIRE TAMPER PROOF LIDS AND LID SHALL BE SET 12 INCHES ABOVE PROPOSED GRADE.
- CLEANOUT PIPE, FITTINGS, AND JOINTS SHALL BE THE SAME SPECIFICATIONS AS FOR PIPE. CASTINGS ARE SHOWN ON DETAILS AND SHALL CONFORM TO ASTM A48 (GRADE 30). CLEANOUT RISER SHALL MATCH DOWNSTREAM PIPE DIAMETER.
- GRANULAR BACKFILL (3/4"-0) IS TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY PER AASHTO T-180 TEST METHOD AND NATIVE MATERIAL SHALL BE COMPACTED TO 95% OF IN-PLACE DRY DENSITY OF SURROUNDING SOIL.
- STORM DRAIN SERVICE LATERALS SHALL BE 4" PIPE CONFORMING TO THE SAME SPECIFICATIONS AS THE STORM DRAIN MAIN LINES. SERVICES LATERALS SHALL BE INSTALLED TO A POINT BEYOND THE LINE OR UTILITY EASEMENT AS SHOWN ON THE PLAN. THE SERVICE LATERAL SHALL BE PLUGGED WITH 4" RUBBER RING PLUG, AND THE LOCATION OF THE LATERALS END MARKED WITH A 2"X4" STAKE PAINTED WHITE.
- STORM DRAINS SHALL BE TESTED FOR DEFLECTION IN ACCORDANCE WITH DIVISION 601.03.11 AND VIDEO INSPECTED IN ACCORDANCE WITH DIVISION 601.03.12 OF THE WEST LINN STANDARD CONSTRUCTION SPECIFICATIONS. ALL TESTS SHALL BE WITNESSED BY THE ENGINEER AND A REPRESENTATIVE OF THE CITY.
- A PLUMBING PERMIT FROM THE CITY OF WEST LINN BUILDING DEPARTMENT IS REQUIRED FOR STORM DRAINS BEYOND THE FIRST CLEANOUT.
- ALL MATERIALS, INSTALLATION, TESTS, AND INSPECTIONS TO BE IN STRICT ACCORDANCE WITH THE CITY OF WEST LINN STANDARD CONSTRUCTION SPECIFICATIONS.
- INFILTRATION RAIN GARDEN PLANTINGS TO CONFORM TO PLANTING SPECIFICATION AS SHOWN ON THE PLANS AND DETAILS CONTAINED HEREIN.

EROSION CONTROL SUMMARY

- THE INTENT OF THE REQUIREMENT IS TO PREVENT SILTATION FROM REACHING STORM DRAIN SYSTEMS AND DRAINAGEWAYS.
- THE MINIMUM MEASURES NEEDED TO BE MADE ON ALL PROJECTS.
 - A. A GRAVEL PAD, AT LEAST 50 FEET LONG, IS REQUIRED WHERE VEHICLES WILL LEAVE THE CONSTRUCTION SITE.
 - B. A SEDIMENT BARRIER IS TO BE CONSTRUCTED OF STRAW BALES OR A SEDIMENT FENCE WHERE NOTED IN THE DETAILS OR WHERE SEDIMENT WILL CROSS OUTSIDE THE WORK AREA.
 - C. WHERE EXCAVATED MATERIAL IS PLACED ON HARD SURFACES (SUCH AS STREETS) MATERIAL MUST BE BROOMED OR SCRAPED CLEAN AS SOON AS POSSIBLE.
 - D. RE-SEED OR COVER DISTURBED AREAS AS SOON AS IS POSSIBLE AND PRACTICAL BUT NO LATER THAN THE COMPLETION OF CONSTRUCTION ON THE OTHER PHASES OF WORK. EROSION CONTROL MEASURES SUCH AS HAY BALES AND SILT FENCES MUST REMAIN IN PLACE UNTIL SEEDED AREAS SHOW GROWTH SUBSTANTIAL TO PREVENT EROSION.

STREET NOTES

- NEW STREET SECTIONS ARE TO BE CLEARED OF ALL SURFACE VEGETATION AND OTHER MISCELLANEOUS STRUCTURES OR MATERIALS. GRUB IMPROVEMENT AREAS TO REMOVE ALL BURIED VEGETATIVE MATTER AND DEBRIS TO A DEPTH 8" BELOW SUBGRADE. PROPERLY DISPOSE OF ALL WASTE MATERIAL.
- STREET SUBGRADE SHALL CONFORM TO DIVISION 501 OF THE CITY OF WEST LINN STANDARD CONSTRUCTION SPECIFICATIONS. AREAS TO RECEIVE FILL ARE TO BE INSPECTED BY CITY OF WEST LINN PERSONNEL PRIOR TO PLACEMENT OF THE FILL. THE CONTRACTOR SHALL HAVE FILL AREAS TESTED FOR COMPACTION BY A CERTIFIED TESTING LAB IN ACCORDANCE WITH W.L.S.C.S. DIVISION 501.03.08. SUCH TESTING WILL BE AT THE CONTRACTOR'S EXPENSE.
- AGGREGATE BASE ROCK SHALL CONFORM TO THE REQUIREMENTS OF W.L.S.C.S. DIVISION 205. BASE COURSE SHALL BE 1-1/2" -0 CRUSHED ROCK AND LEVELING COURSE SHALL BE 3/4" -0. CITY OF WEST LINN REQUIRES A PROOF ROLL WITH A LOADED 10 YARD DUMP TRUCK OF THE SUBGRADE PRIOR TO PLACEMENT OF THE ROCK AND AGAIN AFTER PLACEMENT OF THE BASE ROCK AND PRIOR TO PAVING. ALL UNDERGROUND UTILITIES INCLUDING LATERALS, SERVICES, AND POWER OR GAS CONDUITS WILL BE IN PLACE BEFORE SUBGRADE PROOF ROLL WILL TAKE PLACE.
- ASPHALT CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF W.L.S.C.S. DIVISION 205. 2" BASE LIFT SHALL BE CLASS "B" A.C. AND 2" FINAL LIFT SHALL BE CLASS "C" A.C. MEETING THE SPECIFICATIONS OF W.L.S.C.S. DIVISION 505. THE TOP LIFT OF ASPHALT CONCRETE SHALL NOT BE PLACED PRIOR TO RECEIVING PERMISSION FROM THE CITY OF WEST LINN ENGINEERING DEPARTMENT.
- CONSTRUCT CURB AND GUTTER USING 3300 PSI CONCRETE MEETING THE SPECIFICATIONS OF W.L.S.C.S. DIVISION 205 (AFTER 28 DAYS) WITH MAXIMUM 1-1/2" AGGREGATE SIZE. CONTRACTION JOINTS AT 15' MAXIMUM ON CENTERS. THREE INCH WEEPHOLES ARE TO BE INSTALLED ON ALL LOTS UP HILL OR EVEN WITH THE STREET. GENERALLY, WEEPHOLES SHALL BE LOCATED AT THE CENTER AND LOWEST EDGE OF CURB FOR EACH LOT. CONTRACTOR SHALL STAMP LOCATION OF SEWER AND WATER CROSSINGS WITH AN (S) OR (W). A PROOF ROLL OF THE CURBLINES IS REQUIRED PRIOR TO POURING CURBS.
- ALL MATERIALS, INSTALLATION, TESTS, AND INSPECTIONS TO BE IN STRICT ACCORDANCE WITH CITY OF WEST LINN PUBLIC WORKS STANDARD CONSTRUCTION SPECIFICATIONS.
- A STREET CONSTRUCTION ENCROACHMENT PERMIT OR SIMILAR PERMIT MAY BE REQUIRED FROM THE CITY OF WEST LINN. CONSTRUCTION PERMIT FEES OR OTHER SIMILAR FEES OR BONDING REQUIRED OF THE CONTRACTOR WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN.

SEDIMENT FENCE

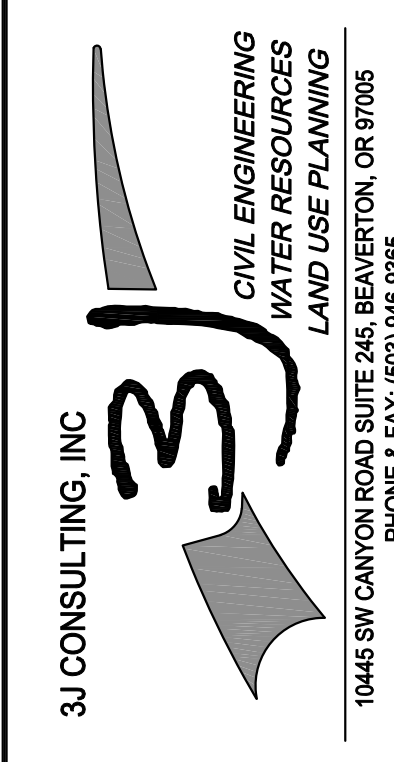
- THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.
- THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS, WHERE FEASIBLE. THEN FENCE POSTS SHALL BE SPACED A MAXIMUM OF SIX FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 18 INCHES.
- A TRENCH SHALL BE EXCAVATED, ROUGHLY 6 INCHES WIDE BY 6 INCHES DEEP, ASLOPE AND ADJACENT TO THE WOOD POST TO ALLOW THE FILTER FABRIC TO BE BURIED. BURY THE BOTTOM OF THE FABRIC 6" VERTICALLY BELOW FINISHED GRADE. ALL AREAS OF FILTER FABRIC TRENCH SHALL BE COMPACTED.
- THE FILTER FABRIC SHALL BE INSTALLED WITH STITCHED LOOPS OVER FENCE POSTS. THE FENCE POST SHALL BE CONSTRUCTED OF 2" X 2" FIR, PINE, OR STEEL. THE FENCE POST MUST BE A MINIMUM OF 48" LONG. THE FILTER FABRIC SHALL NOT BE STAPLED OR ATTACHED TO EXISTING TREES.
- SEDIMENT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- SEDIMENT FENCES SHALL BE INSPECTED BY APPLICANT/CONTRACTOR IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

GENERAL NOTES

- ALL REFERENCES TO CITY DESIGN STANDARDS REFER TO THE CURRENT STANDARDS.
- THE DESIGN ENGINEER WILL BE RESPONSIBLE FOR INSPECTION OF THE PROPOSED IMPROVEMENTS WITH OVERSIGHT FROM THE CITY'S PUBLIC WORKS AND ENGINEERING STAFF.
- A WORK SCHEDULE WILL BE REQUIRED FROM THE CONTRACTOR SO THAT THE ENGINEER CAN HAVE AN INSPECTOR ONSITE AT THE APPROPRIATE TIMES. IF THE WORK SCHEDULE IS REVISED THE CONTRACTOR IS TO NOTIFY THE ENGINEER AT LEAST 24 HOURS NOTICE OF ANY TESTING REQUIRING THE PRESENCE OF THE ENGINEER AND/OR CITY STAFF.
- THE CONTRACTOR IS TO RECEIVE THE APPROVAL OF THE ENGINEER AND THE CITY OF ANY PROPOSED CHANGES TO THE PLANS OR STANDARD REQUIREMENTS.
- A BUILDING DEPARTMENT PLUMBING PERMIT IS REQUIRED FOR UTILITIES BEYOND THE FIRST CLEANOUT OR METER ON PRIVATE PROPERTY.
- A PUBLIC IMPROVEMENT GUARANTEE AGREEMENT OR A PUBLIC WORKS PERMIT, A PRE-CONSTRUCTION MEETING WITH THE CITY OF WEST LINN, AND INSTALLATION OF EROSION CONTROL MEASURES ARE REQUIRED PRIOR TO BEGINNING CONSTRUCTION.
- PRIOR TO SITE CLEARING, 8' TALL CHAIN-LINK FENCING SHALL BE PLACED AT TREE EASEMENT BOUNDARIES PRIOR TO SITE GRADING. THE CITY ARBORIST SHALL INSPECT & APPROVE ALL ONSITE TREE PROTECTION MEASURES PRIOR TO THE START OF THE SITE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE CITY ARBORIST AND ARRANGE FOR THIS APPROVAL TO TAKE PLACE. NO PERMITS WILL BE ISSUED FROM ENGINEERING, PLANNING, OR BUILDING DEPARTMENTS WITHOUT TREE PROTECTION APPROVAL FROM THE CITY ARBORIST. ALL TREE PROTECTION MEASURES SHALL REMAIN IN PLACE AND FULLY FUNCTIONAL FOR THE ENTIRE TIME THAT SITE WORK AND CONSTRUCTION IS TAKING PLACE.
- A CITY REPRESENTATIVE AND A REPRESENTATIVE OF THE ENGINEER MUST BE PRESENT AT ALL TESTING AND THE CITY SHALL BE FURNISHED A COPY OF ALL TEST RESULTS. IF ENGINEER OR CITY DO NOT WITNESS TESTING, CONTRACTOR WILL BE REQUIRED TO RE-TEST.
- ALL FEES FOR STREET TREES SHALL BE PAID TO THE CITY OF WEST LINN PARKS AND RECREATION DEPARTMENT.
- NO BUILDING PERMITS WILL BE GIVEN UNTIL THE IMPROVEMENTS HAVE BEEN ACCEPTED BY THE CITY AS SUBSTANTIALLY COMPLETE.
- CONTRACTOR SHALL VERIFY DEPTH AND LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION PRIOR TO ORDERING MANHOLES. IF DISCREPANCIES ARE FOUND, CONTRACTOR SHALL NOTIFY THE ENGINEER.

LOT PARTITION
4/30/13
BY DATE
REVISION SUMMARY

GENERAL PROJECT CONSTRUCTION NOTES
960 DOLLAR STREET
LOT PARTITION
WEST LINN, OR
LF6, LLC



3J JOB ID # | 13110
LAND USE # | _____
TAX LOT # | 21E340C 700
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
C0.0

TAX LOTS 700 AND 800
IN THE SE 1/4 OF SECTION 34, T.2S., R.1E., W.M.
960 DOLLAR STREET, WEST LINN, OREGON

LOT PARTITION
REVISION SUMMARY
DATE
4/30/13

TENTATIVE SUBDIVISION PLAT
960 DOLLAR STREET
LOT PARTITION
WEST LINN, OR
LF6, LLC

3J CONSULTING, INC
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005
PHONE & FAX: (503) 946-9365

3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
SUBDIVISION PLAT
SHEET NUMBER

C0.1

LEGEND

- RIGHT OF WAY LINE
- - - ADJACENT PROPERTY LINE
- PROPERTY LINE
- - - PROPOSED LOT BUILDING SETBACK LINE
- - - EASEMENT LINE, AS DESCRIBED
- 207.5' 0.5' CONTOUR LINE (MINOR)
- 208' 1.0' CONTOUR LINE (MAJOR)

PARTITION STATISTICS

GROSS SITE AREA	0.52 ACRES
RIGHT OF WAY DEDICATION	N/A
PROPERTY ZONING	R10
MINIMUM LOT SIZE	10,000
MINIMUM LOT DENSITY	2
MAXIMUM LOT DENSITY	2
PROPOSED LOT DENSITY	2

SITE INFORMATION

SITE ADDRESS

960 DOLLAR STREET
WEST LINN, OR 97068

TAX LOT(S)

2S1E34DC 700

JURISDICTION

CITY OF WEST LINN

ZONING

R-10

PROJECT TEAM

OWNER | APPLICANT

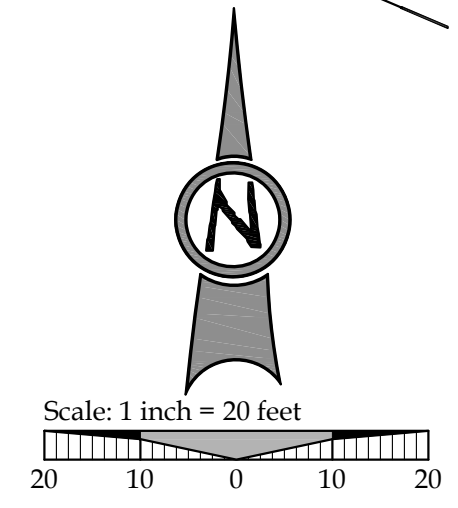
LF6, LLC
JOHN WYLAND
5285 MEADOWS ROAD, SUITE #171
LAKE OSWEGO, OR 97035

CIVIL ENGINEER/ PLANNING

3J CONSULTING, INC
10445 SW CANYON ROAD, SUITE 245
BEAVERTON, OR 97005
CONTACT: BRIAN FEENEY, PE/ ANDREW TULL
PHONE: 503-946-9365
EMAIL: brian.feeneey@3j-consulting.com/ andrew.tull@3j-consulting.com

LAND SURVEYING

COMPASS SURVEYING
4107 SE INTERNATIONAL WAY, SUITE 705
MILWAUKIE, OR 97222
CONTACT: DON DEVLAMINCK, PLS
PHONE: 503-653-9093



TAX LOTS 700 AND 800
IN THE SE 1/4 OF SECTION 34, T.2S., R.1E., W.M.
960 DOLLAR STREET, WEST LINN, OREGON

LOT PARTITION	4/30/13
REVISION SUMMARY	BY DATE

EXISTING CONDITIONS PLAN

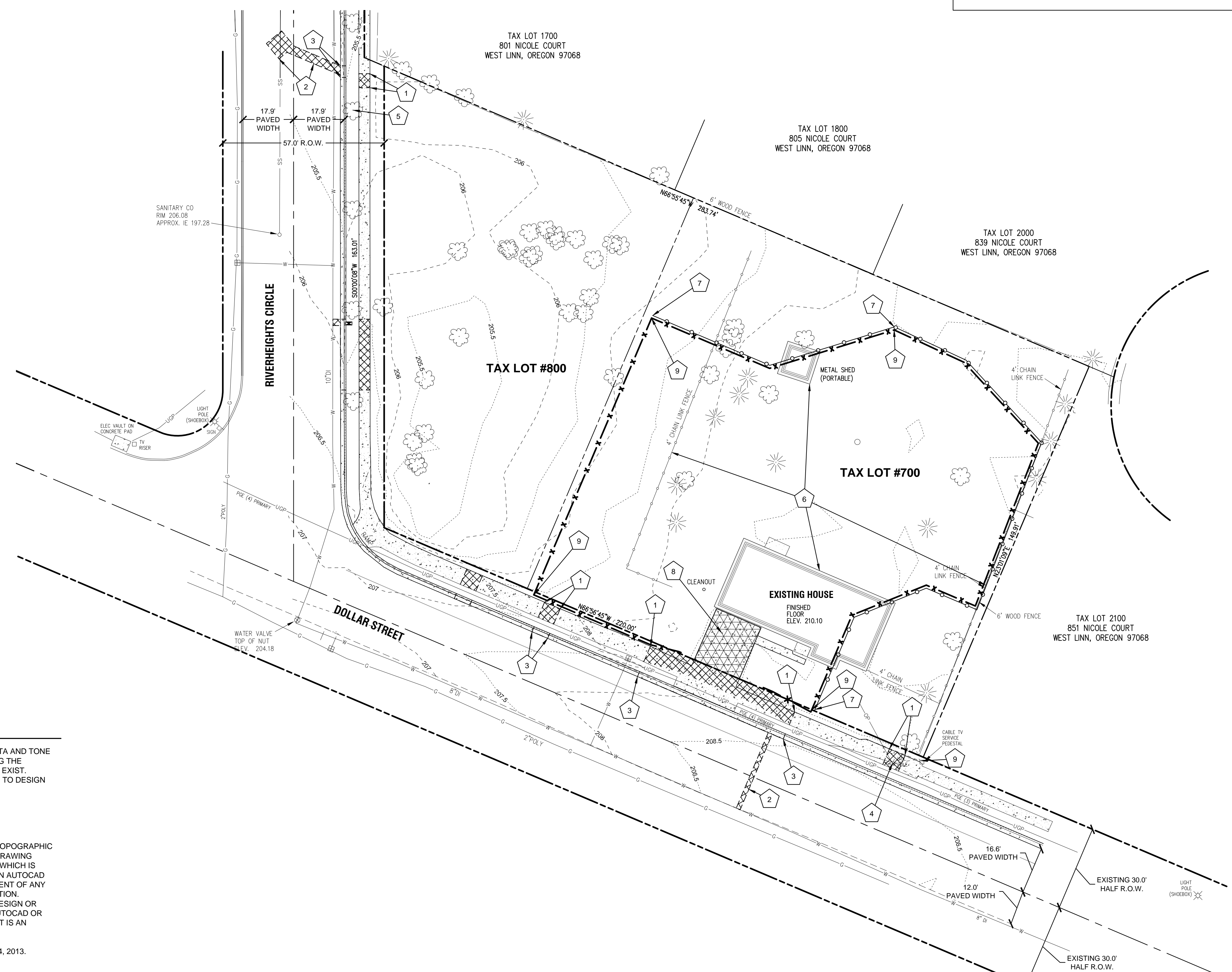
THIS PLAN IS INTENDED FOR USE AS AN EXISTING CONDITIONS PLAN SHOWING THE CONDITIONS OF THE SITE PRIOR TO CONSTRUCTION. INFORMATION SHOWN ON THIS PLAN WAS DEVELOPED FROM THE TOPOGRAPHIC SURVEY, AERIAL PHOTOS, AND SITE OBSERVATIONS BY THE ENGINEER. NOT ALL SURFACE FEATURES OR UTILITIES MAY BE SHOWN. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION TO DETERMINE WORK SPECIFIC DETAILS. TOPOGRAPHIC INFORMATION PROVIDED BY COMPASS ENGINEERING DATED FEBRUARY, 2013.

- SPECIFIC WORK AREA DEMOLITION NOTES**
- SAWCUT SIDEWALK AT NEAREST SCORE JOINT OR PANEL, AT OR BEYOND LIMITS SHOWN. REMOVE CONCRETE WITHIN LIMITS AND DISPOSE OFF SITE.
 - SAWCUT AND REMOVE STREET PAVEMENT FOR UTILITY TRENCHING AND EXCAVATION, AS REQUIRED
 - SAWCUT AND REMOVE EXISTING CURB AND GUTTER AS SHOWN. SAWCUT LIP OF GUTTER TO FULL DEPTH TO LIMIT DAMAGE TO ADJACENT STREET SURFACE DURING REMOVAL.
 - REMOVE POWER UTILITY POLE AND UNDERGROUND ANY ASSOCIATED LIVE UTILITIES.
 - PROTECT EXISTING STREET TREE.
 - SECURE DEMOLITION PERMITS, CAP AND ABANDON EXISTING UTILITY SERVICES AT RIGHT OF WAY BOUNDARY, AND DEMOLISH EXISTING STRUCTURE AND ASSOCIATED WALKWAYS AND OVERHANGS AND FENCING.
 - INSTALL TREE PROTECTION FENCING AT LIMITS SHOWN. FENCING TO REMAIN IN PLACE UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE.
 - DEMOLISH AND RUBBLIZE EXISTING DRIVEWAY FOR CONSTRUCTION ENTRANCE.
 - INSTALL EROSION CONTROL SEDIMENT FENCING AT LIMITS SHOWN PRIOR TO COMMENCEMENT OF ANY GRADING OR STRIPPING ACTIVITIES.

- LEGEND**
- - - - - EXISTING BOUNDARY LINE
 - - - - - EXISTING ADJACENT PROPERTY LINE
 - - - - - 197.5 - EXISTING 0.5FT CONTOUR
 - - - - - 200 - EXISTING 1FT CONTOUR
 - ☀️ - EXISTING TREES
 - - EXISTING CATCH BASIN
 - ⊕ - EXISTING STORM DRAIN MANHOLE
 - SD - EXISTING STORM DRAIN LINE
 - - EXISTING SANITARY SEWER MANHOLE
 - SS - EXISTING SANITARY SEWER LINE
 - 8" DI W - EXISTING WATER LINE
 - ⊕ - EXISTING FIRE HYDRANT
 - ⊕ - EXISTING WATER VALVE
 - ⊕ - EXISTING WATER METER
 - UGP - EXISTING UNDERGROUND POWER
 - OP - EXISTING POWER LINE
 - G - EXISTING GAS LINE
 - - TREE PROTECTION FENCING
 - X - X - SILT FENCE

- WORK AREA DEMOLITION LEGEND**
- - - - - PAVEMENT SAW-CUT LINE
 - ~~~~~ ALIGNMENT & EXTENT OF UTILITY REMOVAL
 - XXXXX AREA OF MATERIAL/PAVEMENT REMOVAL
 - XXXXX CONSTRUCTION ENTRANCE

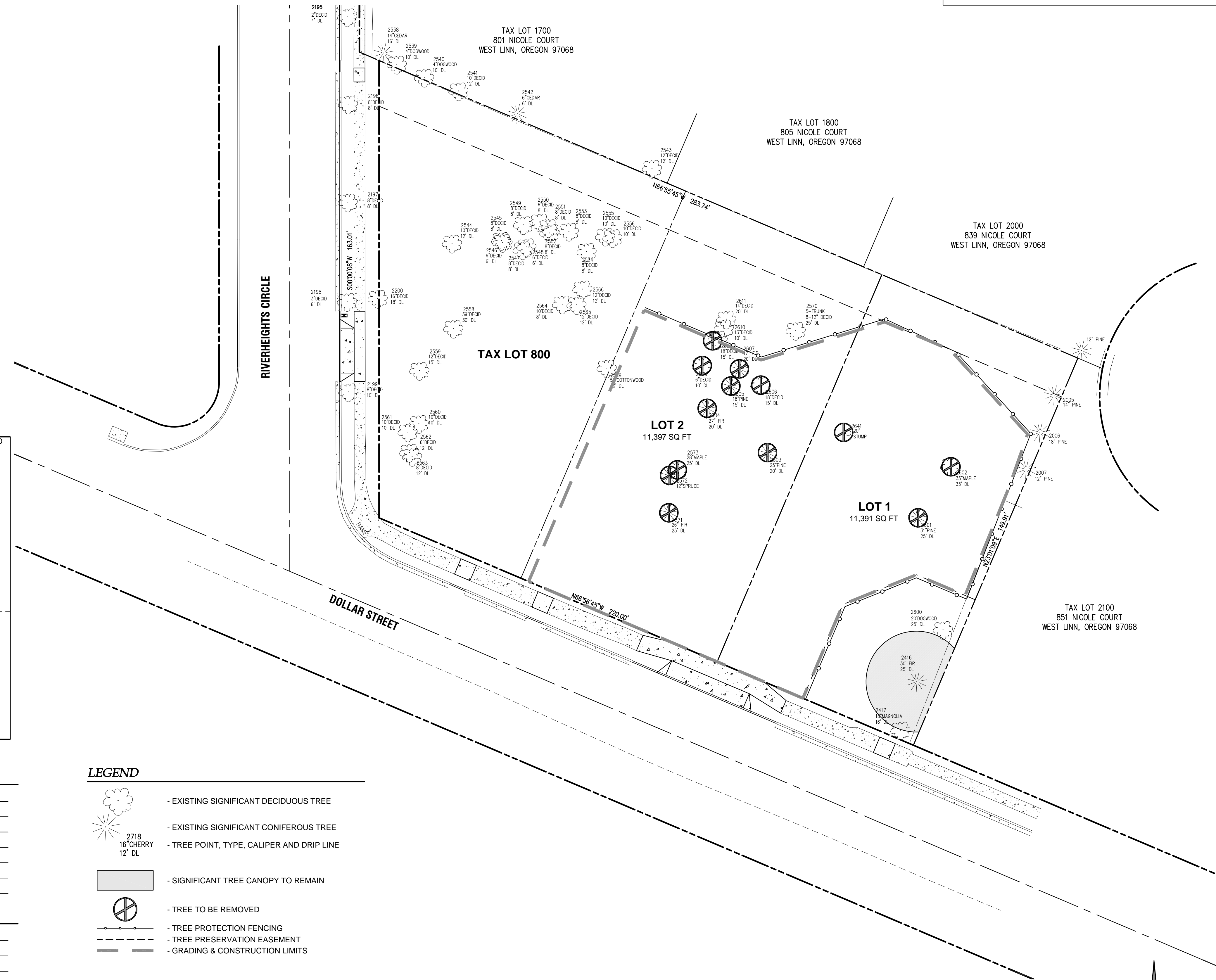
- NOTES**
- UTILITY INFORMATION SHOWN ON THIS MAP IS BASED UPON OBSERVED FEATURES, RECORD DATA AND TONE MARKS PROVIDED BY PUBLIC UTILITY LOCATION SERVICES. NO WARRANTIES ARE MADE REGARDING THE ACCURACY OR COMPLETENESS OF THE UTILITY INFORMATION SHOWN. ADDITIONAL UTILITIES MAY EXIST. INTERESTED PARTIES ARE HEREBY ADVISED THAT UTILITY LOCATIONS SHOULD BE VERIFIED PRIOR TO DESIGN OR CONSTRUCTION OF ANY CRITICAL ITEMS.
 - BASIS OF ELEVATIONS: NAVD '88.
 - CONTOUR INTERVAL IS ONE-HALF FOOT.
 - TOPOGRAPHIC FEATURES SHOWN ON THIS MAP WERE LOCATED USING STANDARD PRECISION TOPOGRAPHIC MAPPING PROCEDURES. THIRD PARTY USERS OF DATA FROM THIS MAP PROVIDED VIA AUTOCAD DRAWING FILES OR DATA EXCHANGE FILES SHOULD NOT RELY ON ANY AUTOCAD GENERATED INFORMATION WHICH IS BEYOND THE LIMITS OF PRECISION OF THIS MAP. THIRD PARTIES USING DATA FROM THIS MAP IN AN AUTOCAD FORMAT SHOULD VERIFY ANY ELEMENTS REQUIRING PRECISE LOCATIONS PRIOR TO COMMENCEMENT OF ANY CRITICAL DESIGN OR CONSTRUCTION. CONTACT COMPASS ENGINEERING FOR FURTHER INFORMATION. FURTHERMORE, COMPASS ENGINEERING WILL NOT BE RESPONSIBLE NOR HELD LIABLE FOR ANY DESIGN OR CONSTRUCTION RELATED PROBLEMS THAT ARISE OUT OF THIRD PARTY USAGE OF THIS MAP (IN AUTOCAD OR OTHER FORMAT) FOR ANY PURPOSE OTHER THAN SPECIFICALLY STATED HEREIN. THIS STATEMENT IS AN OFFICIAL PART OF THIS MAP.
 - UTILITY LINE LOCATIONS FOR DRY UTILITIES ARE BASED UPON TONE MARKS AS OF FEBRUARY 14, 2013.



TAX LOTS 700 AND 800
IN THE SE 1/4 OF SECTION 34, T.2S., R.1E., W.M.
960 DOLLAR STREET, WEST LINN, OREGON

LOT PARTITION
REVISION SUMMARY
DATE
4/30/13

TREE PROTECTION AND REMOVAL PLAN
960 DOLLAR STREET
LOT PARTITION
WEST LINN, OR
LF6, LLC



TREE INVENTORY

SURVEY POINT NUMBER	TREE SPECIES	NOMINAL CALIPER SIZE	PROPOSED ACTION	SIGNIFICANT DESIGNATION	REMOVE DUE TO CONDITION
2571	FIR	26"	REMOVE		
2572	SPRUCE	12"	REMOVE		SUPPRESSED
2573	MAPLE	28"	REMOVE		SUPPRESSED
2601	PINE	32"	REMOVE		
2602	MAPLE	35"	REMOVE		DECAY
2603	PINE	26"	REMOVE		
2604	FIR	27"	REMOVE		
2605	PINE	18"	REMOVE		SUPPRESSED
2606	PLANETREE	18"	REMOVE		UNHEALTHY
2607	FIR	17"	REMOVE		UNHEALTHY
2608	CHERRY	6"	REMOVE		INVASIVE
2609	COTTONWOOD	18"	PROTECT		
2005	PINE	14"	PROTECT		
2006	PINE	18"	PROTECT		
2007	PINE	12"	PROTECT		
2416	FIR	36"	PROTECT	SIGNIFICANT	
2417	MAGNOLIA	17"	PROTECT		
2600	DOGWOOD	20"	PROTECT		
2610	COTTONWOOD	13"	PROTECT		
2611	COTTONWOOD	14"	PROTECT		

GENERAL TREE INVENTORY STATISTICS

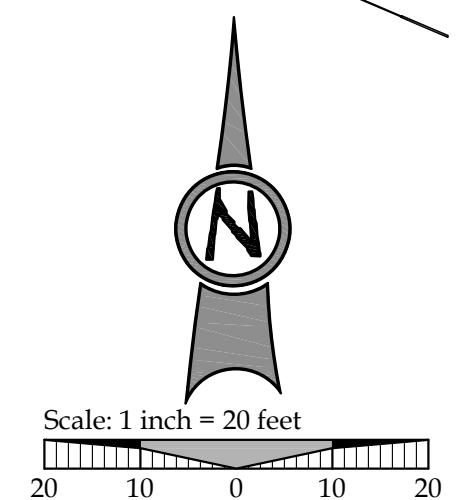
TOTAL TREE INVENTORY:	20 ea
TOTAL TREES RETAINED:	9 ea
TOTAL TREES REMOVED:	11 ea
TREES REMOVED DUE TO CONDITION:	7 ea
TOTAL TREE CALIPER INCHES:	407 inches
TOTAL CALIPER INCHES RETAINED:	162 inches
TOTAL CALIPER INCHES REMOVED:	245 inches

SIGNIFICANT TREE STATISTICS

SIGNIFICANT TREE INVENTORY:	1 ea
SIGNIFICANT TREES RETAINED:	1 ea
SIGNIFICANT TREES REMOVED:	0 ea
SIGNIFICANT TREE CALIPER INCHES:	36 inches
SIGNIFICANT CALIPER INCHES RETAINED:	36 inches
SIGNIFICANT CALIPER INCHES REMOVED:	0 inches
SIGNIFICANT TREE CANOPY COVERAGE:	1,521 Sq. Ft.
SIGNIFICANT TREE CANOPY RETAINED:	1,521 Sq. Ft.
SIGNIFICANT TREE CANOPY RETENTION:	100%
PRESERVATION EASEMENT AREA PROVIDED:	2,209 Sq. Ft.

LEGEND

- EXISTING SIGNIFICANT DECIDUOUS TREE
- EXISTING SIGNIFICANT CONIFEROUS TREE
- TREE POINT, TYPE, CALIPER AND DRIP LINE
- SIGNIFICANT TREE CANOPY TO REMAIN
- TREE TO BE REMOVED
- TREE PROTECTION FENCING
- TREE PRESERVATION EASEMENT
- GRADING & CONSTRUCTION LIMITS



3J CONSULTING, INC
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005
PHONE & FAX: (503) 948-8385

3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
TREE PLAN

SHEET NUMBER

C1.1

TAX LOTS 700 AND 800
IN THE SE 1/4 OF SECTION 34, T.2S., R.1E., W.M.
960 DOLLAR STREET, WEST LINN, OREGON

LOT PARTITION
REVISION SUMMARY
BY DATE
4/30/13

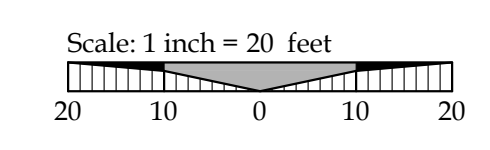
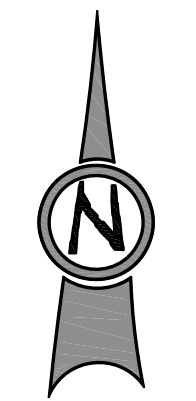
GRADING & EROSION CONTROL PLAN
960 DOLLAR STREET
LOT PARTITION
WEST LINN, OR
LF6, LLC

3J CONSULTING, INC
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005
PHONE & FAX: (503) 948-8385

3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
GRADING & EC

SHEET NUMBER
C2.0



LEGEND

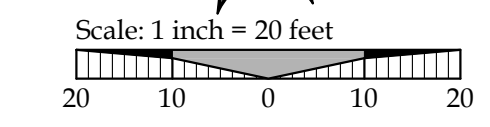
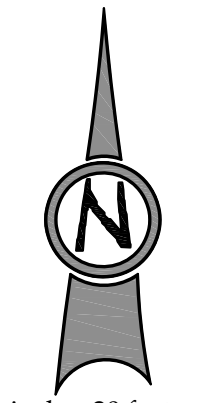
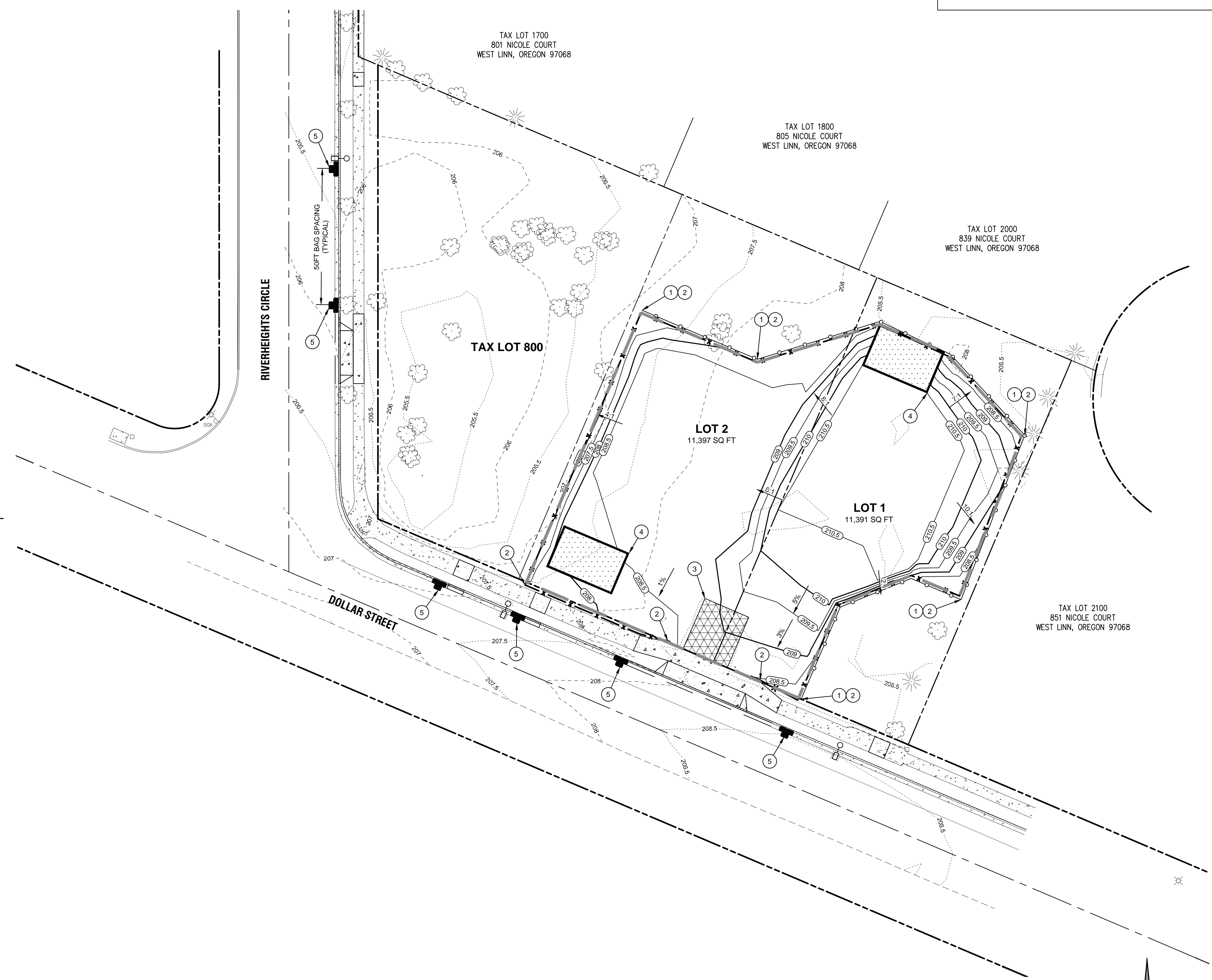
- RIGHT OF WAY LINE
- PROPOSED PROPERTY LINE
- ADJACENT LOT LINE
- LIMITS OF GRADING/DISTURBANCE
- TREE PROTECTION FENCING
- EXISTING 1FT CONTOUR
- EXISTING 5FT INDEX CONTOUR
- PROPOSED 1FT CONTOUR
- PROPOSED 5FT INDEX CONTOUR
- EROSION CONTROL: SILT FENCING (BLACK)
- EROSION CONTROL: BIO BAG CHECK DAM
- EROSION CONTROL: CONSTRUCTION ENTRANCE
- PROPOSED STORM WATER PLANTER

SITE GRADING INFORMATION

NEAT LINE CUT	7 CY
NEAT LINE FILL	527 CY
MAXIMUM CUT DEPTH	0.8 FT
MAXIMUM FILL DEPTH	2.5 FT
MAXIMUM PROPOSED SLOPE	2:1 (H:V)
TOTAL AREA OF DISTURBANCE	0.35 ACRES

GRADING KEY NOTES

- 1 PLACE TREE PROTECTION FENCING AT LIMITS OF GRADING AND CONSTRUCTION WHERE SHOWN
- 2 PLACE SILT FENCING AT LIMITS OF GRADING AND CONSTRUCTION WHERE SHOWN
- 3 STABILIZED CONSTRUCTION ENTRANCE & SHARED DRIVEWAY
- 4 WALLED STORM WATER PLANTER, FOR INDIVIDUAL LOT RUNOFF CONTROL AND TREATMENT
- 5 PLACE BIO-BAG CHECK DAM FOR SEDIMENT CONTROL ADJACENT TO ALL NEW CONCRETE WORK WITHIN RIGHT OF WAY



TAX LOTS 700 AND 800
IN THE SE 1/4 OF SECTION 34, T.2S., R.1E., W.M.
960 DOLLAR STREET, WEST LINN, OREGON

LOT PARTITION
REVISION SUMMARY
BY DATE
4/30/13

COMPOSITE UTILITY PLAN
960 DOLLAR STREET
LOT PARTITION
WEST LINN, OR
LF6, LLC

3J CONSULTING, INC
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005
PHONE & FAX: (503) 948-8385

3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700
DESIGNED BY | JTE
CHECKED BY | BKF
SHEET TITLE
UTILITY PLAN
SHEET NUMBER
C3.0

LEGEND

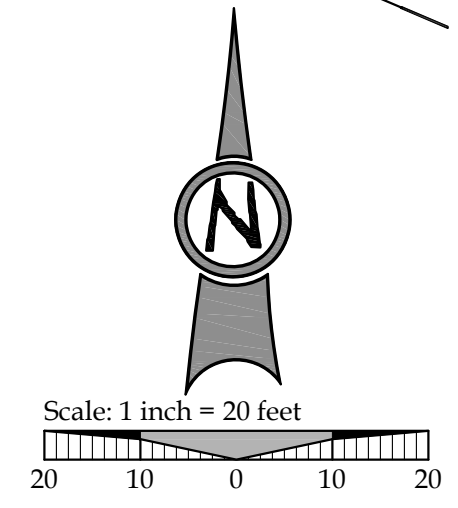
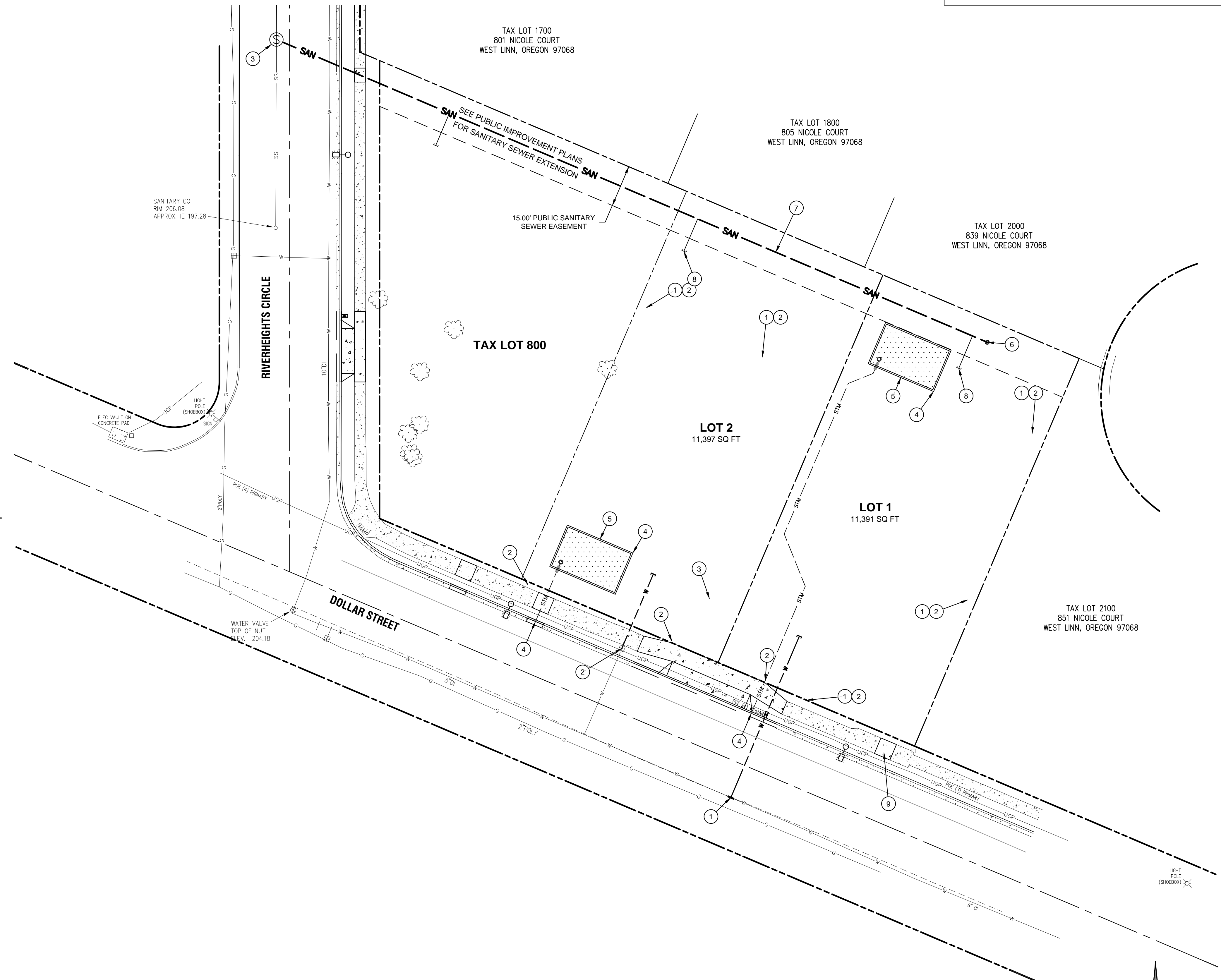
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- ROAD CENTER LINE
- SAN - PROPOSED SANITARY SEWER LINE
- SS - EXISTING SANITARY SEWER LINE
- STM - PROPOSED STORM WATER LINE
- W - PROPOSED WATER LINE
- W - EXISTING WATER LINE
- UGP - EXISTING UNDERGROUND POWER
- OP - EXISTING OVERHEAD POWER
- G - EXISTING GAS LINE
- O - CLEAN OUT
- M - WATER METER
- S - SANITARY SEWER MANHOLE
- L - PROPOSED LIGHT POLE
- L - EXISTING LIGHT POLE
- EXISTING CONCRETE SIDEWALK
- PROPOSED CONCRETE SIDEWALK/ DRIVE
- PROPOSED STORM WATER PLANTER

PROPOSED DEVELOPMENT KEY NOTES

- 1 NEW 1" RESIDENTIAL WATER SERVICE. SEE PUBLIC IMPROVEMENT PLANS.
- 2 PROVIDE NEW 1" SERVICE LINE FROM EXISTING WATER METER.
- 3 48" MANHOLE WITH POURED IN PLACE BASE. SEE PUBLIC IMPROVEMENT PLANS
- 4 ROUTE WATER QUALITY PLANTER OVERFLOW TO CURB WEEP HOLE. SEE PUBLIC IMPROVEMENT PLANS.
- 5 STORMWATER INFILTRATION PLANTER FOR MANAGEMENT OF FUTURE PROPERTY IMPROVEMENTS.
- 6 INSTALL STANDARD CLEANOUT AT END OF SANITARY SEWER EXTENSION. SEE PUBLIC IMPROVEMENT PLANS.
- 7 EXTEND NEW 6" PUBLIC SANITARY SEWER MAIN FROM EXISTING MANHOLE AS SHOWN.
- 8 PROVIDE PRIVATE SANITARY SEWER LATER FOR LOT SERVICE. EXTEND PIPING TO PUBLIC SEWER MAIN AS SHOWN.
- 9 REMOVE EXISTING UTILITY POLE. SEE PUBLIC IMPROVEMENT PLANS.

GENERAL SITE NOTES

1. WATER QUALITY TREATMENT AND STORM WATER QUANTITY ATTENUATION FOR FUTURE HOMES TO BE HANDLED INDIVIDUALLY ON A PER LOT BASIS.
2. ALL OVERHEAD UTILITIES TO BE ROUTED UNDERGROUND ALONG PROJECT FRONTAGE

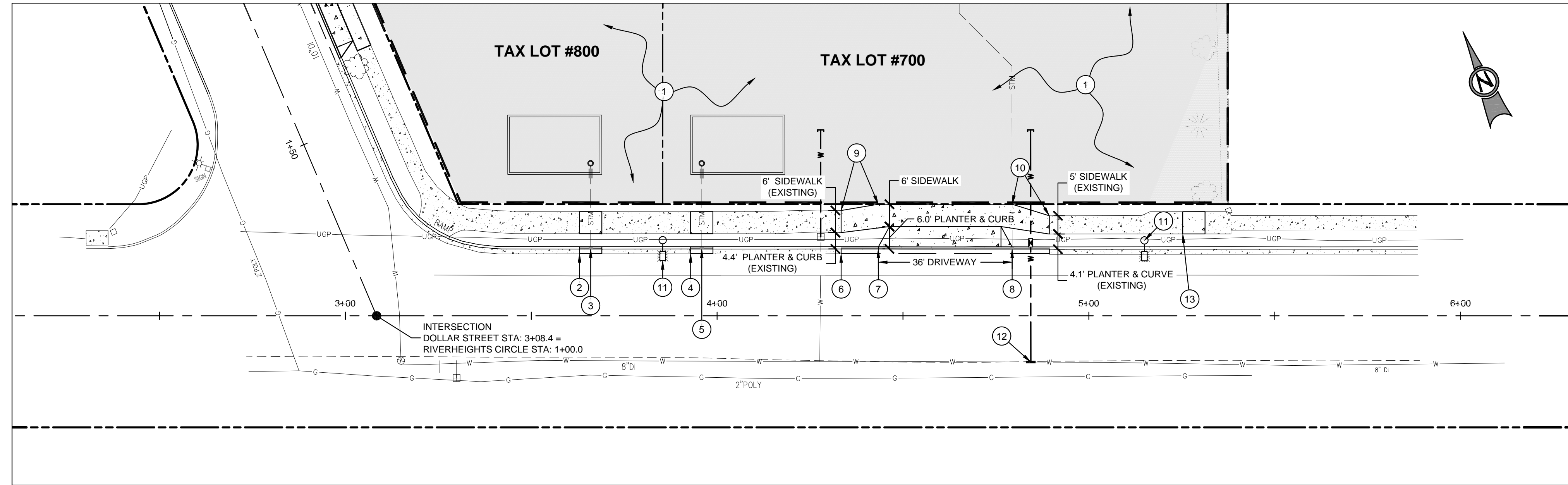


CONSTRUCTION KEY NOTES

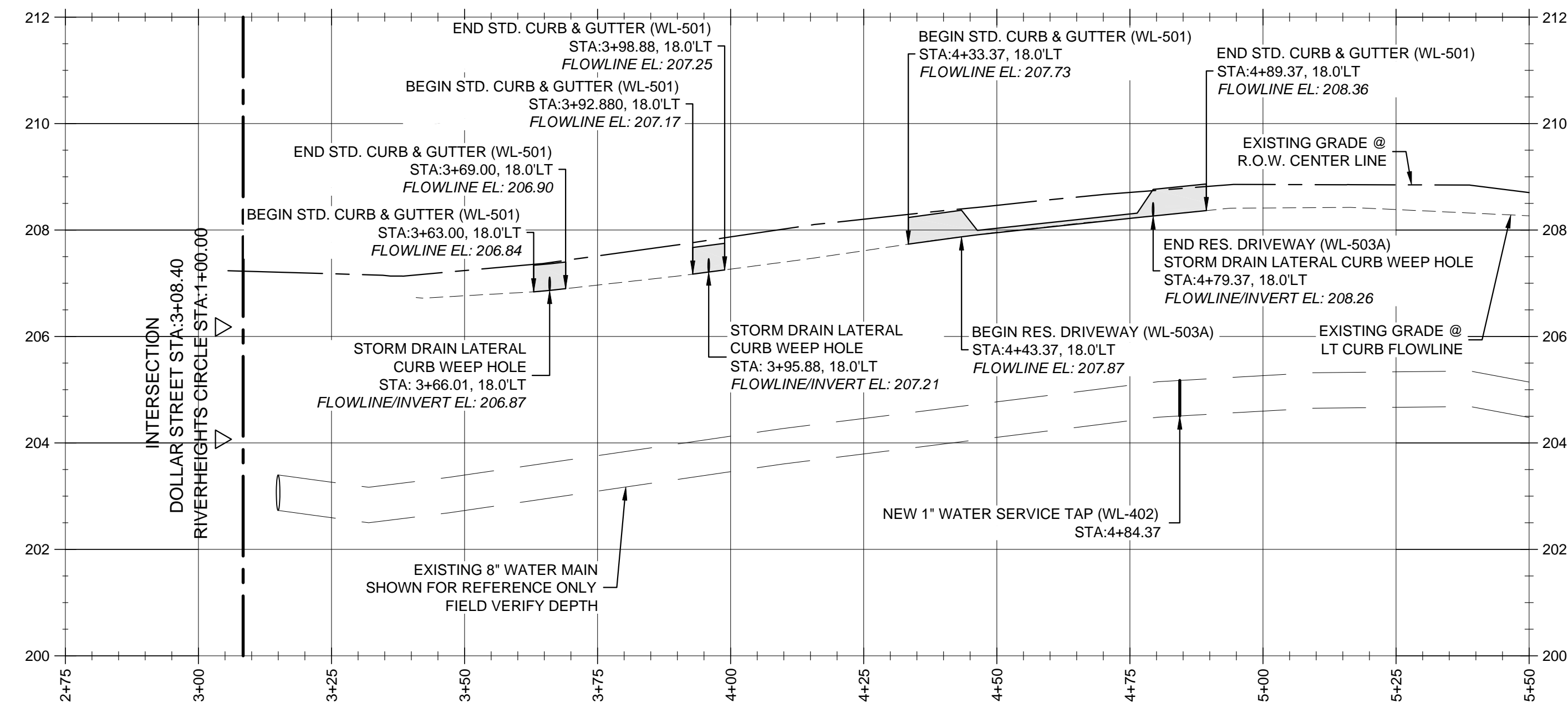
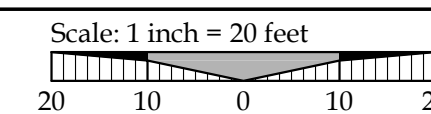
- ① **ALL IMPROVEMENTS SHOWN WITHIN PRIVATE PROPERTY ARE PRESENTED FOR REFERENCE ONLY. WORK TO BE COMPLETED UNDER SEPARATE PERMIT**
- ② STA:3+63.00 TO STA:3+69.00
CONSTRUCT STD. CURB AND GUTTER PER CITY STD. DWG. WL-501
CONSTRUCT SIDEWALK REPLACEMENT PER CITY STD. DWG. WL-508
- ③ STA:2+66
CONSTRUCT STORM DRAIN LATERAL WEEP HOLE THROUGH CURB. SEE INVERT ELEVATION THIS SHEET.
- ④ STA:3+92.88 TO STA:3+98.88
CONSTRUCT STD. CURB AND GUTTER PER CITY STD. DWG. WL-501
CONSTRUCT SIDEWALK REPLACEMENT PER CITY STD. DWG. WL-508
- ⑤ STA:3+95.88
CONSTRUCT STORM DRAIN LATERAL WEEP HOLE THROUGH CURB. SEE INVERT ELEVATION THIS SHEET.
- ⑥ STA:4+33.37 TO STA:4+89.37
CONSTRUCT STD. CURB AND GUTTER PER CITY STD. DWG. WL-501
CONSTRUCT SIDEWALK REPLACEMENT PER CITY STD. DWG. WL-508
- ⑦ STA:4+43.37 TO 4+79.37
CONSTRUCT RES.L DRIVEWAY AWAY FROM CURB PER CITY STD. DWG. WL-503A
- ⑧ STA:4+79.37
CONSTRUCT STORM DRAIN LATERAL WEEP HOLE THROUGH CURB. SEE INVERT ELEVATION THIS SHEET.
- ⑨ STA:4+33.37 TO STA:4+43.37
TRANSITION SIDEWALK ALIGNMENT FROM EXISTING IMPROVEMENTS TO TYPICAL RIGHT OF WAY IMPROVEMENTS.
- ⑩ STA:4+79.37 TO STA:4+89.37
TRANSITION SIDEWALK ALIGNMENT FROM EXISTING IMPROVEMENTS TO CURRENT CITY STANDARD IMPROVEMENTS.
- ⑪ INSTALL NEW STREET LIGHT AT LOCATION SHOWN
- ⑫ PROVIDE NEW 1" RESIDENTIAL WATER SERVICE AND METER.
- ⑬ STA:5+25.24 TO STA:5+31.24
CONSTRUCT SIDEWALK REPLACEMENT PER CITY STD. DWG. WL-508

LEGEND

- RIGHT OF WAY LINE
- LOT BOUNDARY LINE
- W --- WATER SERVICE LINE
- SAN --- SANITARY SEWER MAIN
- STM --- STORM DRAIN LATERAL
- --- SANITARY SEWER MANHOLE
- --- WATER SERVICE METER
- --- STREET LIGHT (SHOEBOX)
- PROPOSED CONCRETE PAVING



DOLLAR STREET - PLAN



CL DOLLAR STREET PROFILE
(STA:2+75.00 - STA:5+50.00)
SCALE: 1" = 20' HORIZ; 1" = 2' VERT

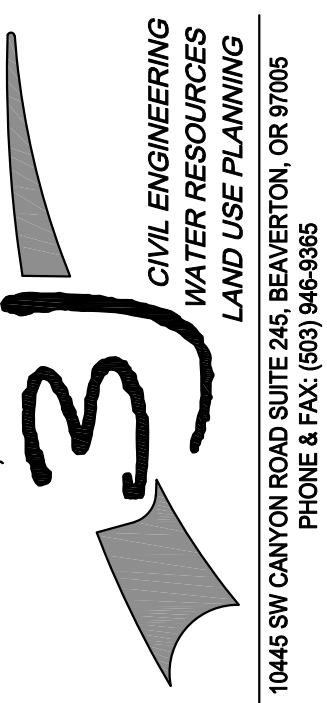
PUBLIC IMPROVEMENTS 4/19/13
BY DATE

REVISION SUMMARY

DOLLAR STREET IMPROVEMENT PLAN

**DOLLAR STREET &
RIVERHEIGHTS CIRCLE**

WEST LINN, OR
J.T. SMITH COMPANIES



3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700 & 800
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
DOLLAR STREET
SHEET NUMBER

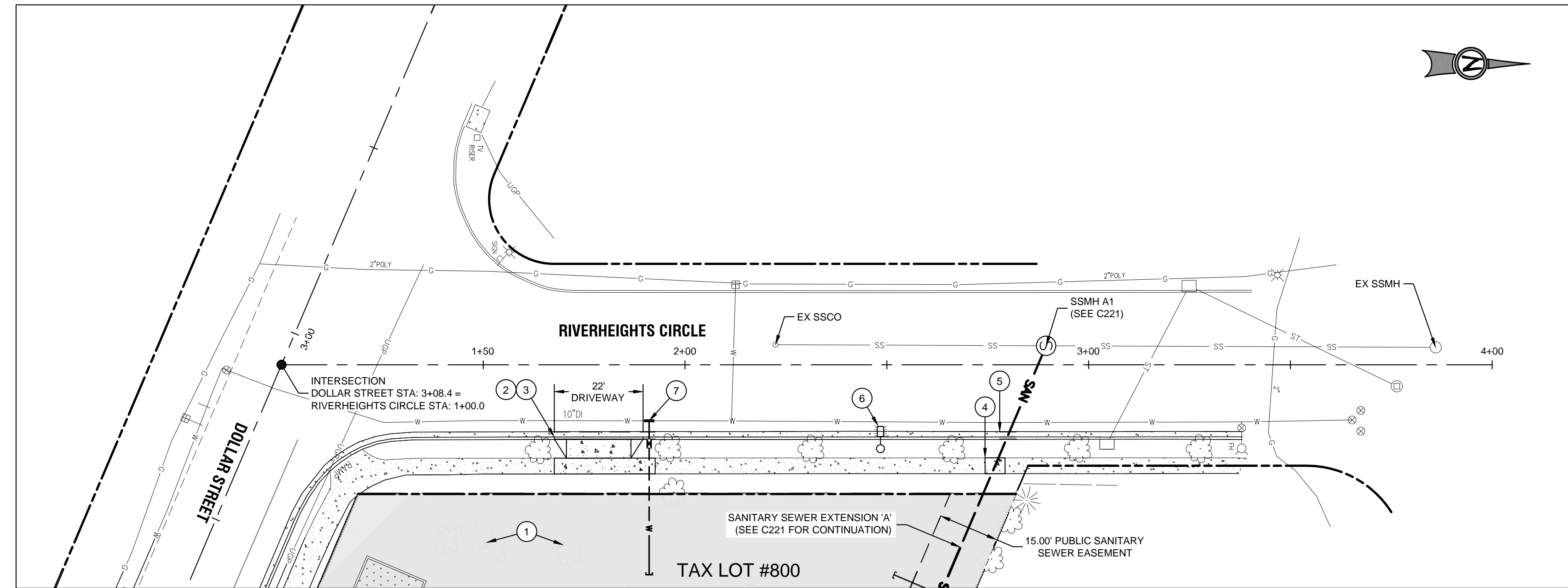
C210

CONSTRUCTION KEY NOTES

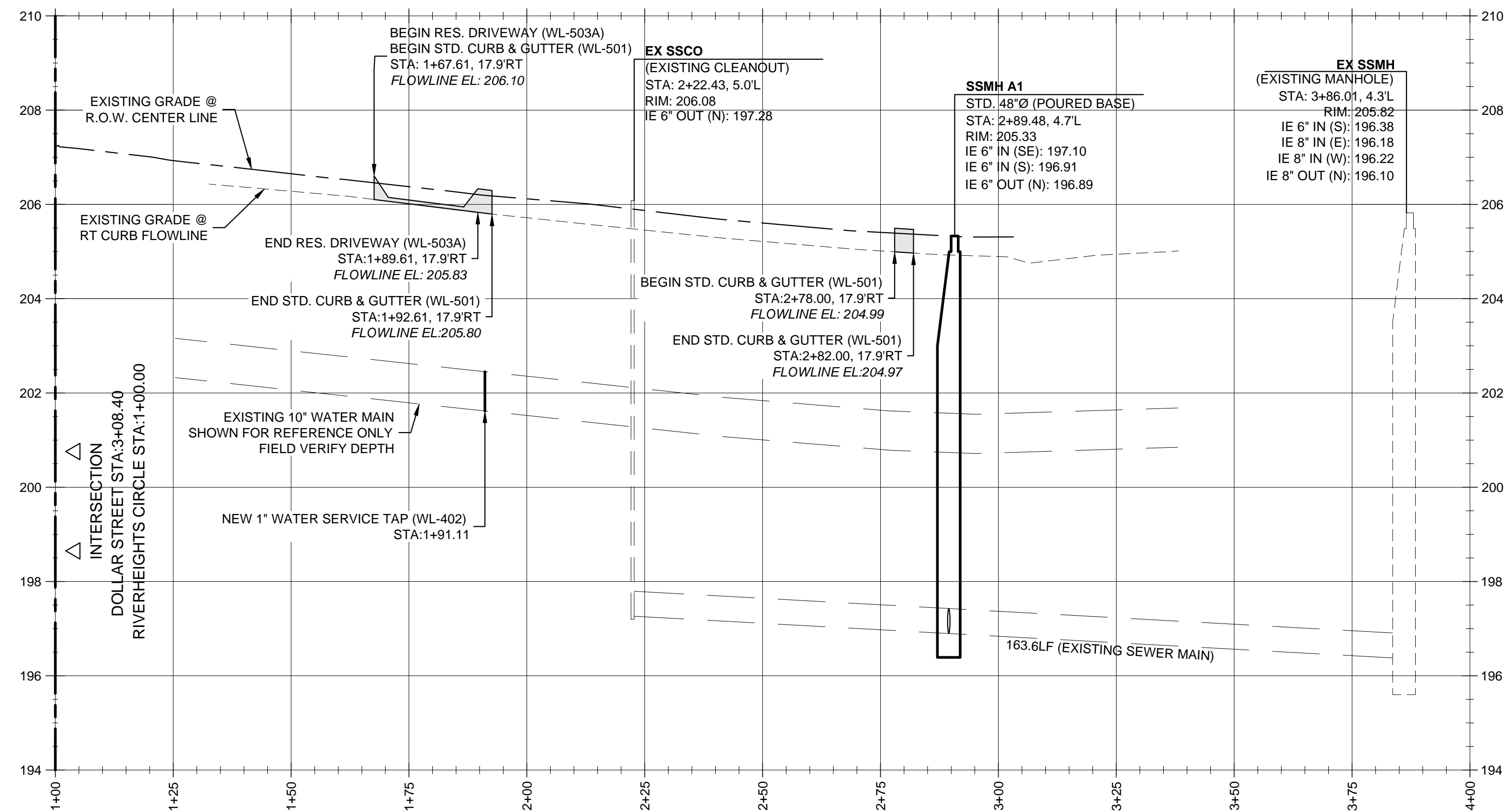
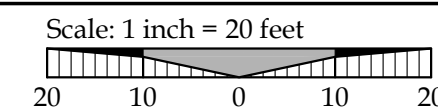
- ① **ALL IMPROVEMENTS SHOWN WITHIN PRIVATE PROPERTY ARE PRESENTED FOR REFERENCE ONLY. WORK TO BE COMPLETED UNDER SEPARATE PERMIT**
- ② STA:1+67.61 TO STA:1+92.61
CONSTRUCT STD. CURB AND GUTTER PER CITY STD. DWG. WL-501
CONSTRUCT SIDEWALK REPLACEMENT PER CITY STD. DWG. WL-508
- ③ STA:1+67.61 TO 1+89.61
CONSTRUCT RES.L DRIVEWAY AWAY FROM CURB PER CITY STD. DWG. WL-503A
- ④ STA:2+74.35 TO STA:2+79.35
CONSTRUCT SIDEWALK REPLACEMENT PER CITY STD. DWG. WL-508
- ⑤ STA:2+78.00 TO STA:2+82.00
CONSTRUCT STD. CURB AND GUTTER PER CITY STD. DWG. WL-501
- ⑥ INSTALL NEW STREET LIGHT AT LOCATION SHOWN
- ⑦ PROVIDE NEW 1" RESIDENTIAL WATER SERVICE AND METER.

LEGEND

- RIGHT OF WAY LINE
- LOT BOUNDARY LINE
- WATER SERVICE LINE
- SANITARY SEWER MAIN
- STORM DRAIN LATERAL
- SANITARY SEWER MANHOLE
- WATER SERVICE METER
- STREET LIGHT (SHOEBOX)
- PROPOSED CONCRETE PAVING



RIVERHEIGHTS CIRCLE PLAN



CL RIVERHEIGHTS CIRCLE PROFILE

(STA:1+00.00 - STA:4+00.00)

SCALE: 1" = 20 HORIZ; 1" = 4' VERT

PUBLIC IMPROVEMENTS 4/19/13

REVISION SUMMARY BY DATE

RIVERHEIGHTS CIRCLE IMPROVEMENTS
**DOLLAR STREET &
 RIVERHEIGHTS CIRCLE**
 WEST LINN, OR
 J.T. SMITH COMPANIES



3J JOB ID # | 13110
 LAND USE # |
 TAX LOT # | 21E34DC 700 & 800
 DESIGNED BY | JTE
 CHECKED BY | BKF

SHEET TITLE
RIVERHEIGHTS CIR

SHEET NUMBER

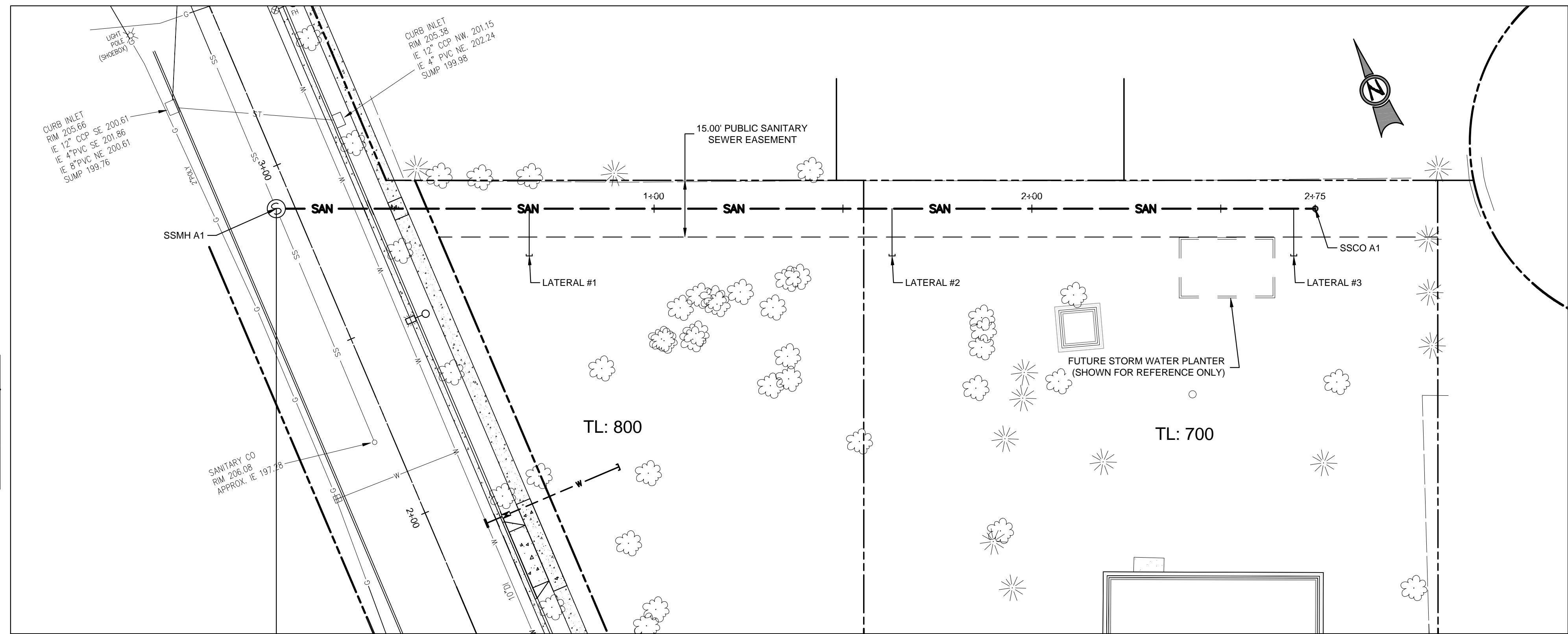
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LEGEND

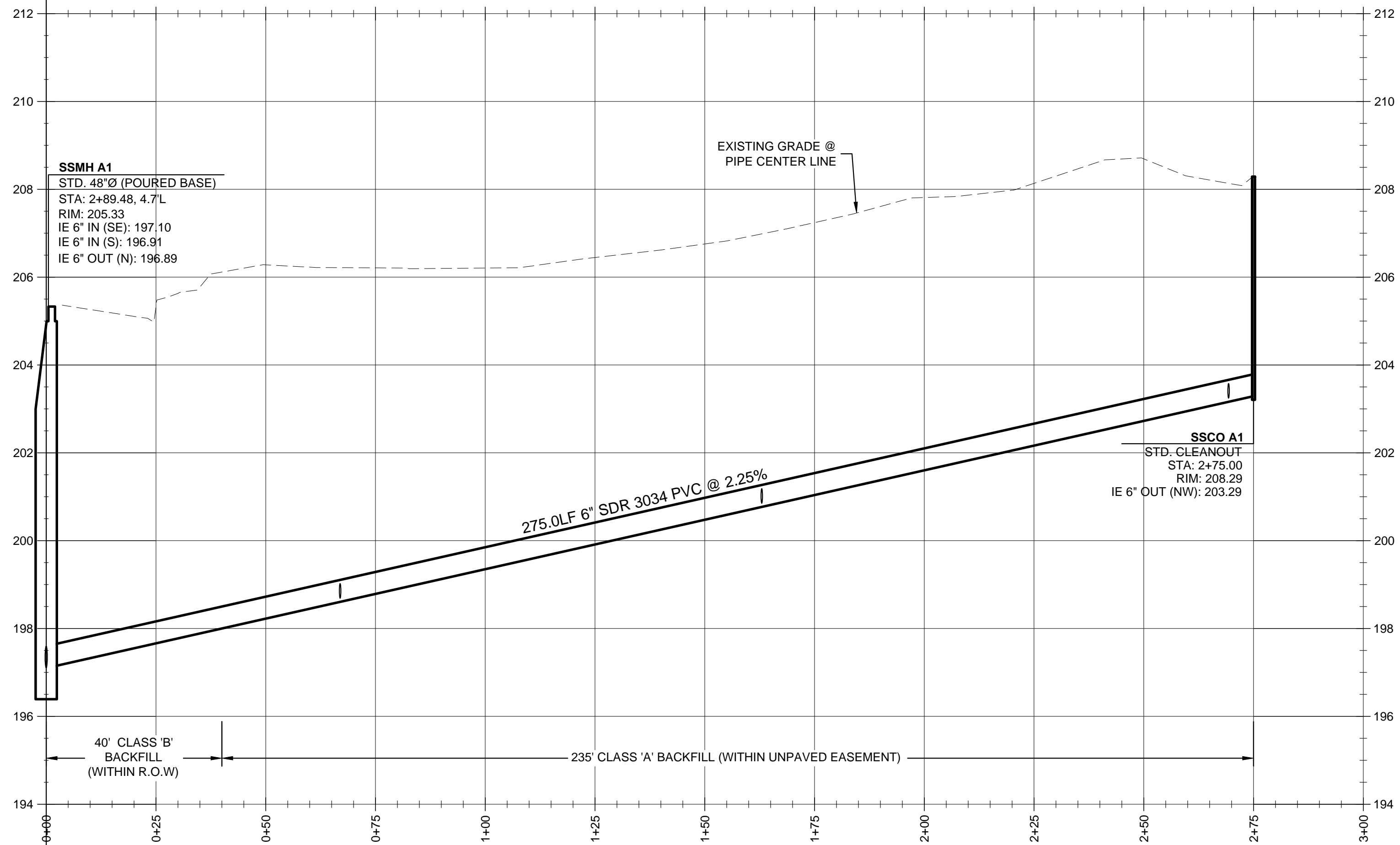
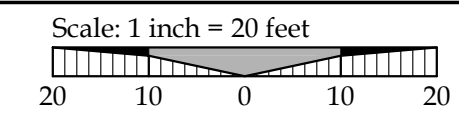
- RIGHT OF WAY LINE
- LOT BOUNDARY LINE
- WATER SERVICE LINE
- SANITARY SEWER MAIN
- STORM DRAIN LATERAL
- SANITARY SEWER MANHOLE
- WATER SERVICE METER
- STREET LIGHT (SHOEBOX)
- PROPOSED CONCRETE PAVING

SANITARY LATERAL TABLE

SANITARY LATERAL	LATERAL SIZE	LENGTH	INVERT AT MAIN	INVERT AT END	DEPTH AT END	MAIN LINE STATION
LATERAL #1	4"	12.5 lf	198.69	201.90	4.0	STA: 0+66.9, SANITARY SEWER EXTENSION 'A'
LATERAL #2	4"	12.5 lf	200.85	203.00	4.0	STA: 1+63.0, SANITARY SEWER EXTENSION 'A'
LATERAL #3	4"	12.5 lf	203.25	204.00	4.0	STA: 2+69.3, SANITARY SEWER EXTENSION 'A'



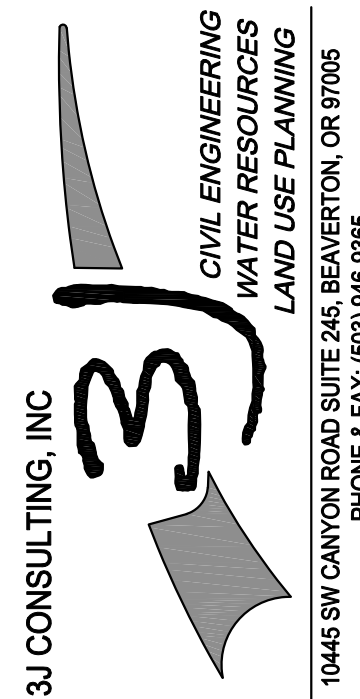
SANITARY SEWER EXTENSION 'A' PLAN



SANITARY SEWER EXTENSION 'A' PROFILE
(STA:0+00.00 - STA:3+00.00)
SCALE: 1"=20' HORIZ; 1"=4' VERT.

PUBLIC IMPROVEMENTS 4/19/13
BY DATE
REVISION SUMMARY

RIVERHEIGHTS CIRCLE IMPROVEMENTS
DOLLAR STREET & RIVERHEIGHTS CIRCLE
WEST LINN, OR
J.T. SMITH COMPANIES

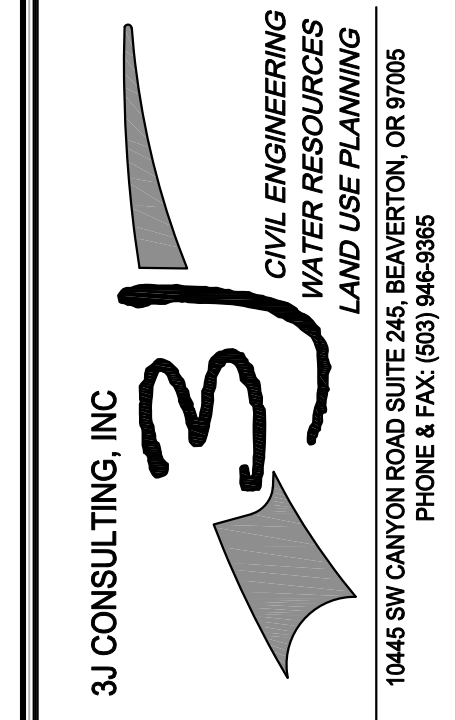
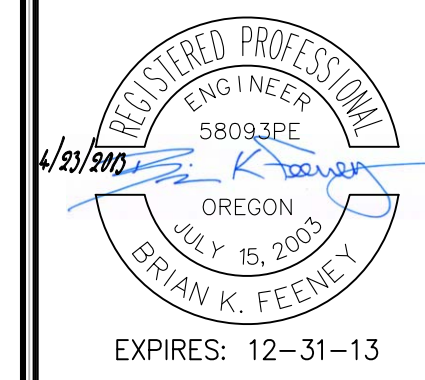


3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700 & 800
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
RIVERHEIGHTS CIR

SHEET NUMBER
C220

LIGHTING ANALYSIS PLAN
**DOLLAR STREET &
 RIVERHEIGHTS CIRCLE**
 WEST LINN, OR
 J.T. SMITH COMPANIES

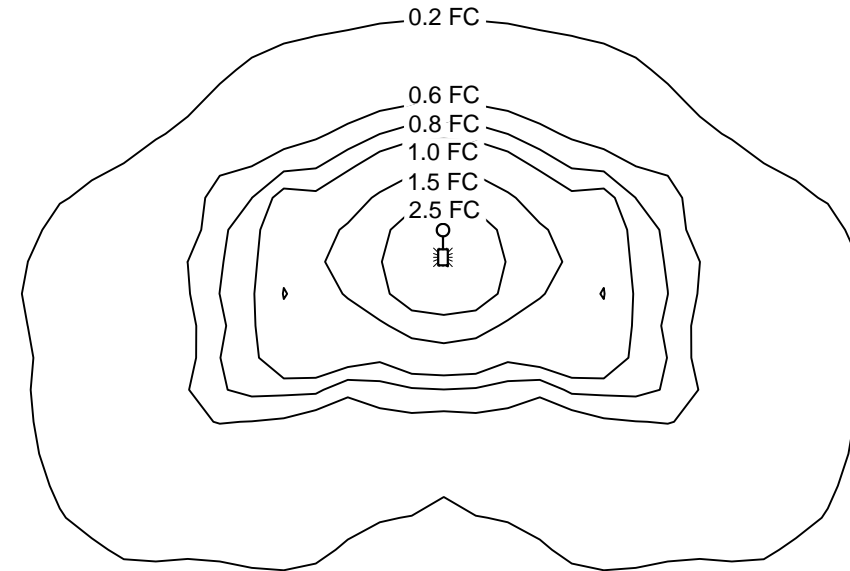


3J JOB ID # | 13110
 LAND USE # |
 TAX LOT # | 21E34DC 700 & 800
 DESIGNED BY | JTE
 CHECKED BY | BKF

SHEET TITLE
LIGHTING PLAN
 SHEET NUMBER
C320

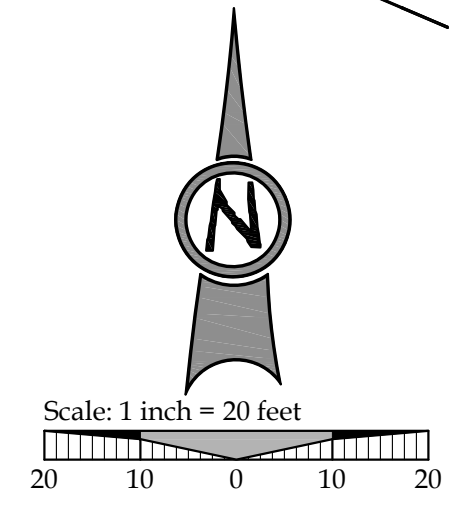
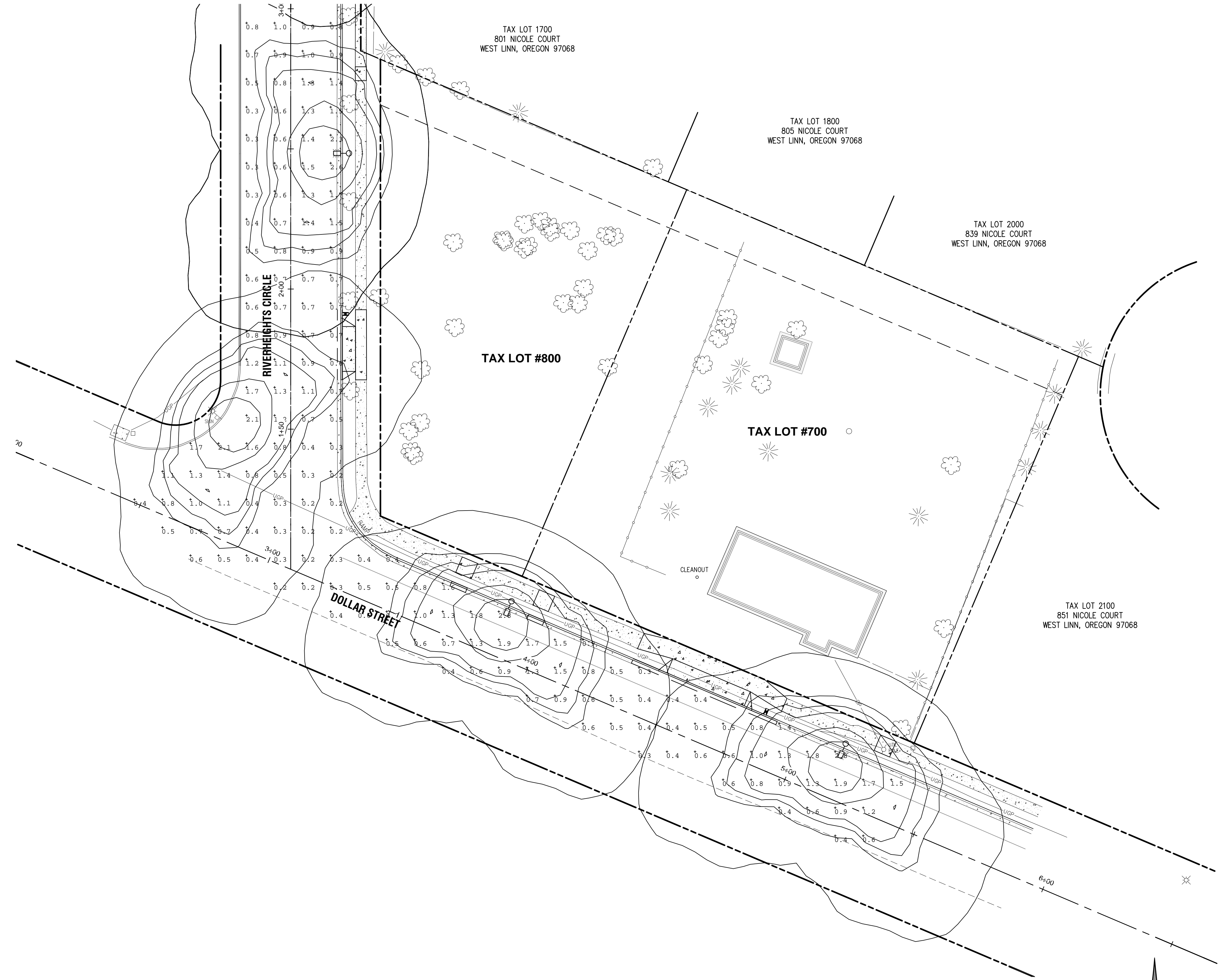
LEGEND

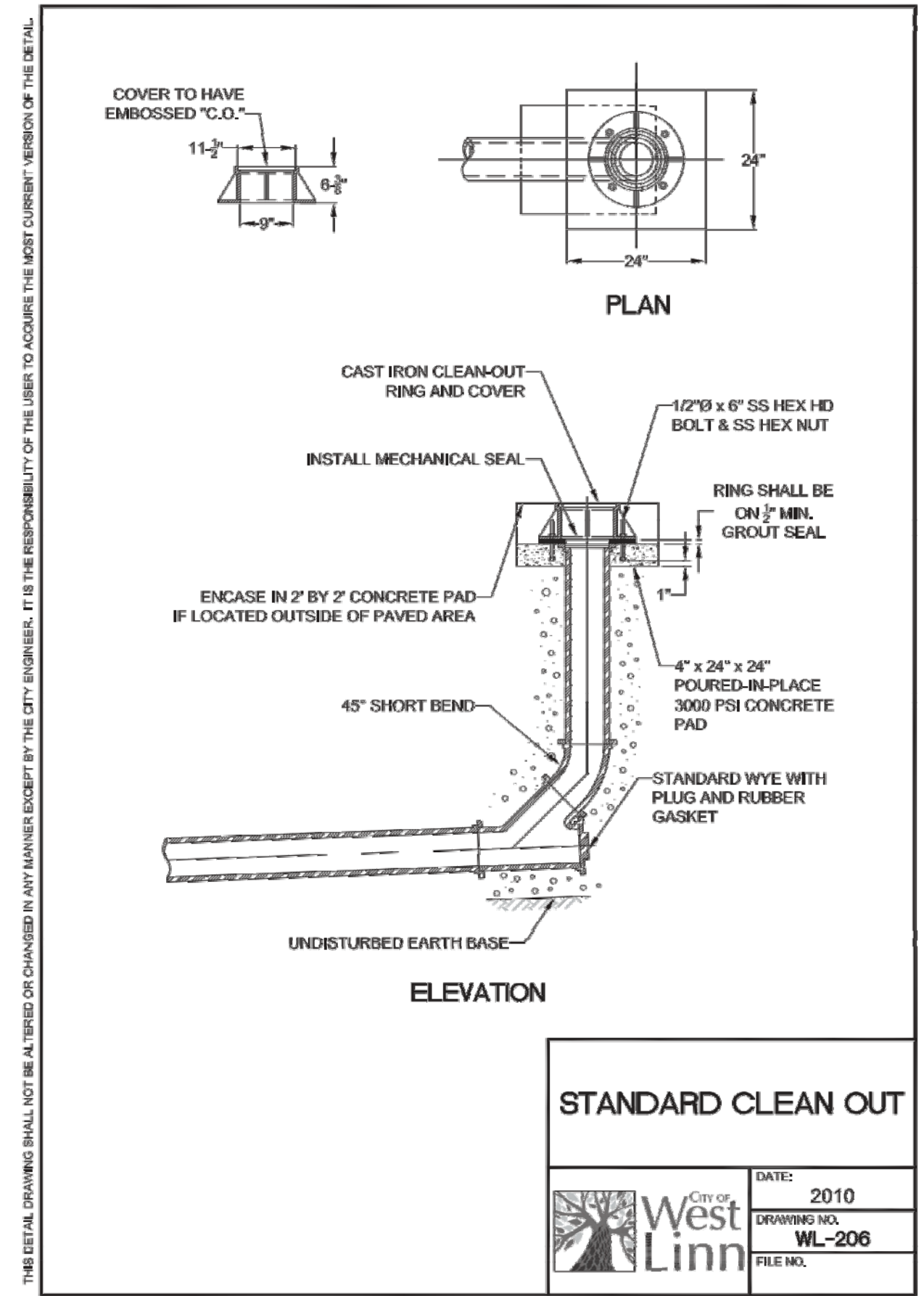
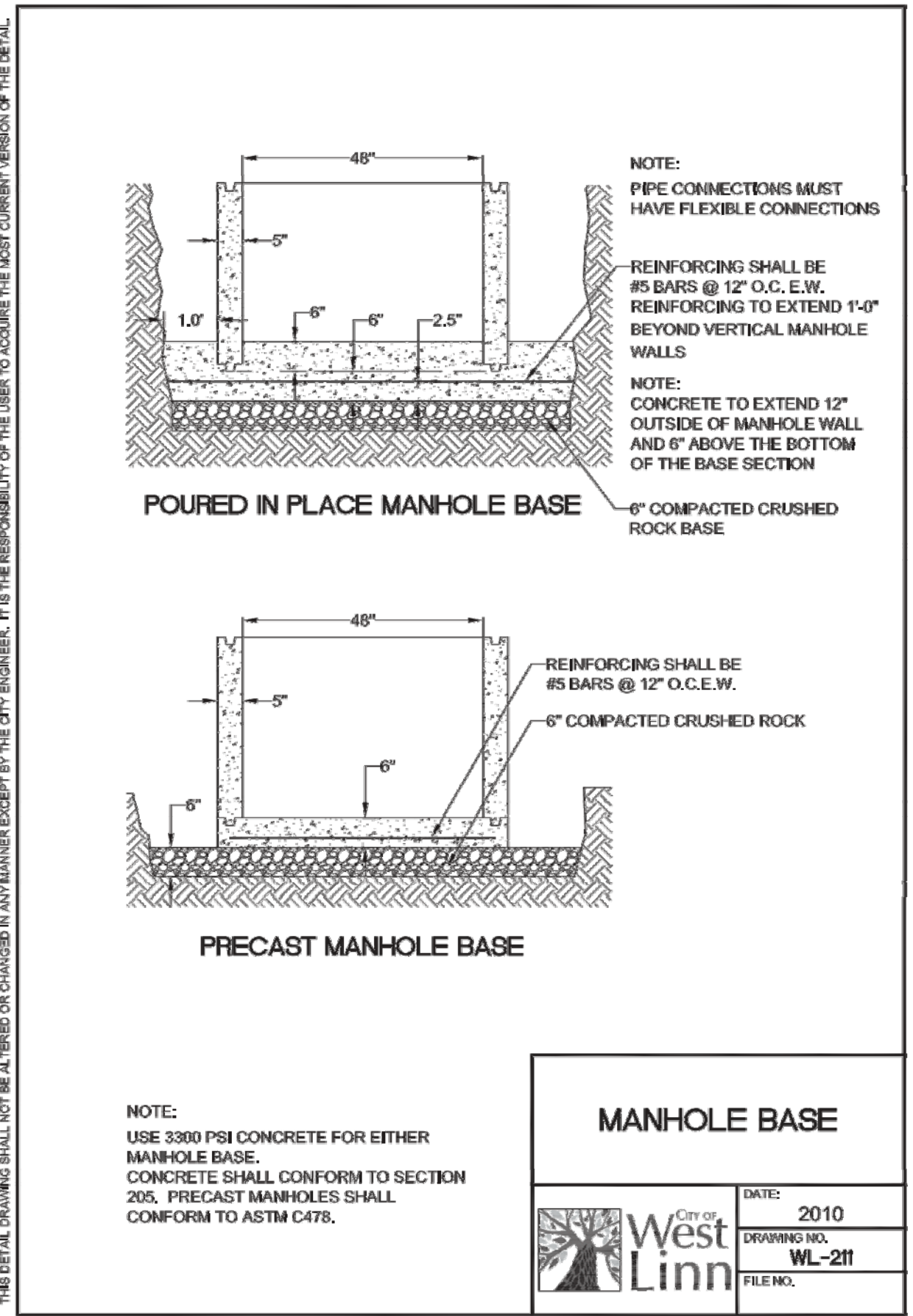
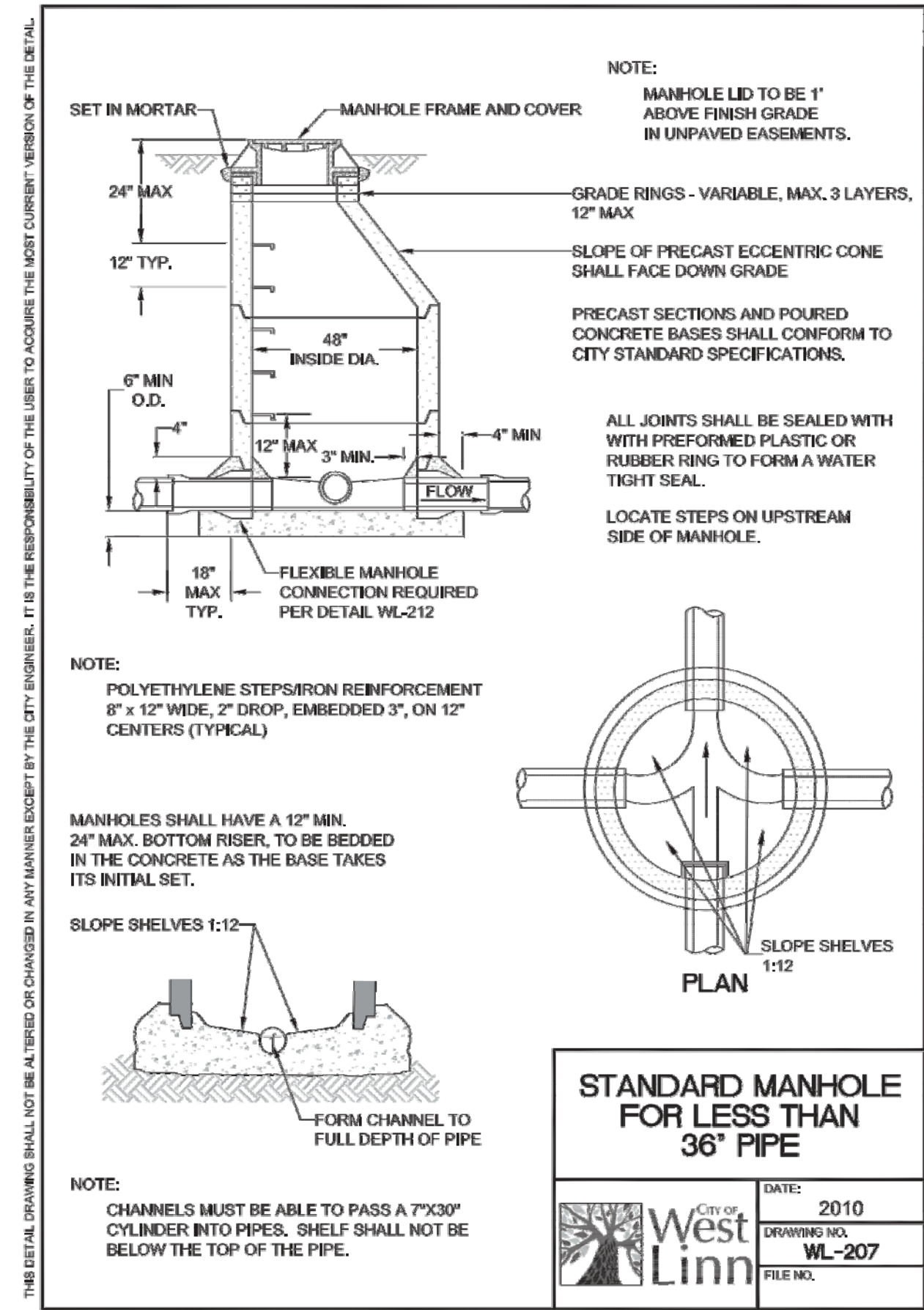
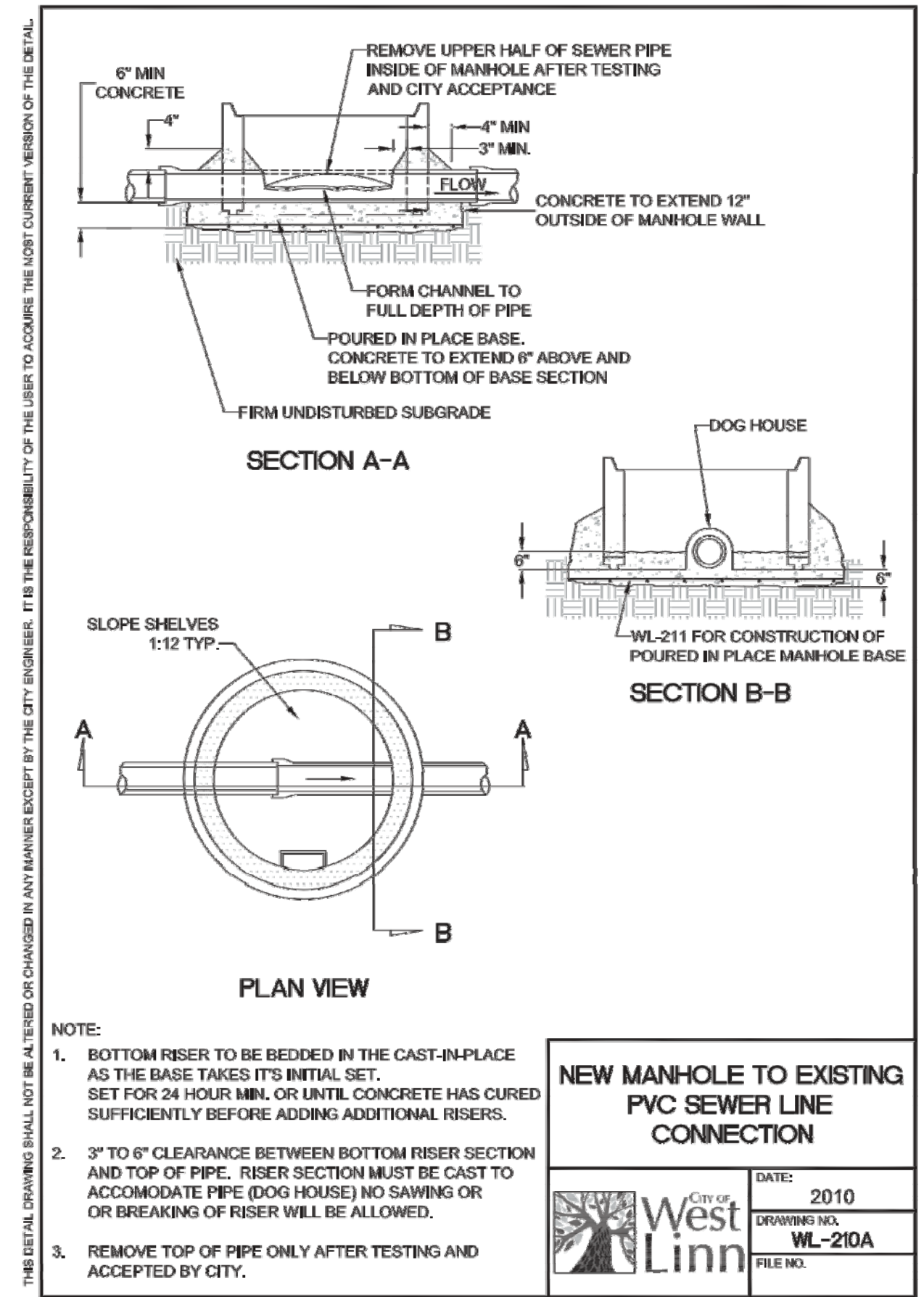
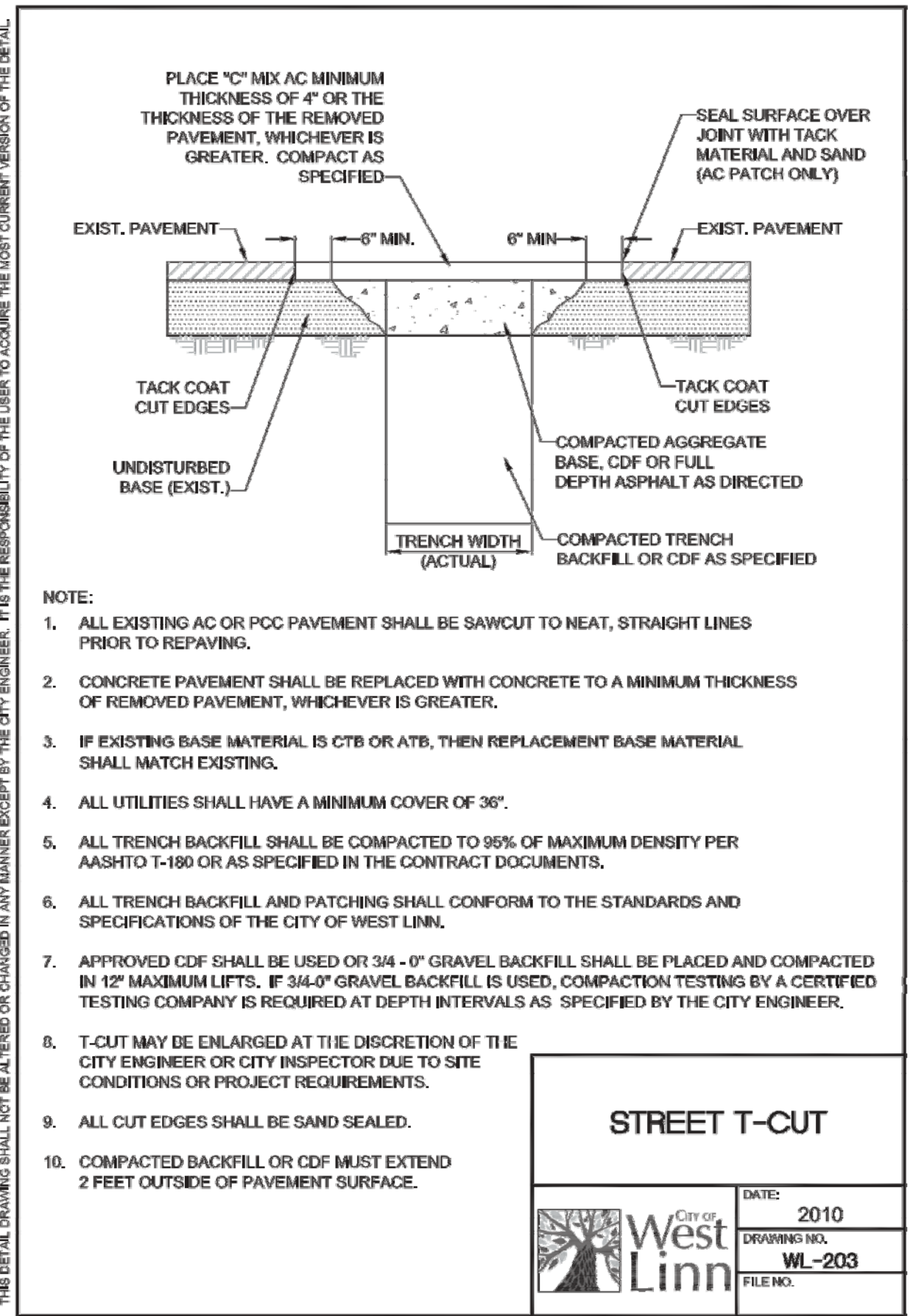
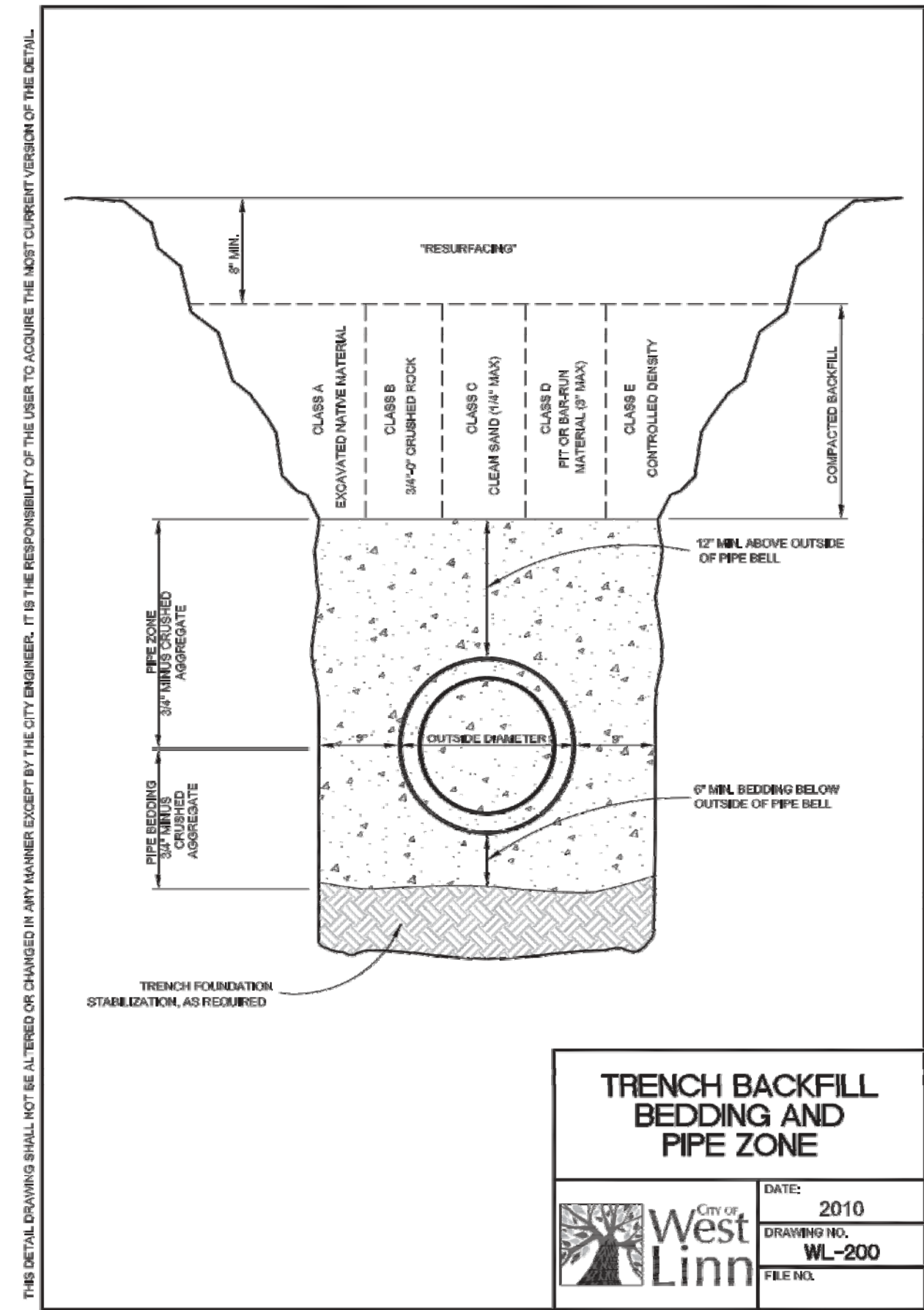
- SUBDIVISION BOUNDARY LINE
- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINE
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- ILLUMINATION ANALYSIS POINT (FC)
- FC FOOT CANDLE UNIT



STREET LIGHTING STATISTICS

ROAD CLASSIFICATION	COLLECTOR (RES)
EXISTING LIGHT(S) INCLUDED	2ea
MAX. ILLUMINATION	2.8FC
MIN. ILLUMINATION	0.2FC
AVERAGE ILLUMINATION	0.9FC
UNIFORMITY (AVG/MIN)	4.3





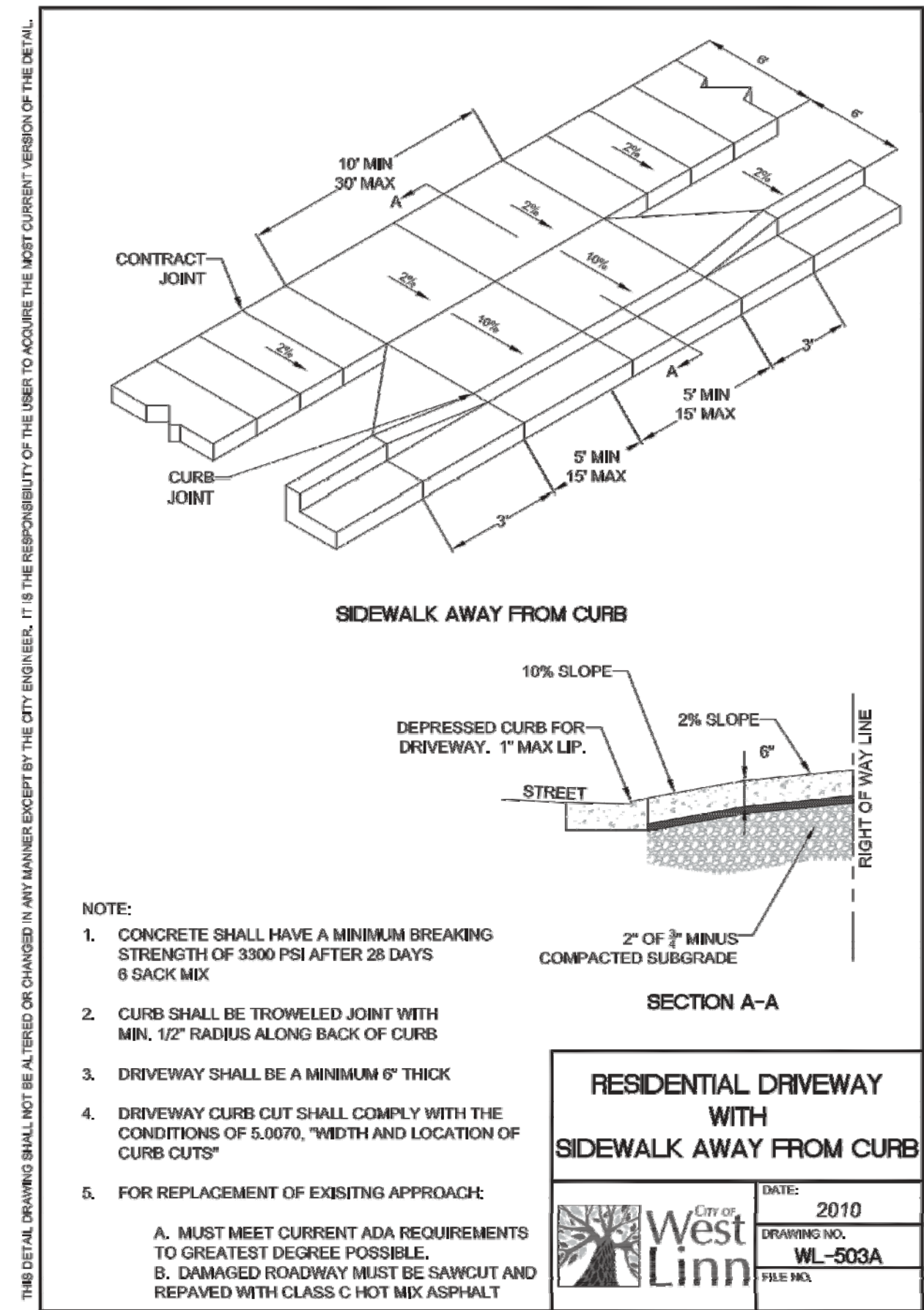
PUBLIC IMPROVEMENTS 4/19/13
BY DATE

CONSTRUCTION DETAILS I
DOLLAR STREET & RIVERHEIGHTS CIRCLE
WEST LINN, OR
J.T. SMITH COMPANIES



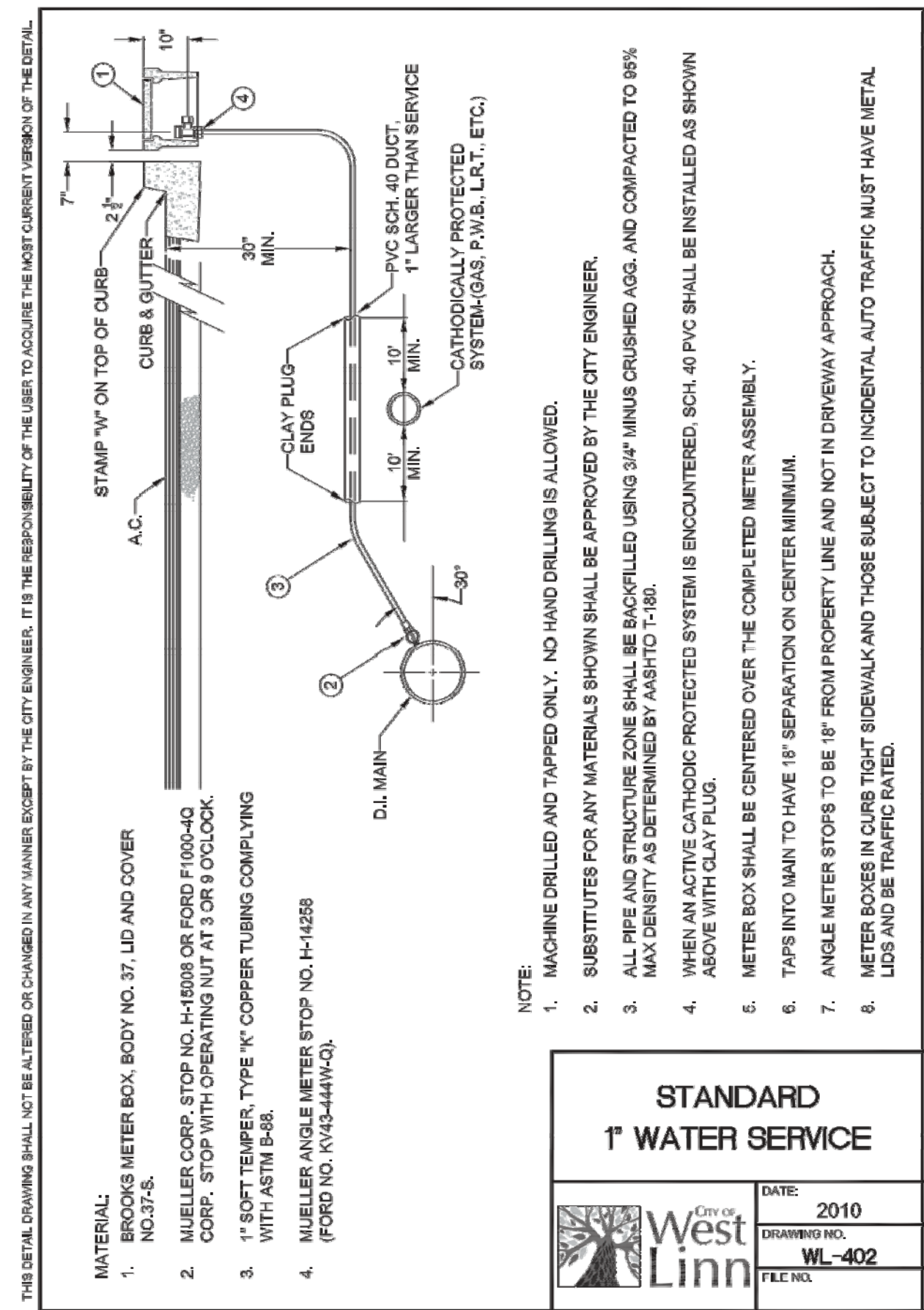
3J JOB ID # | 13110
LAND USE # |
TAX LOT # | 21E34DC 700 & 800
DESIGNED BY | JTE
CHECKED BY | BKF

SHEET TITLE
DETAILS I
SHEET NUMBER
C410



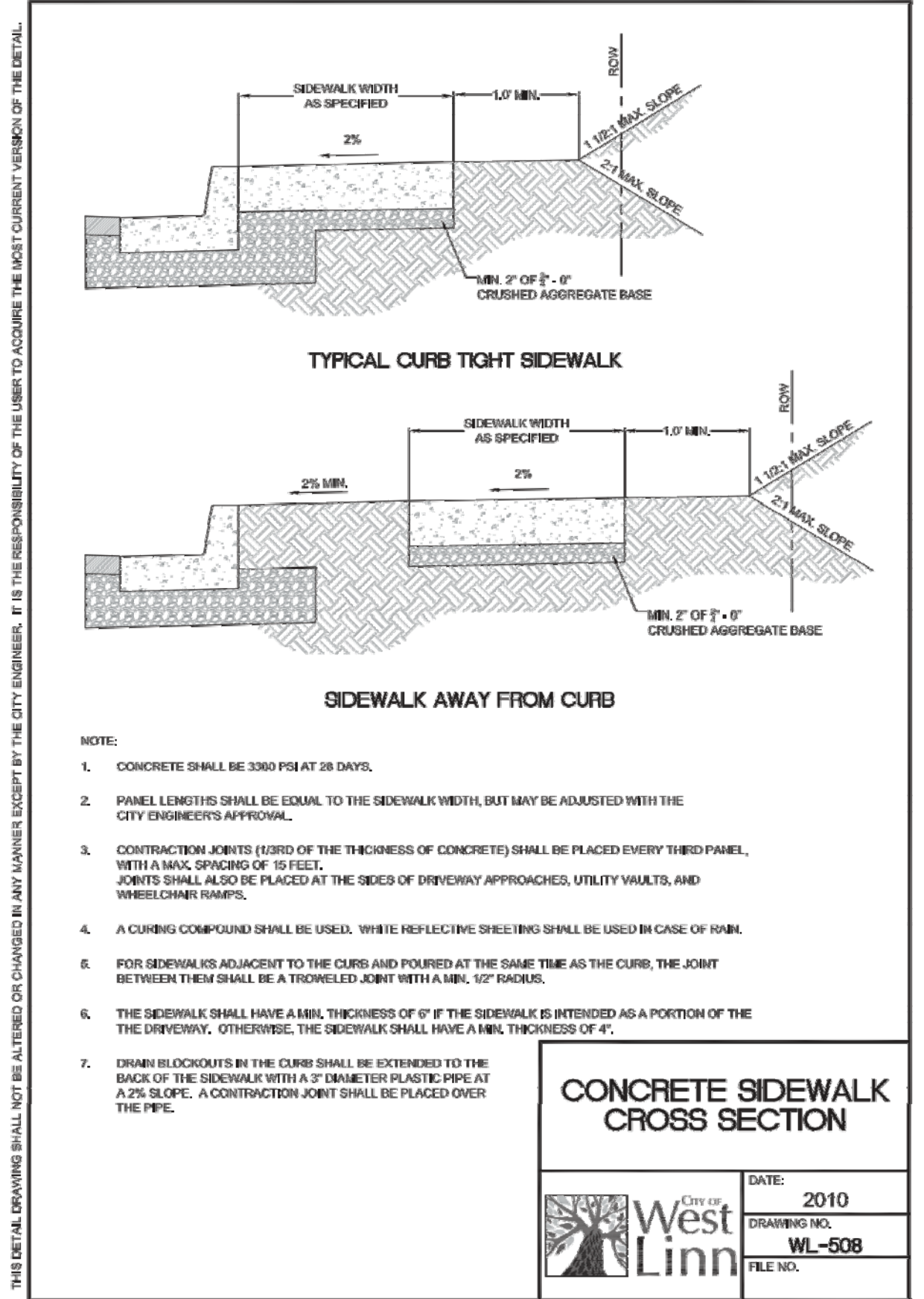
RESIDENTIAL DRIVEWAY WITH SIDEWALK AWAY FROM CURB

DATE: 2010
DRAWING NO. WL-503A
FILE NO.



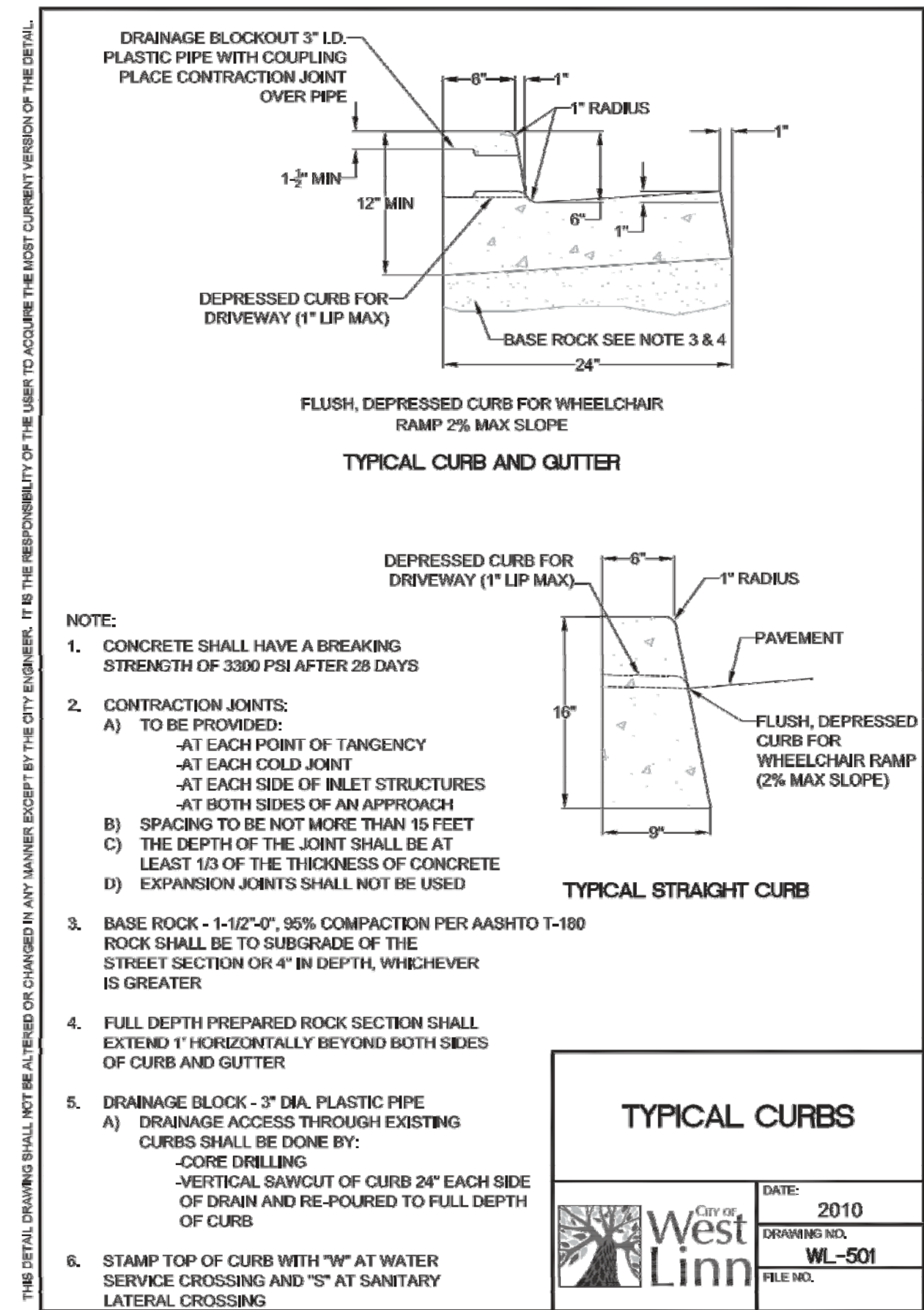
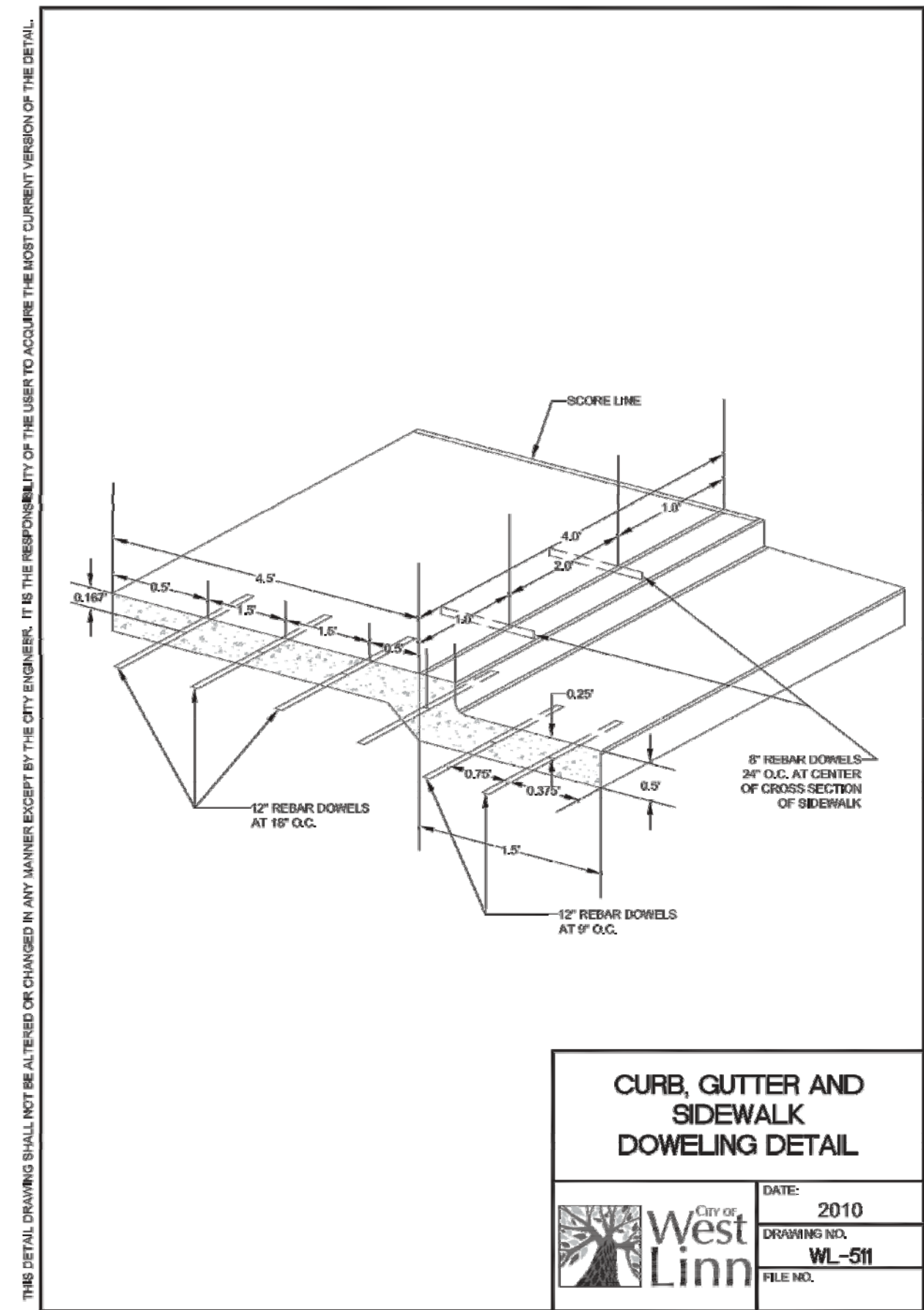
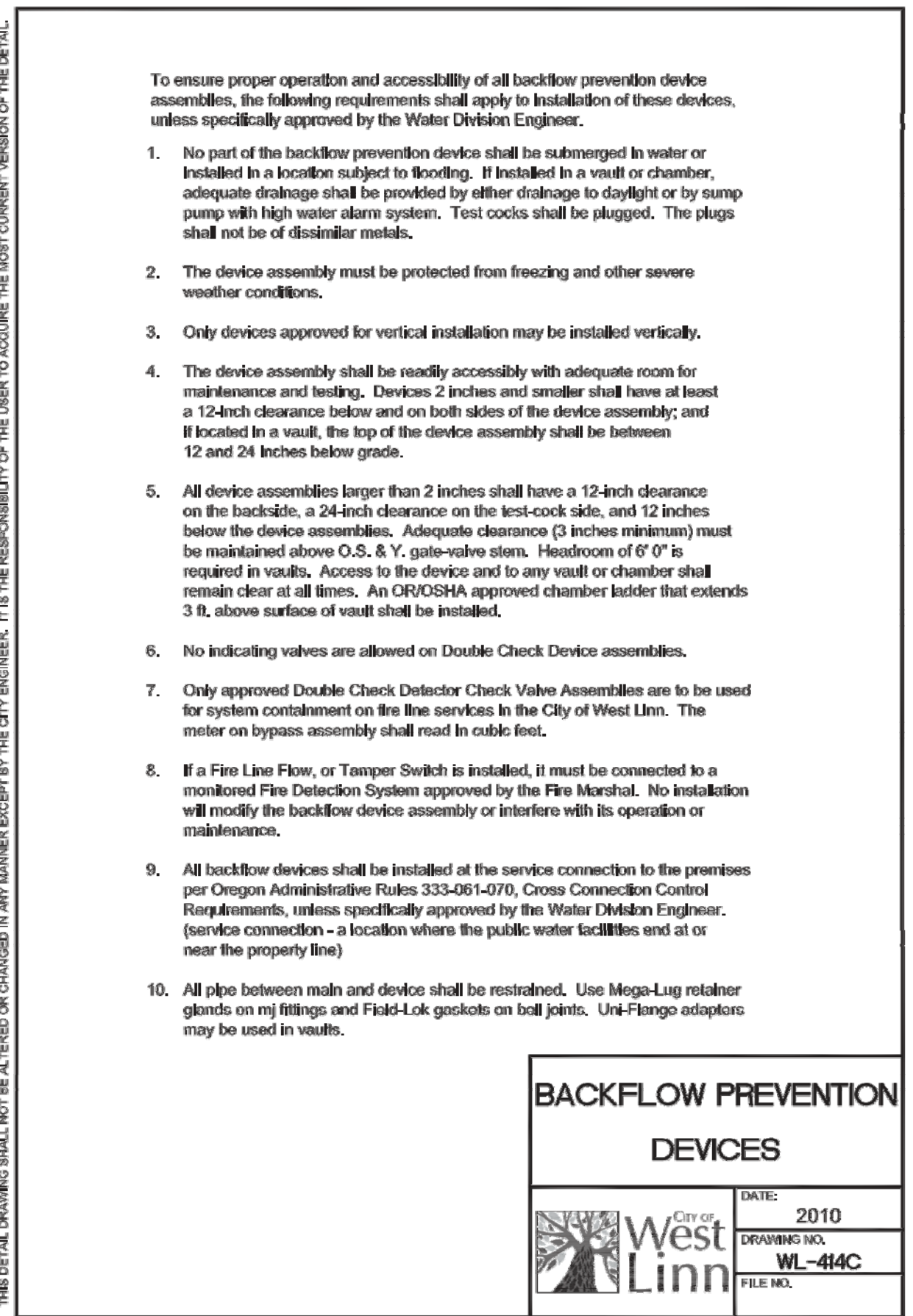
STANDARD 1" WATER SERVICE

DATE: 2010
DRAWING NO. WL-402
FILE NO.



CONCRETE SIDEWALK CROSS SECTION

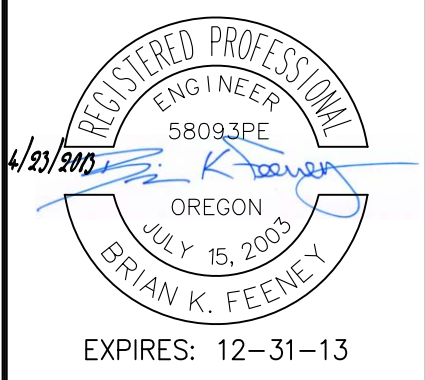
DATE: 2010
DRAWING NO. WL-508
FILE NO.



TYPICAL CURBS

DATE: 2010
DRAWING NO. WL-501
FILE NO.

CONSTRUCTION DETAILS II
DOLLAR STREET & RIVERHEIGHTS CIRCLE
WEST LINN, OR
J.T. SMITH COMPANIES



3J CONSULTING, INC
CIVIL ENGINEERING
WATER RESOURCES
LAND USE PLANNING
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97005
PHONE & FAX: (503) 948-8385

3J JOB ID #	13110
LAND USE #	
TAX LOT #	21E34DC 700 & 800
DESIGNED BY	JTE
CHECKED BY	BKF

City of West Linn
PRE-APPLICATION CONFERENCE MEETING
February 14, 2013

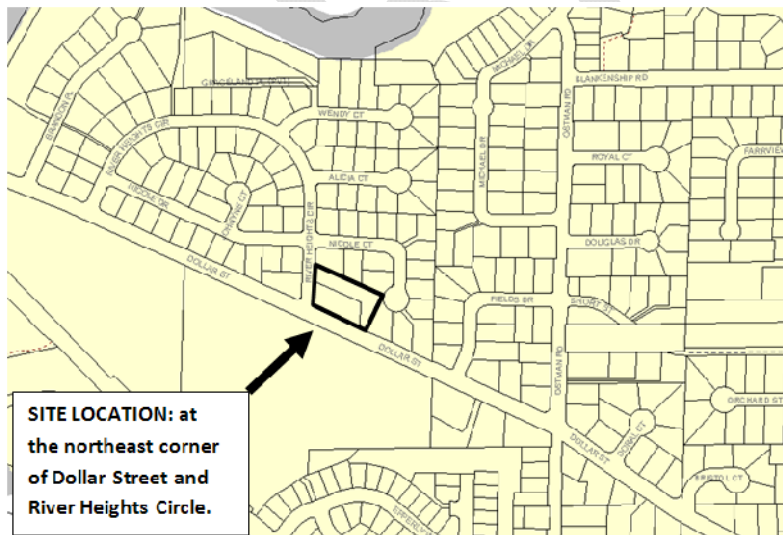
SUBJECT: 3-lot minor partition at 960 Dollar Street.

ATTENDEES: Applicants: Jeff Smith, Andrew Tull, Brian Feeney and John Wyland
Staff: Peter Spir (Planning Department); Khoi Le (Engineering Division)

The following is a summary of the meeting discussion provided to you from staff meeting notes. Additional information may be provided to address any “follow-up” items identified during the meeting. These comments are PRELIMINARY in nature. Please contact the Planning Department with any questions regarding approval criteria, submittal requirements, or any other planning-related items. Please note disclaimer statement below.

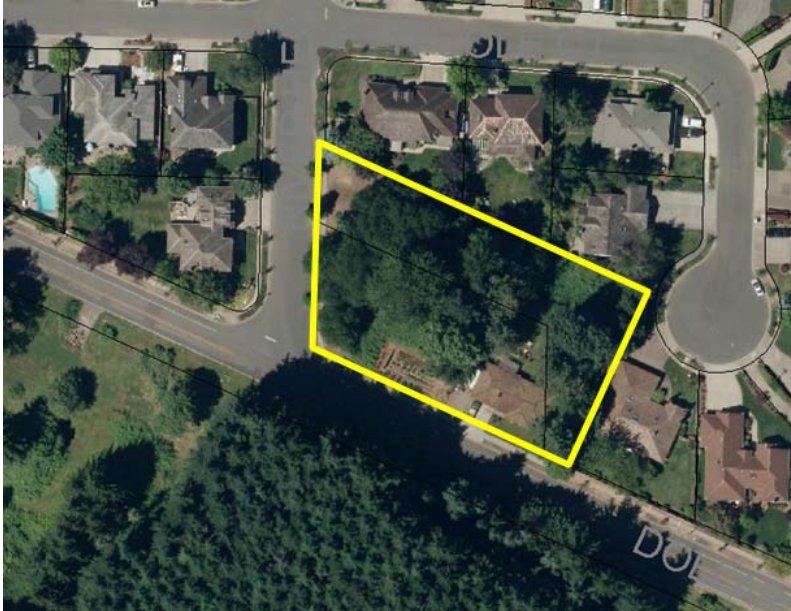
Project Details

The 0.87 acre (37,897 square foot) parcel is located along the northeast corner of Dollar Street and River Heights Circle. The zoning is R-10 (single family residential 10,000 square foot minimum lot size). The applicant proposes three lots. All lots will have to meet the size and dimensional standards of the R-10 zone.



The surrounding zoning is R-7 (single family residential 7,000 square foot minimum lot size) to the east, west and north and R-10 across Dollar Street to the south. The surrounding land use to the east, west and north is single family residential homes

within the River Heights subdivision. These lots range in size from 7,944 to 12,285 square feet. The property to the south is owned by the West Linn-Wilsonville School District. The most recent land use activity associated with that property was the approval of an 84 lot planned unit development. That permit has since lapsed; however, a similar development application in the future is a reasonable expectation.



Site Analysis/Trees

The site topography is essentially flat. There are no natural hazards or environmental constraints (wetlands etc.) on this property.

The site is heavily treed. Most of the trees on the west half are deciduous trees and seemingly non-significant. The trees in the eastern half are dominated by mature firs and pines. Some of those trees may be “significant”.

The applicant will need to prepare a tree survey of the property, indicating location, size, and species of each tree on the site. Each tree needs to be tagged in the field with a number that corresponds to the tree inventory map. The City Arborist will then determine which trees are significant. CDC Section 55.100(B)(2) requires that up to 20% of the relatively flatter non-type I and II lands shall be set aside to protect the “dripline plus 10 feet” of significant trees. That requirement can have an impact on this application. The applicant explained that any lot division and footprint of future homes will probably conflict with at least some of these trees. The applicant proposed mitigation for these trees.

Mitigation only works in the following circumstances, as explained in 55.100(B) (2) (f):

f. If the protection of significant tree(s) or tree clusters is to occur in an area of grading that is necessary for the development of street grades, per City construction codes, which will result in an adjustment in the grade of over or under two feet, which will then threaten the health of the tree(s), the applicant will submit evidence to the Planning Director that all reasonable alternative grading plans have been considered and cannot work. The applicant will then submit a mitigation plan to the City Arborist to compensate for the removal of the tree(s) on an “inch by inch” basis (e.g., a 48-inch Douglas fir could be replaced by 12 trees, each four-inch). The mix of tree sizes and types shall be approved by the City Arborist.

Since there is no street grading associated with this project and certainly not in the interior of the proposed lots the opportunity to use mitigation is not available.

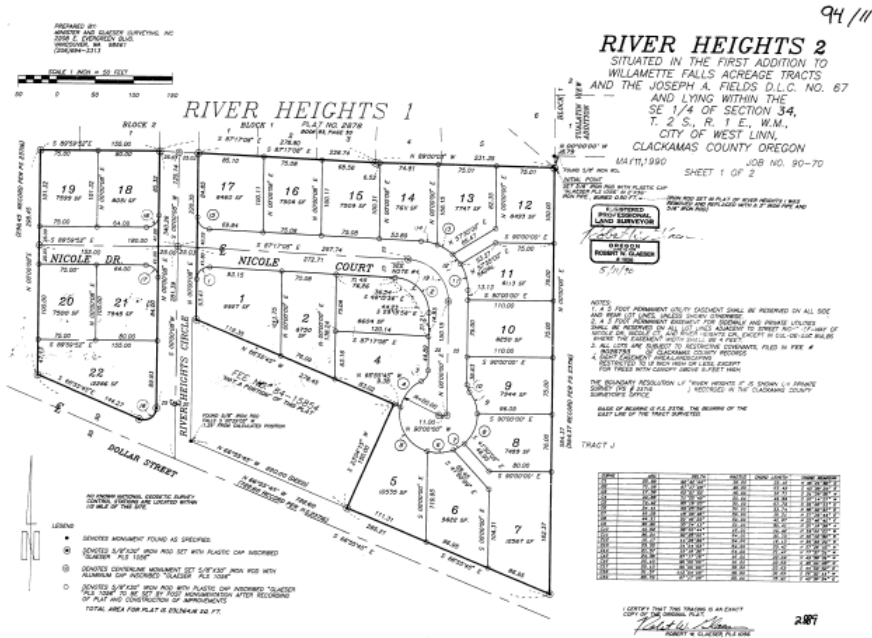
Recent land use applications that involved mitigation were for trees that were to be removed in excess of the “20 percent set aside”. The applicant must therefore protect up to 20 percent of the development site if there are enough qualifying significant trees to cover that much area or apply for a Class II Variance (Planning Commission).

Note: Preliminary site analysis by the City Arborist identified only one tree that may be significant. This will have to be confirmed after a complete tree inventory provided by the applicant.



Status of the two tax lots

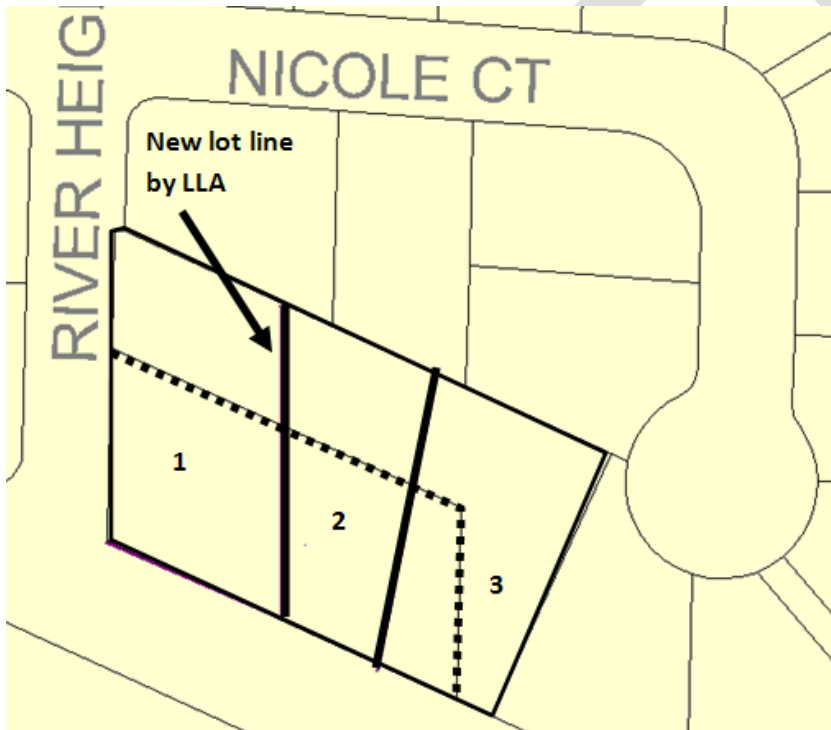
The property comprises two tax lots. However, it is not known if the two lots were just created for tax purposes (through the County Assessor's office) or if they are legal lots of record. The 1990 plat for the River Heights 2 subdivision (below), which encompassed this property, did not show two lot lines and we have no record of a partition subsequent to that plat. For that reason, the applicant should have a title search conducted to determine the origin of those lot lines and to demonstrate that two legal lots of record exist.



Lot line adjustment/minor partition option

Assuming the two lots were correctly established, the applicant could use a lot line adjustment to shift the existing lot line so that one lot (lot 1) would occupy the west 132 feet and the other lot would occupy the east 146 feet (as measured along the north property line). The applicant would then be able to apply for building permits on the two re-aligned lots (once the existing house is removed) and subsequently apply for a minor partition to divide the east 146 feet in half to yield two lots (lots 2 and 3) for a total of three lots. (Prior to recording the MIP plat, the existing house must be demolished.)

If the two lots are not platted lots of record then the application would be limited to a minor partition.



The dashed line is the existing tax lot line that could be moved by lot line adjustment (LLA) to create a new lot line and lot 1 on the west edge of the site. Once the LLA is final the eastern portion of the site could then be minor partitioned into lots 2 and 3.

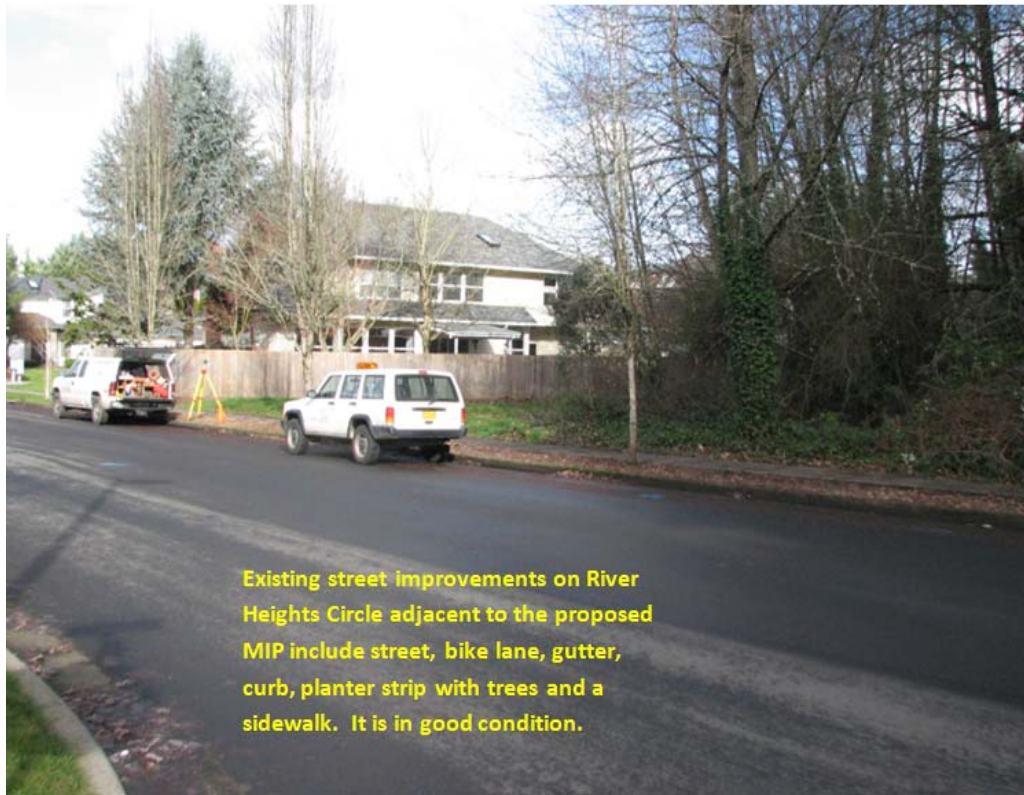
Street improvements

Dollar Street is a Collector according to the Transportation System Plan (TSP). There is a 60 foot ROW on Dollar Street which is sufficient. Half street improvements were installed by the developer of River Heights subdivision for the frontage of this property since it represented the entry point to the subdivision and the developer felt that an attractive entryway and street section was important to the marketability of the subdivision. The existing street improvements on Dollar Street includes a travel lane, bike lane, curb, three foot wide planter strip (with no street trees) and a five foot wide sidewalk. The condition of the street, curb and sidewalk appears good. (See Engineering comments below.)





River Heights Circle (below) is a local street. The ROW is 45 feet which is below the width in the adjacent subdivision and the width prescribed by the TSP (see Engineering comments below). On River Heights Circle existing street improvements include travel lane, curb, four foot wide planter strip with street trees and a four foot wide sidewalk.





Access

CDC subsection 48.025(B) (6) requires new access driveways to meet the access separation standards in Chapter 8 of the Transportation System Plan (TSP). Specifically, it states, “The access spacing standards found in Chapter 8 of the adopted TSP shall be applicable to all newly established public street intersections, private drives, and non-traversable medians”. Dollar Street is a collector and, as such, requires a 150 foot separation between the driveways on that street. Although the applicant could argue that the access standards do not apply to the existing driveway on Dollar Street and therefore one additional driveway could be added, staff recommends that the applicant use a single consolidated driveway to serve the two lots accessing Dollar Street.



Access to the west lot (“lot 1”) can be from River Height Circle. Engineering staff’s interpretation is that there is no separation standard in TSP table 8-3 between a driveway and an intersection. We can therefore defer to the CDC and the 35 foot setback for driveways from intersections per 48.060(C) (6).

As an alternative to these access points, the applicant discussed a single access point onto River Heights Circle for a driveway to serve all three lots. The driveway width would have to be 16 feet to serve two-three lots and could taper down to 12 feet where it only serves one lot.

Traffic Impact Analysis

According to 85.170 (B) (2), a Traffic Impact Analysis is not required because the two additional households will not trigger any of criteria of that section.

ENGINEERING COMMENTS

I. TRANSPORTATION

DOLLAR STREET

	EXISTING CONDITIONS	POTENTIAL POST DEVELOPMENT CONDITIONS
Classification	Collector	Collector
Zone	R-10	R-10
Right of Way Width	60’	60’
Full Pavement Width	25’	34’
Bike Lane	5’	5’
Curb and Gutter	Along the frontage. Not on the opposite.	Curb and Gutter
Planter Strip	Along the frontage. Not on the opposite	5.5’ Planter
Sidewalk	6’ wide along the frontage. Not on the opposite.	6’ Sidewalk
Street Light	None along the frontage – Shoe Box at the corner of River Height	Yes
Utility Pole	Yes	Underground
Street Tree	None along the frontage. Not on the opposite.	Yes
ADA Ramps	At the intersection of Dollar	Install truncated dome.

	and River Heights. No truncated dome.	
Post Speed	25 MPH	25 MPH
Stripe	Bike Lane – Double Center Line – Frog Line	No additional stripe needed.

A. MINIMUM REQUIRED IMPROVEMENTS

1. Dedication: None.
2. Remove existing power pole.
3. Provide illumination analysis of the existing conditions. Install street lights as recommended in accordance to the followings:
 - Average Maintained Illumination: 0.6 foot-candles (Residential)
 - Uniformity Average to Minimum: 4 to 1
 - Street Light should match with existing surrounding lights – Shoe Box on Bronze Pole.
 - Bulb: Flat lens 100 watts maximum
4. Provide Street Tree in needed. Coordinate with Parks Department for requirements.
5. Reference: River Heights 1 & 2.

RIVER HEIGHTS CIRCLE

	EXISTING CONDITIONS	POTENTIAL POST DEVELOPMENT CONDITIONS
Classification	Local	Local
Zone	R-10	R-10
Right of Way Width	45'	57'
Full Pavement Width	36'	36'
Bike Lane	None	None
Curb and Gutter	Yes	Yes
Planter Strip	Yes – 4' including curb	6' including curb
Sidewalk	Yes - 4'	6' Sidewalk
Street Light	None along the frontage – Shoe Box at the corner of River Height	Yes
Utility Pole	None	Underground
Street Tree	Yes	Yes
ADA Ramps	At the intersection of Dollar	Install truncated dome.

	and River Heights. No truncated dome.	
Post Speed	25 MPH	25 MPH
Stripe	None	No additional stripe needed.

B.

C. MINIMUM REQUIRED IMPROVEMENTS

1. Dedication: 12’.
2. Pay fee in-lieu of difference between existing 4’ sidewalk and future 6’ sidewalk or replace existing with 6’ sidewalk.
3. Provide illumination analysis of the existing conditions. Install street lights as recommended in accordance to the followings:
 - Average Maintained Illumination: 0.6 foot-candles (Residential)
 - Uniformity Average to Minimum: 4 to 1
 - Street Light should match with existing surrounding lights – Shoe Box on Bronze Pole.
 - Bulb: Flat lens 100 watts maximum
4. Provide Street Tree if needed. Coordinate with Parks Department for requirements.
5. In case the access road is determined to be a private road the driveway approach shall be designed with the following requirements:

Driveway Approach: 36’ maximum width including wings. See WL-504A, 504B, and 505 for technical and construction specifications. Driveway approach serving 3 lots or more should be designed in accordance with Commercial Driveway Design Guidelines and Standards. Intersection of new driveway to existing roadway should be design in accordance with Public Works Standards Section 5.0015 Intersections.
6. All new and existing overhead utilities along the development must be placed underground.
7. Reference: River Heights 1 & 2.

D. CITY TRANSPORTATION MASTER PLAN

PEDESTRIAN MASTER PLAN

Dollar is indicated in the City Pedestrian Master Plan as one of the roadways with sidewalk deficient. Sidewalk project along Dollar from the River Heights Circle to Ostman Road and Ostman to Willamette Falls Drive is identified as project number 58 and 57 respectively with low level of priority on Pedestrian Master Plan Project list (See TSP page 5-8). These projects however are improvements related to the unimprovement along Dollar Street on the opposite side. No sidewalk improvement needed on along Dollar Street in front of the development frontage is needed since there is already 6' wide sidewalk provided.

BICYCLE MASTER PLAN

Dollar has already had bike lane installed on the north side of the roadway. No bicycle lane improvement was listed on Bicycle Master Plan at this time. Bicycle lane may be installed in the future once the opposite of the roadway improved. River Heights Circle was not listed as a street needed bike lane.

MOTOR VEHICLE MASTER PLAN

Existing Operations Conditions

Dollar Street and River Heights Circle intersection was not analyzed in TSP Existing Operation Conditions Section. Traffic Report will not be needed.

E. STREET SDC AND BIKE/PEDESTRIAN EFFECTIVE JULY 1ST 2012

Type of Use	Trip per Use	Factor	Reimbursement	Improvement	Administrative	Total
Per Factor of 1		1.00	\$2,167	\$4,644	\$177	\$6,988
Single Family	Per House	1.01	\$2,189	\$4,690	\$179	\$7,058

Type of Use	Trip per Use	Factor	Reimbursement	Improvement	Administrative	Total
Per Factor of 1		1.00	\$0	\$1,518	\$40	\$1,558
Single Family	Per House	1.00	\$0	\$1,533	\$40	\$1,573

II. STORM DRAINAGE

A. EXISTING CONDITIONS

There is no public storm main along the project frontage on either Dollar Street or River Heights Circle. There are catch basins located further downstream on River Heights Circle. The only other proper convey system is the gutter.

As-Built: River Heights 1 & 2.

B. MINIMUM REQUIRED IMPROVEMENTS

1. Provide treatment for new impervious of 500 square feet or more.
2. Provide detention for new impervious of 5000 square feet or more.
3. If elevation does not allow discharge through weep hole at gutter line, a public storm main will be required on River Heights Cir for proper functionality.
4. Storm Drainage Analysis Report is required.

C. SURFACE WATER SDC EFFECTIVE JULY 1ST 2012

Unit		Factor	Reimbursemen t	Improvemen t	Administrativ e	Total
Per Factor of 1		1.00	\$780	\$234	\$52	\$1,066
Single Family	Per House	1.00	\$780	\$234	\$52	\$1,066

III. SANITARY SEWER

A. EXISTING CONDITIONS

There is no public sanitary sewer main along the project on Dollar Street. Existing sanitary sewer main on River Heights Circle is only 6" and ending with a clean-out.

B. MINIMUM REQUIRED IMPROVEMENTS

1. Provide analysis for existing 6" sanitary sewer main to see whether or not it can be able to handle additional flow.
2. Existing cleanout may have to be replaced with a main hole.
3. If the existing house is on septic, decommission the septic tank and drain field in accordance to DEQ requirements and submit the City with proper paper works.
4. If street is to cut for connection of new sewer laterals and water services, the street must be slurry seal back.
5. As-Built: River Heights 1 & 2.

C. SANITARY SEWER SDC EFFECTIVE JULY 1ST 2012

Unit	Mete r Size	Facto r	Reimbursemen t	Improvemen t	Administrativ e	Total
Per Factor of 1		1.00	\$603	\$2,348	\$109	\$3,060
Single Family	Per House	1.00	\$603	\$2,348	\$109	\$3,060

Tri-City Service District Sewer SDC 1 EDU = \$2,020

IV. WATER

A. PRESSURE ZONE

1. Zone: Willamette Pressure
2. Overflow Elevation: 351 Upper Elevation: 280 Lower Elevation: river

B. RESERVOIR AND PUMP STATION

1. Reservoir: Willamette Reservoir is located on Salamo Road. The reservoir usable capacity is approximate 0.6 million gallon. The reservoir is filled by a transmission main along Willamette Falls Drive from Bolton pressure zone.
2. Pump Station: Willamette Pump Station consists of 3 pumps at 500 gpm with total capacity of 1,500 gpm and a nominal capacity of 1,000 gpm. There is an emergency standby diesel generator onsite in case power failure.

C. EXISTING POPULATION AND PROJECTED POPULATION AT SATURATION

1. Existing Population: 4,898
2. Projected Population at Saturation: 6,064

D. WATER DEMAND AT SATURATION

Average Day Demand (mgd)	Maximum Day Demand (mgd)	Peak Hour Demand (mgd)
0.9	2.0	3.1

E. RESERVOIR AND PUMP STATION CURRENT OPERATING CONDITIONS

1. In accordance with Water System Plan, both the reservoir and pump station are listed appearing to be in good conditions.

F. WILLAMETTE PRESSURE ZONE PERFORMANCE

Year	MD D (mg)	Fire Flow (mg)	Total Supply Need (mg)	Normal Supply Capacity (mg)	Emergency Supply Capacity (mg)	Normal Supply Deficit (mg)	Emergency Supply Deficit (mg)
Current	2.2	0.5	2.7	2.6	1.6	0.1	1.1
2015	2.3	0.5	2.8	2.6	1.6	0.2	1.2
2030	2.6	0.5	3.1	2.6	1.6	0.5	1.5
Saturation	2.7	0.5	3.2	2.6	1.6	0.6	1.6

1. The table above indicates that there is a deficiency in supply capacity during a normal condition. However there is no improvement project adjacent to development listed in the Water System Master Plan.

G. WILLAMETTE PRESSURE ZONE SUPPLY AND STORAGE DEFICIT

Year	Normal Conditions	Emergency Conditions
------	-------------------	----------------------

	Supply Deficit (mgd)	Storage Volume (mg)	Overall Deficit (mgd)	Supply Deficit (mgd)	Storage Deficit (mgd)	Overall Deficit (mgd)
Current	0.1	0.8	0	1.1	0.8	0.3
2015	0.2	0.8	0	1.2	0.8	0.4
2030	0.5	0.8	0	1.5	0.8	0.7
Saturation	0.6	0.8	0	1.6	0.8	0.8

1. The table above indicates that there is no storage volume deficit during a normal condition but deficient during emergency condition.

H. WILLAMETTE PRESSURE ZONE MASTER PROJECT LIST

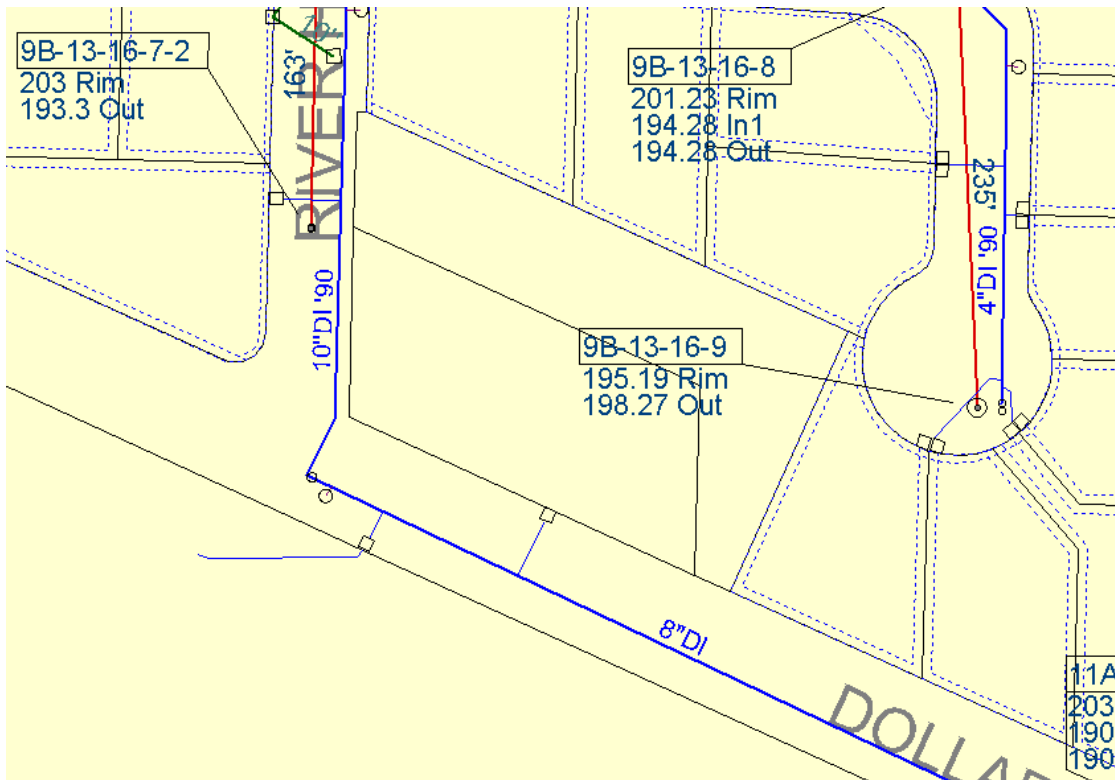
1. There are 34 water improvement projects listed in the City Water System Plan under the Willamette Pressure zone. However none of them is along the subject development frontage. Thus there is no improvement required along the proposed project frontage.

I. MINIMUM REQUIRED IMPROVEMENTS

1. Existing public water system is available on both Dollar Street and River Heights Circle for connection.
2. New water meter shall be set behind curb and out of driveway approaches.
3. As-Built: River Heights 1 & 2.

J. WATER SDC EFFECTIVE JULY 1ST 2012

Unit	Meter Size	Factor	Reimbursement	Improvement	Administrative	Total
Per Factor of 1		1.00	\$576	\$6,863	\$193	\$7,632
5/8" Meter		1	\$576	\$6,863	\$193	\$7,632



PROCESS

A formal meeting (e.g. section 99.038) with Willamette Neighborhood Association is **not** required for a minor partition. If you want to conduct an informal meeting at their regular meeting, that is your option. Contact the NA president, Beth Smolens at WillametteNA@westlinnoregon.gov

The first procedure to be undertaken is the lot line adjustment (LLA). Prepare the application and submit it to the Planning Department with fees. The application form must be signed by the property owner. A LLA has a fee of \$1,000 and a final review fee of \$200. The approval criteria are in section 85.210. A completed application form and fees are required. It is a ministerial decision by the Planning Director so no hearing or public notice is required. According to the Clackamas County Surveyors Office, the lot line adjustment document will have to be submitted in a replat format for recording. In the initial submittal of the lot line adjustment, a surveyed map is not required; however, the map must be drawn to scale and with sufficient detail (including the footprint of the existing house and accessory structures and setbacks to the proposed lot line) for the Planning Director to determine the appropriateness of the LLA.

Once the LLA has been completed, the minor partition (MIP) of the re-aligned east parcel can proceed. This requires a full and complete response to the submittal requirements and approval criteria of CDC Chapter 85 Land Division. N/A is not an

acceptable response to the approval criteria. The submittal requirements may be waived but the applicant must first identify the specific submittal requirement and request, in letter form, that it be waived by the Planning Director and must identify the specific grounds for that waiver. Prepare the application and submit it to the Planning Department with deposit fees. The application form must be signed by the property owner.

An MIP has a deposit fee of \$2,800. There is an additional \$1,500 final plat review fee. Staff bills hours against the deposit fee and returns any surplus at the conclusion of the process, regardless of whether it is approved or denied. If the application is more complex and time consuming, the applicant will be billed above and beyond the deposit fee that has been received.

If a Class II Variance is needed for tree removal then Chapter 75 applies and the fee is \$2,900. The introduction of a Class II Variance would move the application from a Planning Director decision to a Planning Commission decision. We will not know if a variance is needed until after the significant tree inventory and site visit by Mike Perkins, the City Arborist.

The City has 30 days to determine if the application is complete or not. Most applications are incomplete, usually due to inadequate responses to approval criteria or lack of sufficient engineering information on the drawings. The applicant has 180 days to make it complete, although usually it is complete within three months of the original submittal. Once complete, the City has 120 days to exhaust all local review and appeals. Staff will schedule the Planning Commission hearing about 4-6 weeks after completeness determination. In the event of an appeal, the review body is the City Council. Subsequent appeals go to LUBA.

Typical land use applications can take 6-10 months from beginning to end.

DISCLAIMER: This summary discussion covers issues identified to date. It does not imply that these are the only issues. The burden of proof is on the applicant to demonstrate that all approval criteria have been met. These notes do not constitute an endorsement of the proposed application. Staff responses are based on limited material presented at this pre-application meeting. New issues, requirements, etc. could emerge as the application is developed. Also note that these notes have a limited “shelf life” in that changes to the CDC standards may require a different design or submittal. Pre-application reviews are only valid for 18 months. A new pre-application conference would have to be scheduled once that period lapses.

Preap-sumry- 3 lot partition at Dollar and River Hts.

STORMWATER REPORT

DOLLAR STREET LOT LINE ADJUSTMENT WEST LINN, OR

April 19, 2013

Prepared For:

JT Smith Companies
5285 Meadows Road, Suite #171
Lake Oswego, OR 97035

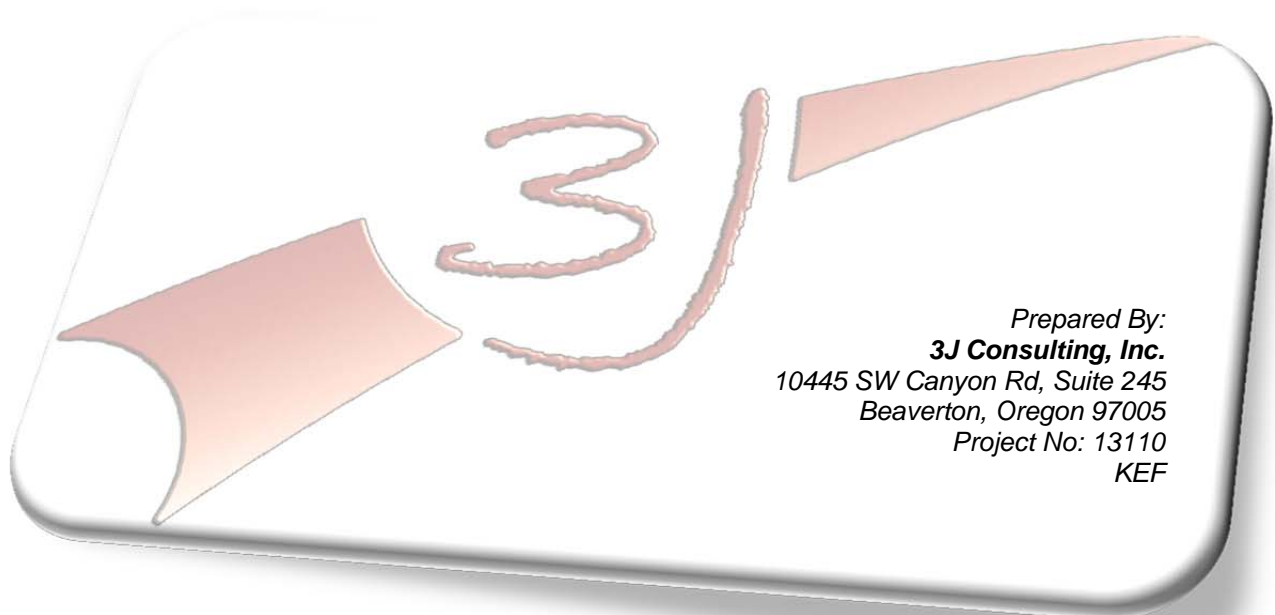


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EXECUTIVE SUMMARY

The existing site is located on private property at 9601 Dollar Street in West Linn, Oregon (See Figure 2). The property is approximately 0.867 acres and currently contains a single family home. The proposed development will consist of pursuing a lot line adjustment and partition for one of the resulting lots creating three buildable lots for single family homes. The purpose of this storm water report is to describe the design of the stormwater management systems following the City of West Linn requirements.

Each individual lot will be required to treat and infiltrate all stormwater runoff up to and including the 10-year storm event, while providing the necessary detention for the 25-year storm event. An infiltration planter for each lot has been designed following the City of Portland's Presumptive Approach Calculator.

A geotechnical investigation has been conducted showing that infiltration rates on the site are between 0.7 in/hr and 0.8 in/hr. The geotechnical report has been included in the Technical Appendix.

The purpose of this report is to describe the facilities being proposed and to show that the design follows the City of West Linn's Public Works Design Standards.

PROJECT DESCRIPTION

The existing site is located on private property at 960 Dollar Street in West Linn, Oregon (See Figure 1 and 2).

The purpose of this report is to describe the facilities being proposed and show that the design follows the City of West Linn Public Works Design Standards in effect at the time of this report.

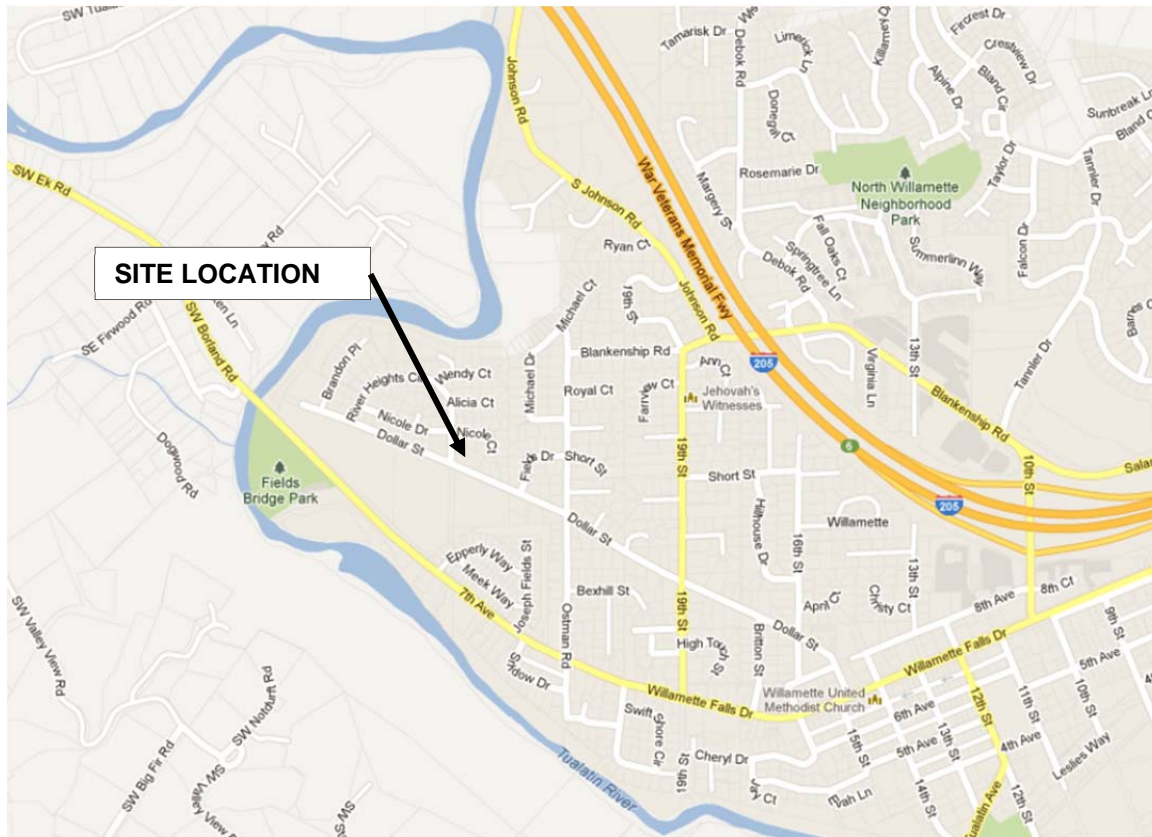


Figure 1 - Vicinity Map

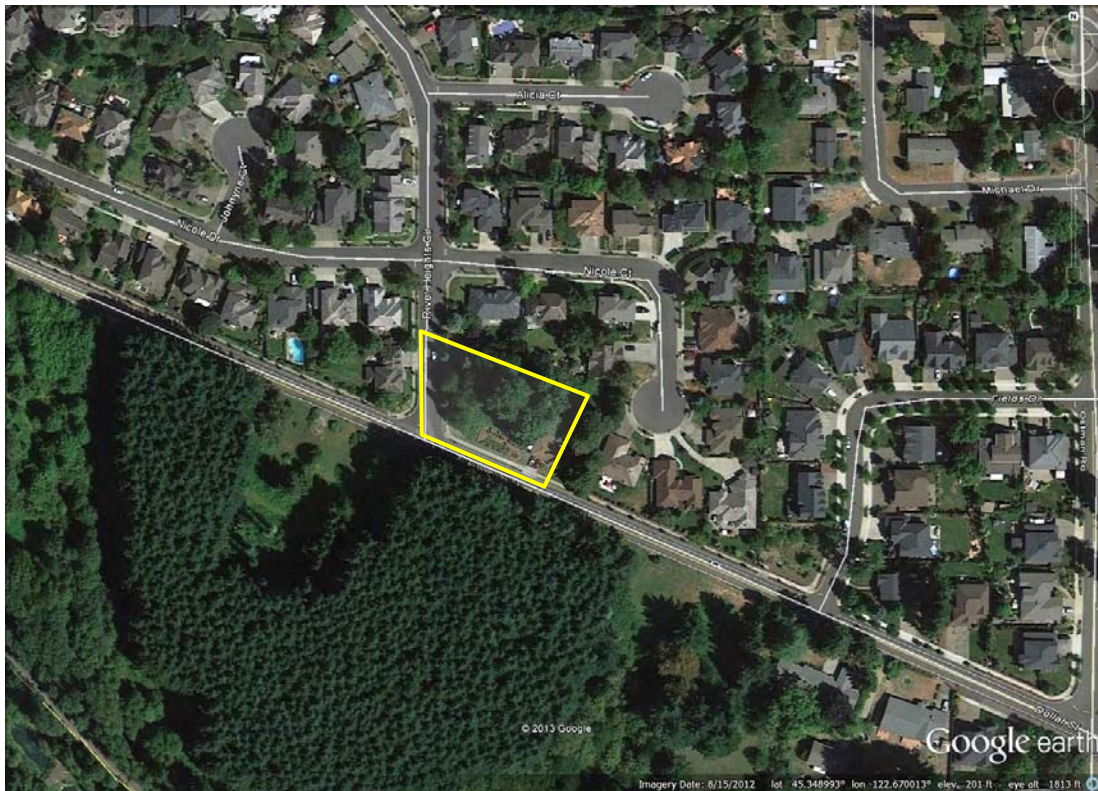


Figure 2 - Site Location

EXISTING CONDITIONS

Site

The property slopes from east towards the west at approximately 1 percent. Elevations range from a maximum of 209 feet on the east side of the property to a minimum of 206 feet in the northwestern corner. Currently the property contains a house and driveway.

Climate

The site is located in Clackamas County approximately 12 miles south of downtown Portland in the West Linn foothills. Average annual rainfall recorded in this area is 47 inches.

Flood Map

The flood plain map shows that the site resides in Zone X, where no base flood elevations have been determined (See Technical Appendix: Exhibits – FIRM Panel 260 of 1175).

Site Geology

The soil type as classified by the United States Department of Agriculture Soil Survey of Clackamas County is identified in Table 1 (See Technical Appendix: Exhibits - Hydrologic Soil Group for Clackamas County Area, Oregon).

Soil Type	Hydrologic Group
Willamette Silt Loam	C

Table 1 - Soil Characteristics

The soil on the site is classified as hydrologic group C. Group C soils generally have slow infiltration rates.

A geotechnical investigation has been conducted showing that infiltration rates on the site are between 0.7 in/hr and 0.8 in/hr (See Technical Appendix: Geotechnical Reports).

Existing Drainage

Existing Site

The existing site does not contain a stormwater management system. Stormwater runoff from the site infiltrates or sheet flows west towards River Heights Circle to existing catch basins in the street.

Basin Areas

Table 2 shows the current impervious and pervious areas for the property (See Technical Appendix: Exhibits – Existing Site Conditions).

Existing Basin Area	sq. ft.	acres
Impervious Area	2,180	0.050
Brush (Good Condition)	35,583	0.817
Total Existing Basin Area	37,764	0.867

Table 2 – Existing Basin Areas

Curve Number

The major factors for determining the CN values are hydrologic soil group, cover type, treatment, hydrologic condition, and antecedent runoff condition. The curve number represents runoff potential from the ground. Tables 2-2a and 2-2c in the TR-55 manual were used to determine the appropriate curve numbers (See Technical Appendix: Exhibits – Table 2-2a and 2-2c Runoff Curve Numbers).

The existing site consists of brush, trees, a house and driveway. The pervious area was considered to be in brush good condition (CN=73) and the impervious surface has CN=98. The proposed lots will consist of homes with driveways on fully landscaped properties. The proposed pervious area is assumed to be open space in good condition (grass covering >75% of pervious area) with a corresponding curve number of 74.

Time of Concentration

The time of concentration was calculated for the existing site using the TR-55 Method. The time of concentration of 79 minutes was calculated for the existing basin (See Technical Appendix: Calculations– Time of Concentration). The time of concentration for the post-developed conditions was assumed to be 5 minutes.

POST-DEVELOPED CONDITIONS

Post-Developed Site

Each individual lot will be required to provide treatment and infiltration of stormwater. All storm events up to and including the 10-year will be infiltrated through a low impact design approach following the City of Portland's Stormwater Water Management Manual. A 3-inch pipe will be provided to convey overflow to the storm system in River Heights Circle.

Basin Areas

Table 3 shows the post-developed impervious and pervious areas (See Technical Appendix: Exhibits – Post-Developed Site Conditions).

Post-Developed Basin Area	sq. ft.	acres
Lot 1		
Impervious Area	4,000	0.09
Landscaping/Open Space	10,619	0.24
Infiltration Rain Garden	365	0.01
Total Lot 1	14,984	0.34
Lot 2		
Impervious Area	4,000	0.09
Landscaping/Open Space	7,030	0.16
Infiltration Rain Garden	365	0.01
Total Lot 2	11,395	0.26
Lot 3		
Impervious Area	4,000	0.09
Landscaping/Open Space	7,022	0.16
Infiltration Rain Garden	365	0.01
Total Lot 3	11,387	0.26

Table 3 – Post-Developed Basin Areas

HYDROLOGIC ANALYSIS DESIGN GUIDELINES

Design Guidelines

The site is located within the jurisdiction of the City of West Linn, which follows the City of Portland’s Stormwater Management Manual for the design of stormwater facilities.

Hydrograph Method

Naturally occurring rainstorms dissipate over long periods of time. An effective way of estimating storm rainfall is by using the hydrograph method. The Santa Barbara Unit Hydrograph (SBUH) method was used to develop runoff rates. The computer software XPSTORM was used to compute runoff rates and volumes.

Design Storm

The rainfall distribution to be used for this area is the design storm of 24-hour duration based on the standard Type 1A rainfall distribution. Table 4 shows total precipitation depths for the various storm events, which were used as a multiplier for the Type 1A 24-hour rainfall distribution.

Recurrence Interval (years)	Total Precipitation Depth (in.)
2	2.50
10	3.40
25	3.90
100	4.50

Table 4 - Design Storms



Basin Runoff

Table 5 shows the runoff rates for the existing post-developed conditions (See Technical Appendix: Hydrographs – Hydrograph Report: Existing and Post-Developed). The values for post-developed release rates were calculated using the City of Portland’s Presumptive Approach Calculator (See Technical Appendix: Hydrographs – Post-Developed Release Rate from Combined Infiltration Planter). As the table shows, the release rate from the planters will be well below the runoff rate from the property.

Recurrence Interval (years)	Existing Runoff Rate (cfs)	Post-Developed Runoff Rate (cfs)	Post-Developed Release Rates from Infiltration Planters (cfs)
2	0.04	0.13	0.00
10	0.09	0.24	0.00
25	0.13	0.31	0.02
100	0.17	0.40	Not Calculated in PAC

Table 5 - Basin Runoff Rates

WATER QUALITY/QUANTITY

Water Quality Guidelines

As mentioned previously, each lot will be required to provide water quality treatment and infiltration. The City of Portland’s Stormwater Management Manual provides guidance on sizing water quality facilities using their Presumptive Approach Calculator (PAC).

Water Quality/Quantity Facilities

A maximum impervious area of 4,000 ft² was assumed for each lot. Table 6 shows the dimensions provided for the infiltration planters on each lot (See Technical Appendix: Presumptive Approach Calculator).

Bottom Basin Area (sf)	Side Slope (H:V)	Depth (in)	Rock Storage Depth (in)
365	0:1	18	30

Table 6 – Stormwater Water Quality/Quantity Facilities

SUMMARY

The stormwater design for the proposed for the Dollar Street Lot Line Adjustment and Partition will meet or exceed the City of West Linn’s requirements. All sizing of water quality/quantity facilities followed the City of Portland’s Stormwater Management Manual.



TECHNICAL APPENDIX

Exhibits

- FIRM Panel 260 of 1175
- Hydrologic Soil Group-Clackamas County Area, Oregon
- Table 2-2a and 2-2c Runoff Curve Numbers
- Existing Site Conditions
- Post-Developed Site Conditions

Drawings-Post-Developed Site Plans to be Included in Final Storm Report

- Sheet C100 "Existing Conditions and Demolition Plan"

Hydrographs

- Hydrograph Report: Existing and Post Developed 2-100 Year (10 Pages)
- Post-Developed Release Rate from Combined Infiltration Planter

Presumptive Approach Calculator

- Lots 1-3 (4 Pages)

Calculations

- Time of Concentration

Geotechnical Reports

- Geotechnical Engineering Report: Dollar Street Property

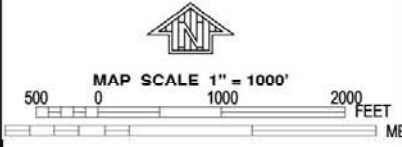
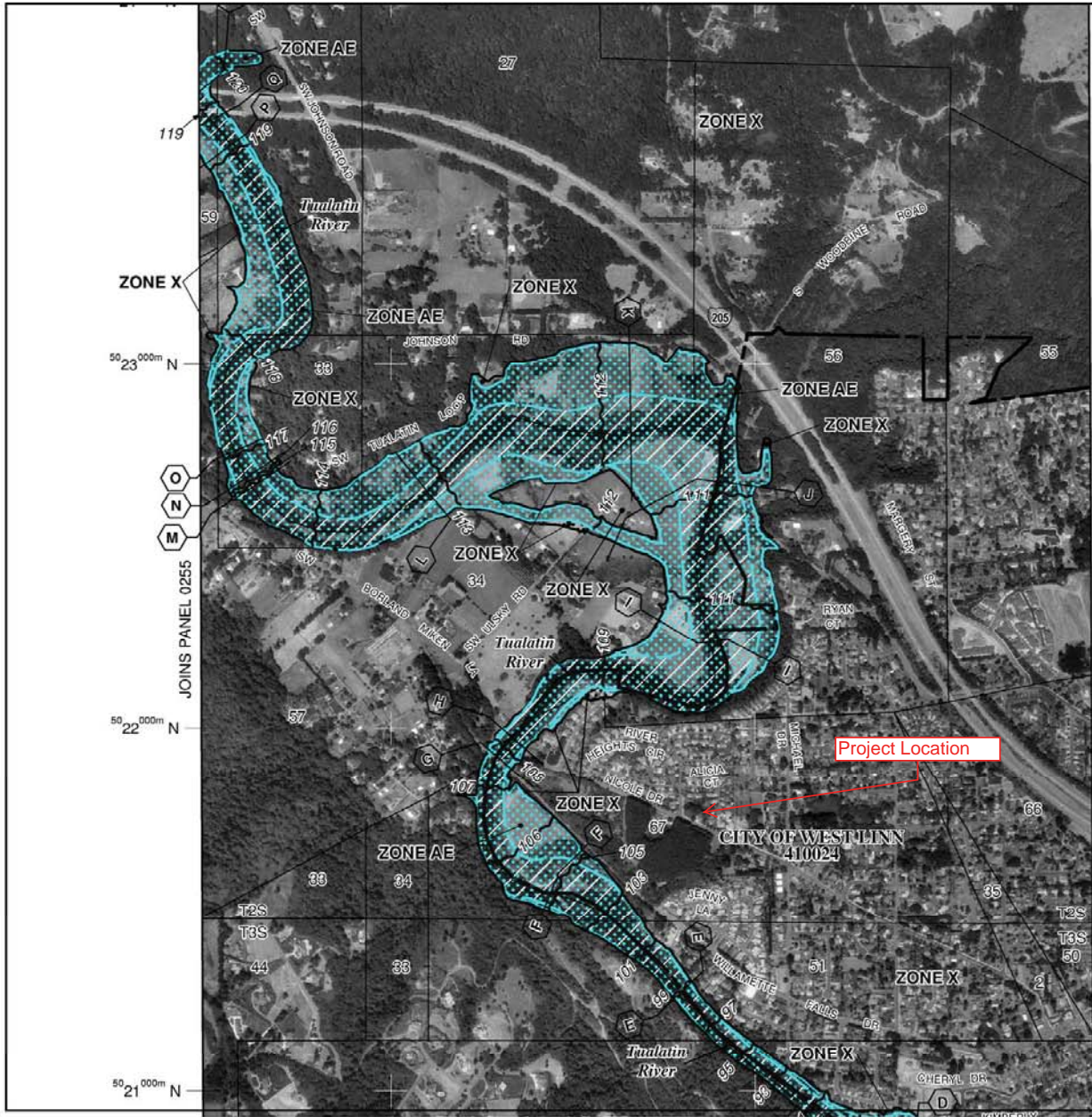
Operations and Maintenance

- Operations and Maintenance Plan for Stormwater Facilities

REFERENCES

1. City of West Linn's Public Works Design Standards Issued in 2010
2. City of Portland's Stormwater Management Manual Issued in August 2008
3. Soil Survey of Clackamas County Area. National Resource Conservation Service
4. Urban Hydrology for Small Watersheds – TR-55 Issued in June 1986 – U.S. Department of Agriculture, Natural Resources Conservation Service, Conservation Engineering Division
5. <http://westlinnoregon.gov/publicworks/stormwater-fact-sheet>

EXHIBITS



THIS
S
ON MA

NFIP PANEL 0260D

FIRM
FLOOD INSURANCE RATE MAP
CLACKAMAS COUNTY,
OREGON
AND INCORPORATED AREAS

PANEL 260 OF 1175
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLACKAMAS COUNTY	415008	0260	D
WEST LINN, CITY OF	410024	0260	D

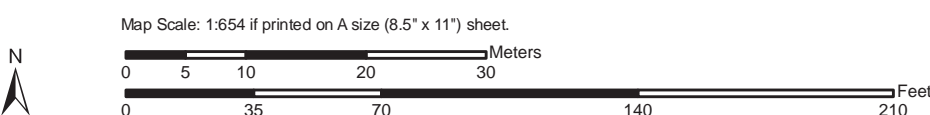
Notes to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
41005C0260D
EFFECTIVE DATE
JUNE 17, 2008

Federal Emergency Management Agency


This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Hydrologic Soil Group—Clackamas County Area, Oregon



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Units

Soil Ratings

 A

 A/D


 B

 B/D


 C

 C/D


 D

 Not rated or not available


Political Features

 Cities

Water Features

 Streams and Canals


Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

MAP INFORMATION

Map Scale: 1:654 if printed on A size (8.5" × 11") sheet.

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 accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 10N NAD83

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 7, Aug 20, 2012

Date(s) aerial images were photographed: 8/3/2005

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Clackamas County Area, Oregon (OR610)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
88A	Willamette silt loam, wet, 0 to 3 percent slopes	C	0.9	100.0%
Totals for Area of Interest			0.9	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Table 2-2a Runoff curve numbers for urban areas ^{1/}

Cover description	Average percent impervious area ^{2/}	Curve numbers for hydrologic soil group			
		A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) ^{3/} :					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74 ←	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98 ←	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ^{4/}		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82

Developing urban areas

Newly graded areas
(pervious areas only, no vegetation) ^{5/}

	77	86	91	94
--	----	----	----	----

Idle lands (CN's are determined using cover types
similar to those in table 2-2c).

¹ Average runoff condition, and $I_a = 0.2S$.

² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

⁴ Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

⁵ Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2c Runoff curve numbers for other agricultural lands ^{1/}

Cover description	Hydrologic condition	Curve numbers for hydrologic soil group			
		A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. ^{2/}	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. ^{3/}	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 ^{4/}	48	65	73
Woods—grass combination (orchard or tree farm). ^{5/}	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. ^{6/}	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 ^{4/}	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

¹ Average runoff condition, and $I_a = 0.2S$.

² **Poor:** <50% ground cover or heavily grazed with no mulch.

Fair: 50 to 75% ground cover and not heavily grazed.

Good: > 75% ground cover and lightly or only occasionally grazed.

³ **Poor:** <50% ground cover.

Fair: 50 to 75% ground cover.

Good: >75% ground cover.

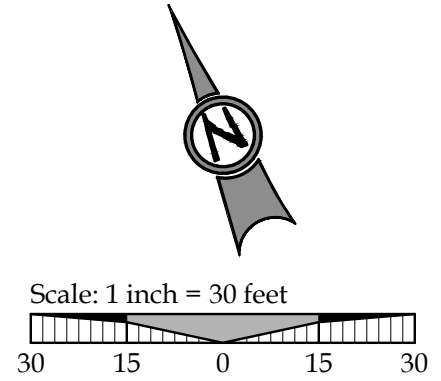
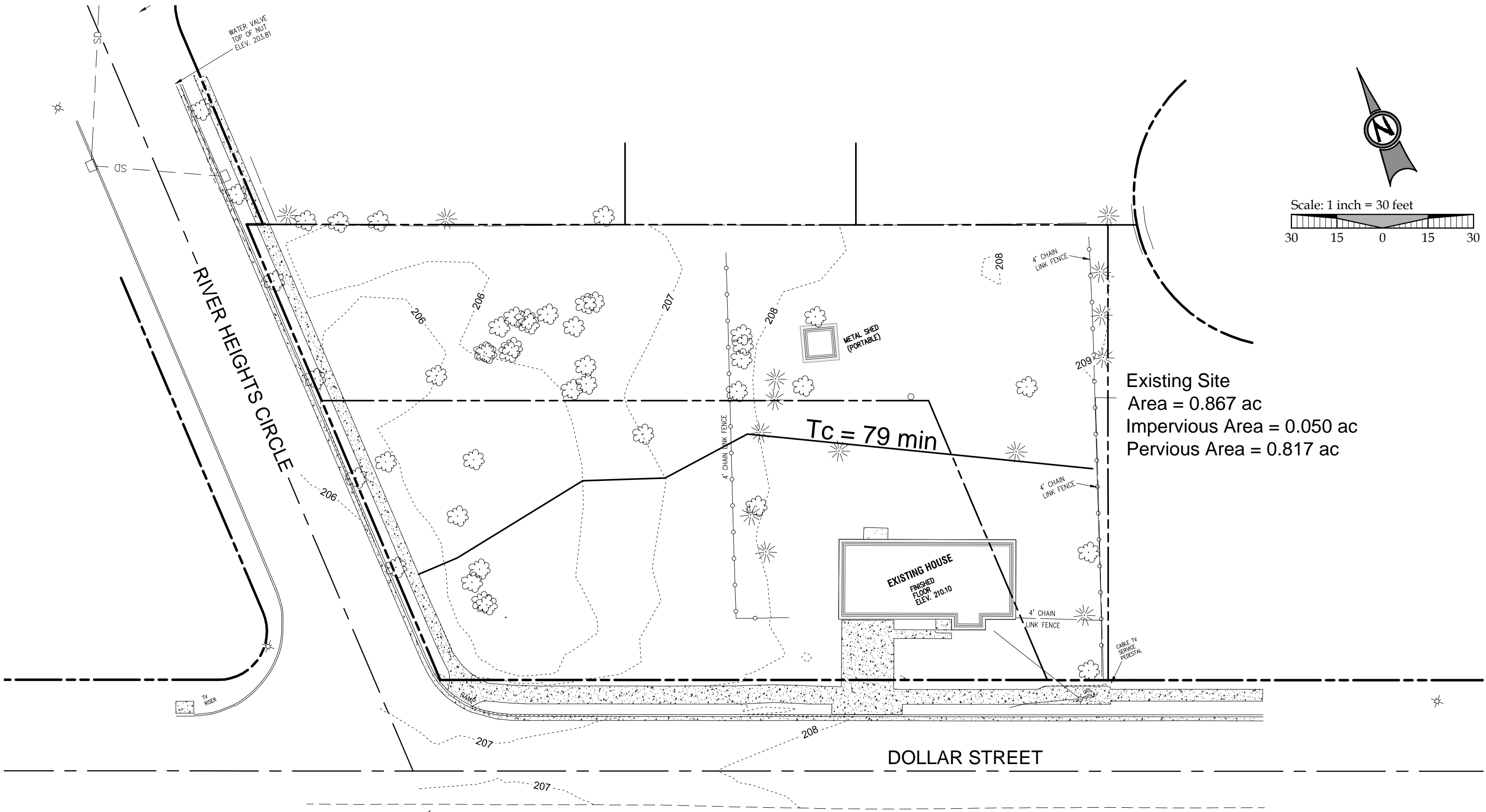
⁴ Actual curve number is less than 30; use CN = 30 for runoff computations.

⁵ CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

⁶ **Poor:** Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.

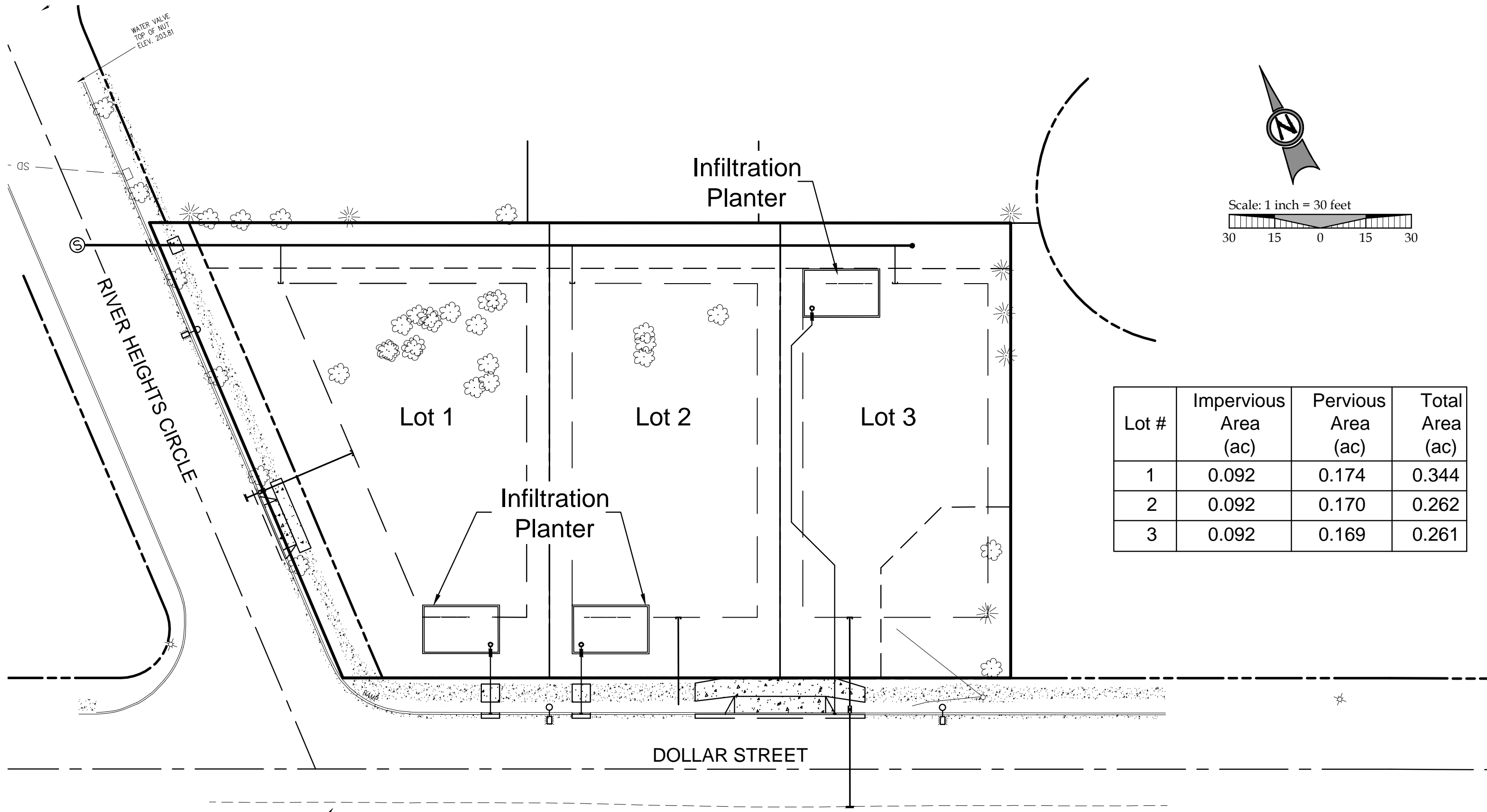
Fair: Woods are grazed but not burned, and some forest litter covers the soil.

Good: Woods are protected from grazing, and litter and brush adequately cover the soil.



Existing Site
 Area = 0.867 ac
 Impervious Area = 0.050 ac
 Pervious Area = 0.817 ac

EXISTING SITE CONDITIONS DOLLAR STREET



Lot #	Impervious Area (ac)	Pervious Area (ac)	Total Area (ac)
1	0.092	0.174	0.344
2	0.092	0.170	0.262
3	0.092	0.169	0.261

3J CONSULTING, INC



POST-DEVELOPED SITE CONDITIONS DOLLAR STREET

Storm Report

Exhibit 2

Date: 04/19/13

By: KEF

DRAWINGS

TAX LOTS 700 AND 800
 IN THE SE 1/4 OF SECTION 34, T.2S., R.1E., W.M.
 960 DOLLAR STREET, WEST LINN, OREGON

PUBLIC IMPROVEMENTS	4/19/13
REVISION SUMMARY	DATE

EXISTING CONDITIONS PLAN

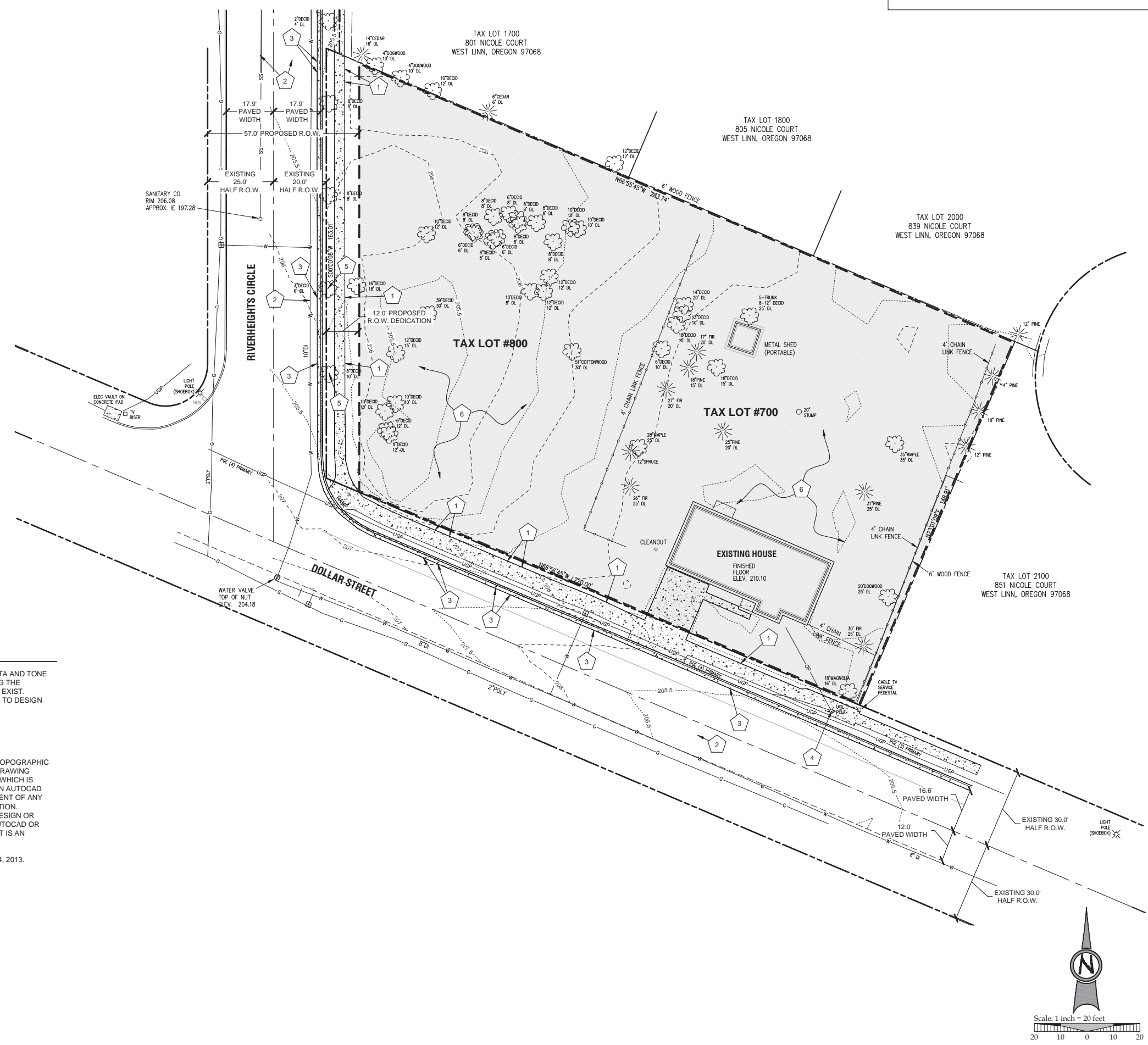
THIS PLAN IS INTENDED FOR USE AS AN EXISTING CONDITIONS PLAN SHOWING THE CONDITIONS OF THE SITE PRIOR TO CONSTRUCTION. INFORMATION SHOWN ON THIS PLAN WAS DEVELOPED FROM THE TOPOGRAPHIC SURVEY, AERIAL PHOTOS, AND SITE OBSERVATIONS BY THE ENGINEER. NOT ALL SURFACE FEATURES OR UTILITIES MAY BE SHOWN. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION TO DETERMINE WORK SPECIFIC DETAILS. TOPOGRAPHIC INFORMATION PROVIDED BY COMPASS ENGINEERING DATED FEBRUARY, 2013.

- SPECIFIC WORK AREA DEMOLITION NOTES**
- SAWCUT SIDEWALK AT NEAREST SCORE JOINT OR PANEL, AT OR BEYOND LIMITS SHOWN. REMOVE CONCRETE WITHIN LIMITS AND DISPOSE OFF SITE.
 - SAWCUT AND REMOVE STREET PAVEMENT FOR UTILITY TRENCHING AND EXCAVATION, AS REQUIRED
 - SAWCUT AND REMOVE EXISTING CURB AND GUTTER AS SHOWN. SAWCUT LIP OF GUTTER TO FULL DEPTH TO LIMIT DAMAGE TO ADJACENT STREET SURFACE DURING REMOVAL.
 - REMOVE POWER UTILITY POLE AND UNDERGROUND ANY ASSOCIATED LIVE UTILITIES.
 - PROTECT EXISTING STREET TREE.
 - DEMOLITION OF ANY AND ALL FEATURES WITHIN PRIVATE PROPERTY TO BE COMPLETED UNDER SEPARATE PERMIT. NOT A PART OF THIS WORK.

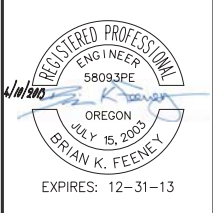
- LEGEND**
- - - - - EXISTING BOUNDARY LINE
 - - - - - EXISTING ADJACENT PROPERTY LINE
 - - - - - EXISTING 0.5FT CONTOUR
 - - - - - EXISTING 1FT CONTOUR
 - - - - - EXISTING TREES
 - - EXISTING CATCH BASIN
 - ⊕ - EXISTING STORM DRAIN MANHOLE
 - SD - EXISTING STORM DRAIN LINE
 - - EXISTING SANITARY SEWER MANHOLE
 - SS - EXISTING SANITARY SEWER LINE
 - 8" DI W - EXISTING WATER LINE
 - ⊙ - EXISTING FIRE HYDRANT
 - ⊗ - EXISTING WATER VALVE
 - ⊕ - EXISTING WATER METER
 - UGP - EXISTING UNDERGROUND POWER
 - OP - EXISTING POWER LINE
 - G - EXISTING GAS LINE

- WORK AREA DEMOLITION LEGEND**
- - - - - PAVEMENT SAW-CUT LINE
 - - - - - ALIGNMENT & EXTENT OF UTILITY REMOVAL
 - XXXXX - AREA OF MATERIAL/PAVEMENT REMOVAL
 - - - - - DEMOLITION WITHIN PRIVATE PROPERTY, UNDER SEPARATE PERMIT

- NOTES**
- UTILITY INFORMATION SHOWN ON THIS MAP IS BASED UPON OBSERVED FEATURES, RECORD DATA AND TONE MARKS PROVIDED BY PUBLIC UTILITY LOCATION SERVICES. NO WARRANTIES ARE MADE REGARDING THE ACCURACY OR COMPLETENESS OF THE UTILITY INFORMATION SHOWN. ADDITIONAL UTILITIES MAY EXIST. INTERESTED PARTIES ARE HEREBY ADVISED THAT UTILITY LOCATIONS SHOULD BE VERIFIED PRIOR TO DESIGN OR CONSTRUCTION OF ANY CRITICAL ITEMS.
 - BASIS OF ELEVATIONS: NAVD '88.
 - CONTOUR INTERVAL IS ONE-HALF FOOT.
 - TOPOGRAPHIC FEATURES SHOWN ON THIS MAP WERE LOCATED USING STANDARD PRECISION TOPOGRAPHIC MAPPING PROCEDURES. THIRD PARTY USERS OF DATA FROM THIS MAP PROVIDED VIA AUTOCAD DRAWING FILES OR DATA EXCHANGE FILES SHOULD NOT RELY ON ANY AUTOCAD GENERATED INFORMATION WHICH IS BEYOND THE LIMITS OF PRECISION OF THIS MAP. THIRD PARTIES USING DATA FROM THIS MAP IN AN AUTOCAD FORMAT SHOULD VERIFY ANY ELEMENTS REQUIRING PRECISE LOCATIONS PRIOR TO COMMENCEMENT OF ANY CRITICAL DESIGN OR CONSTRUCTION. CONTACT COMPASS ENGINEERING FOR FURTHER INFORMATION. FURTHERMORE, COMPASS ENGINEERING WILL NOT BE RESPONSIBLE NOR HELD LIABLE FOR ANY DESIGN OR CONSTRUCTION RELATED PROBLEMS THAT ARISE OUT OF THIRD PARTY USAGE OF THIS MAP (IN AUTOCAD OR OTHER FORMAT) FOR ANY PURPOSE OTHER THAN SPECIFICALLY STATED HEREIN. THIS STATEMENT IS AN OFFICIAL PART OF THIS MAP.
 - UTILITY LINE LOCATIONS FOR DRY UTILITIES ARE BASED UPON TONE MARKS AS OF FEBRUARY 14, 2013.



EXISTING CONDITIONS & DEMOLITION PLAN
DOLLAR STREET & RIVERHEIGHTS CIRCLE
 WEST LINN, OR
 J.T. SMITH COMPANIES

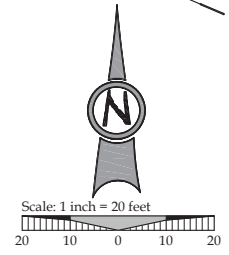


3J CONSULTING, INC

CIVIL ENGINEERING
 WATER RESOURCES
 LAND USE PLANNING

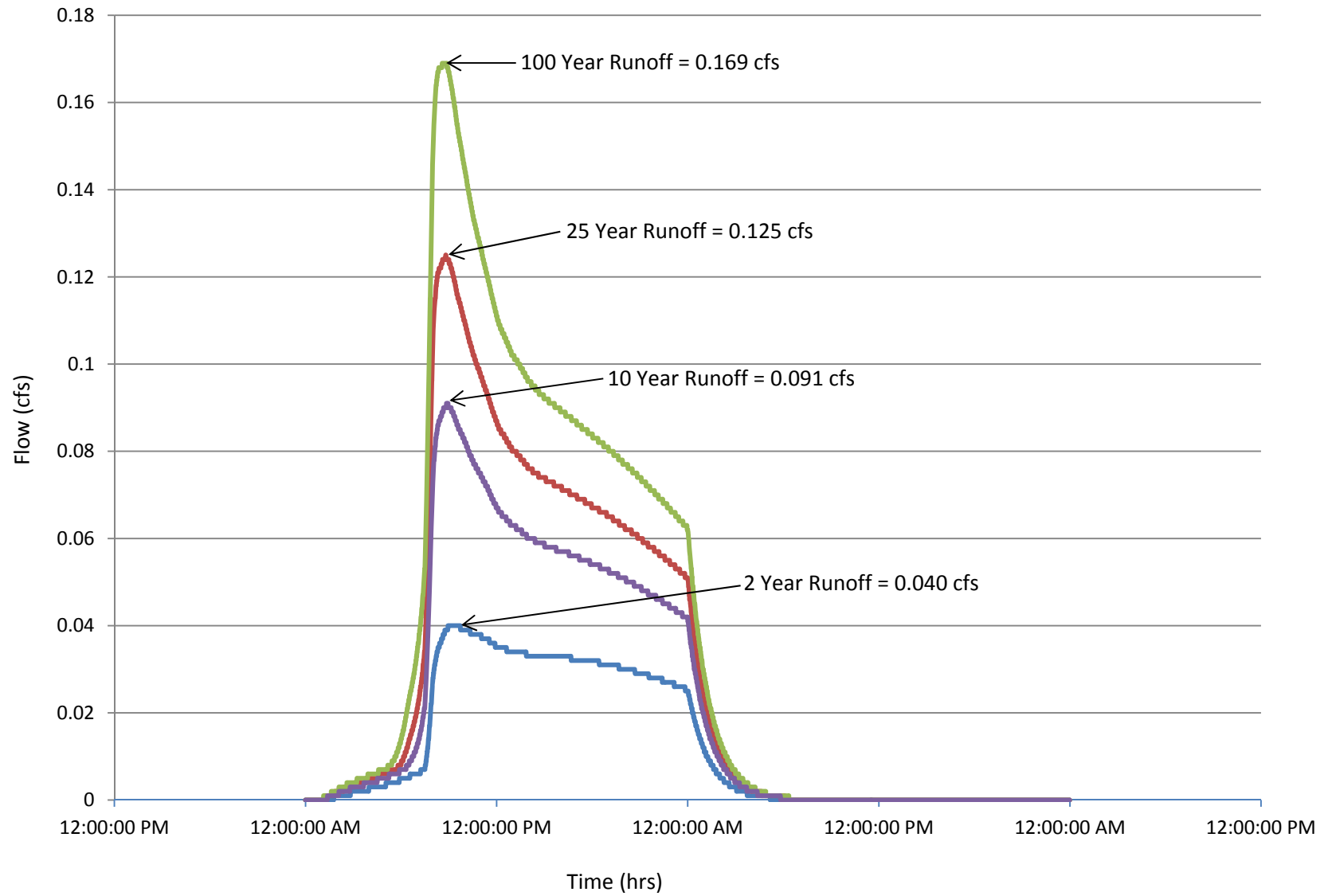
10445 SW CANYON ROAD SUITE 245, BEAVERTON, OR 97008
 PHONE & FAX: (503) 946-8886

3J JOB ID #	13110
LAND USE #	
TAX LOT #	21E34DC 700 & 800
DESIGNED BY	JTE
CHECKED BY	BKF
SHEET TITLE	EXIST. & DEMO.
SHEET NUMBER	
C100	

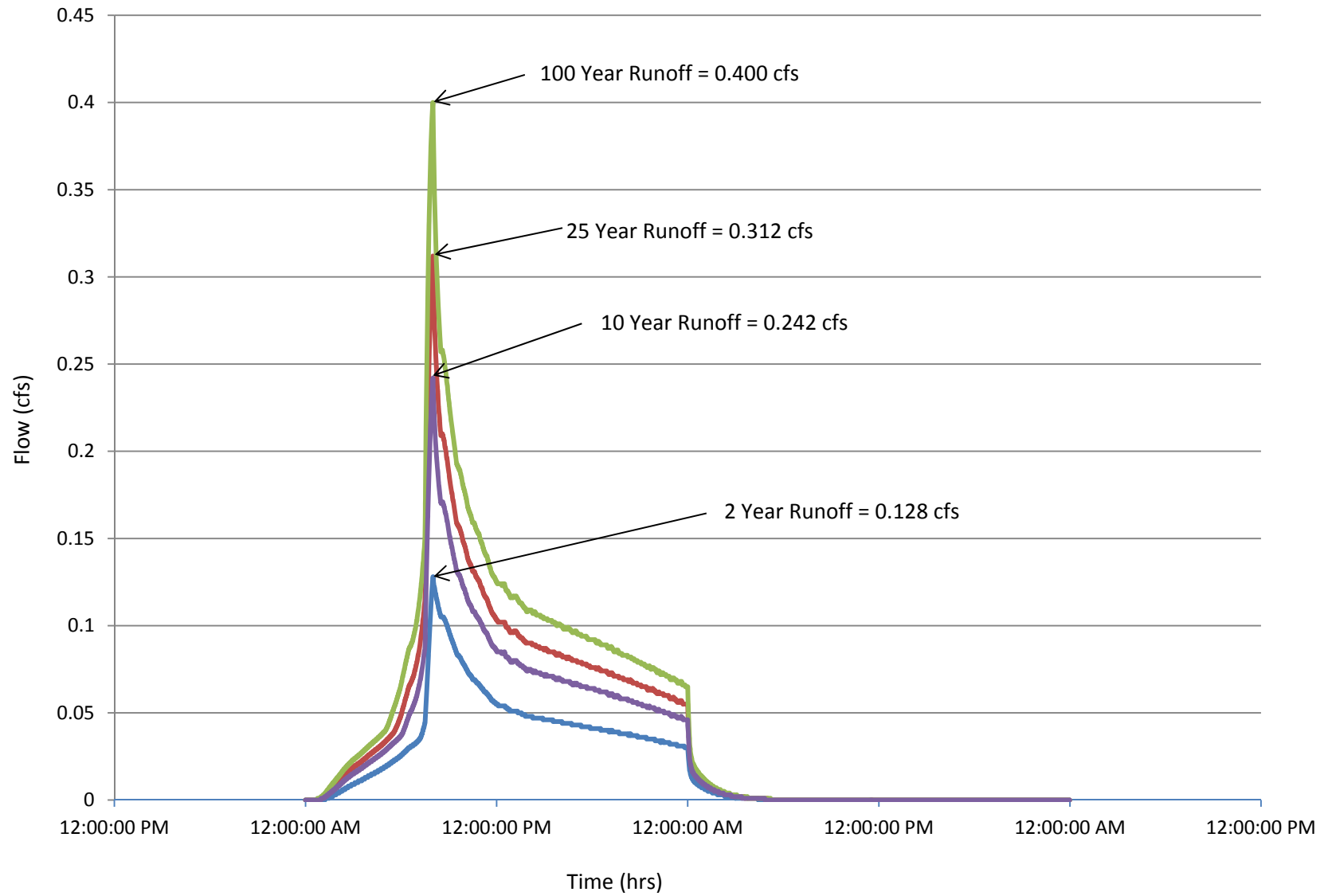


HYDROGRAPHS

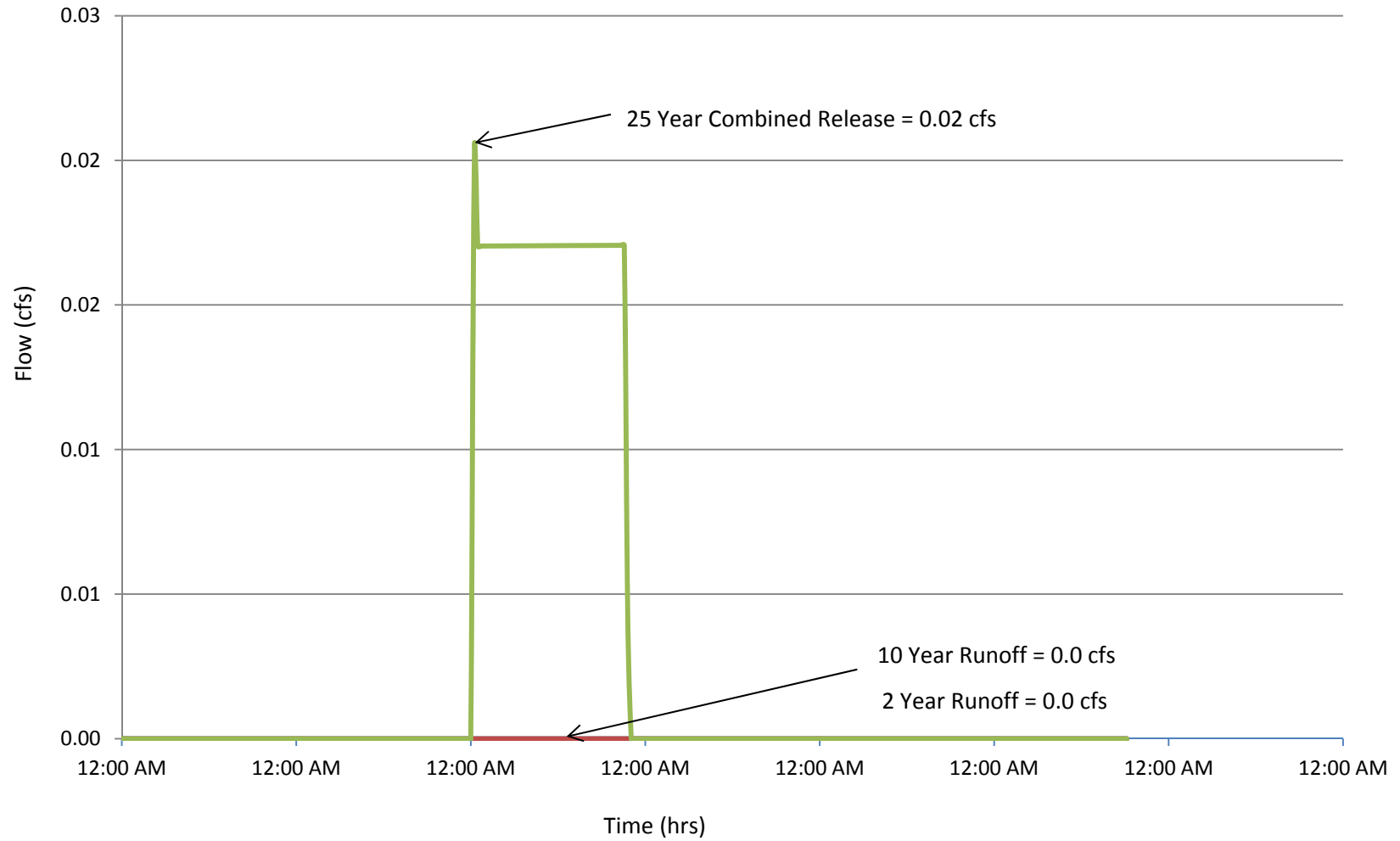
EXISTING RUNOFF HYDROGRAPH



POST-DEVELOPED RUNOFF HYDROGRAPH



POST-DEVELOPED RELEASE RATE FROM COMBINED INFILTRATION PLANTER



PRESUMPTIVE APPROACH CALCULATOR



Presumptive Approach Calculator ver. 1.2

Catchment Data

Project Name: Dollar Street
Project Address: 960 Dollar St
 West Linn, OR
Designer: Kathleen Freeman, PE
Company: 3J Consulting, INC

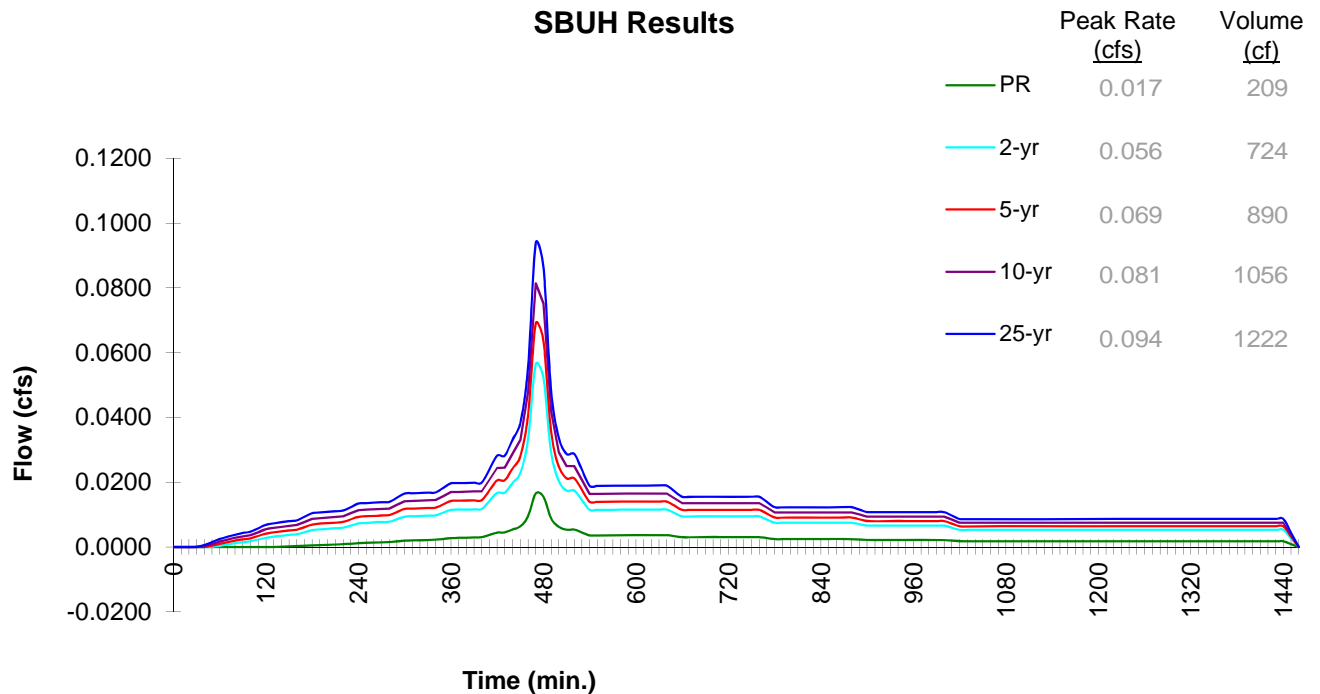
Catchment ID: Lots 1-3
Date: 04/18/13
Permit Number: 0

Run Time 4/17/2013 4:25:32 PM

Drainage Catchment Information		
Catchment ID	Lots 1-3	
	Catchment Area	
Impervious Area	4,000	SF
Impervious Area	0.09	ac
Impervious Area Curve Number, CN_{imp}	98	
Time of Concentration, T_c , minutes	5	min.
Site Soils & Infiltration Testing Data		
Infiltration Testing Procedure:	Open Pit Falling Head	
Native Soil Field Tested Infiltration Rate (I_{test}):	0.7	in/hr
Bottom of Facility Meets Required Separation From High Groundwater Per BES SWMM Section 1.4:	Yes	
Correction Factor Component		
CF_{test} (ranges from 1 to 3)	2	
Design Infiltration Rates		
I_{dsgn} for Native (I_{test} / CF_{test}):	0.35	in/hr
I_{dsgn} for Imported Growing Medium:	2.00	in/hr

Execute SBUH

SBUH Results





Presumptive Approach Calculator ver. 1.2

Catchment ID: **Lots 1-3**

Run Time 4/17/2013 4:25:32 PM

Project Name: Dollar Street

Catchment ID: Lots 1-3

Date: 4/18/2013

Instructions:

1. Identify which Stormwater Hierarchy Category the facility.
2. Select Facility Type.
3. Identify facility shape of surface facility to more accurately estimate surface volume, except for Swales and sloped planters that use the PAC Sloped Facility Worksheet to enter data.
4. Select type of facility configuration.
5. Complete data entry for all highlighted cells.

Catchment facility will meet Hierarchy Category: **1**

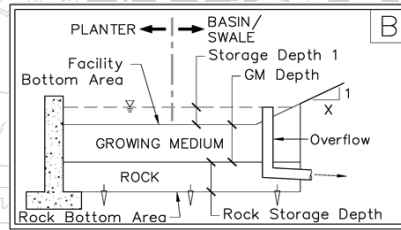
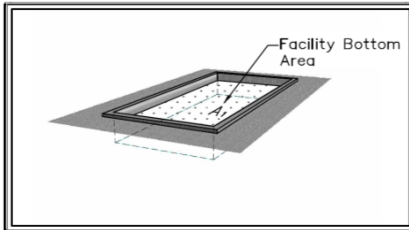
Goal Summary:

Hierarchy Category	SWMM Requirement	RESULTS box below needs to display...	
		Pollution Reduction as a	10-yr (aka disposal) as a
1	On-site infiltration with a surface infiltration facility.	PASS	PASS

Facility Type = **Planter (Flat)**

Facility Shape: **Rectangle/Square**

Facility Configuration: **B**



DATA FOR ABOVE GRADE STORAGE COMPONENT

Facility Bottom Area = **365** sf
 Bottom Width = **30.0** ft
 Facility Side Slope = **0** to 1
 Storage Depth 1 = **18** in
 Growing Medium Depth = **18** in
 Freeboard Depth = **N/A** in

BELOW GRADE STORAGE

Rock Storage Bottom Area = **365** sf
 Rock Storage Depth = **30** in
 Rock Void Ratio = **0.3**

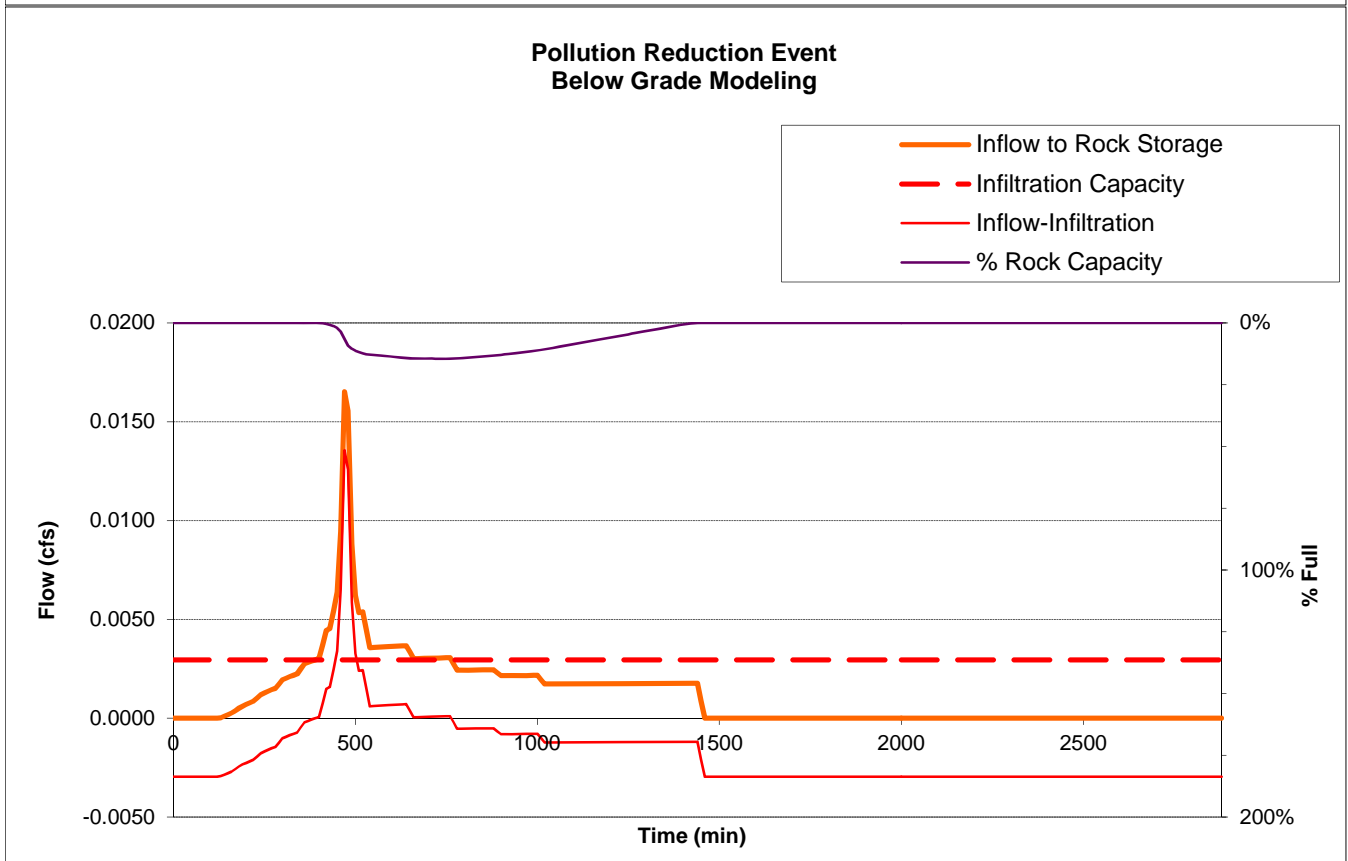
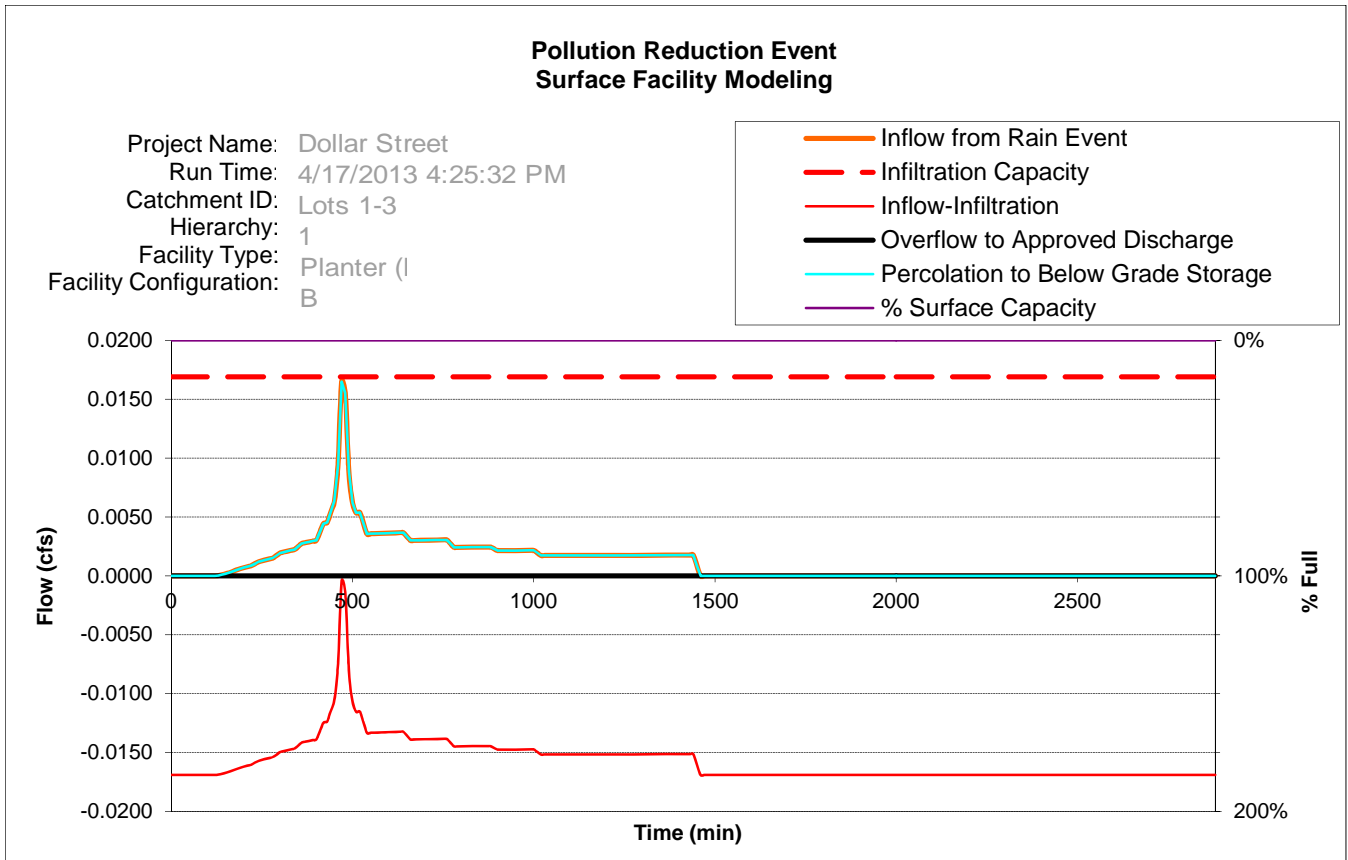
Calculation Guide
 Max. Rock Stor.
 Bottom Area
365 SF

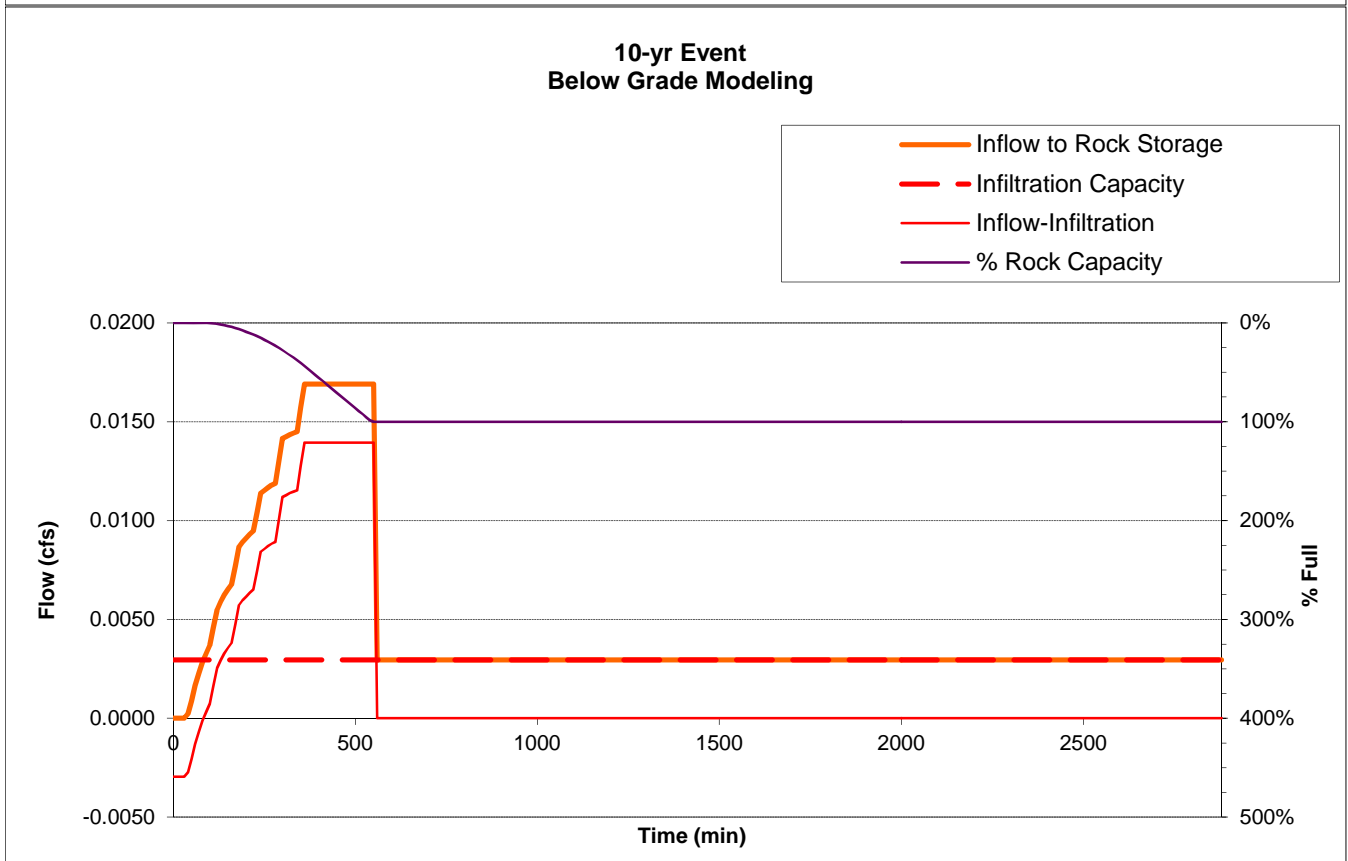
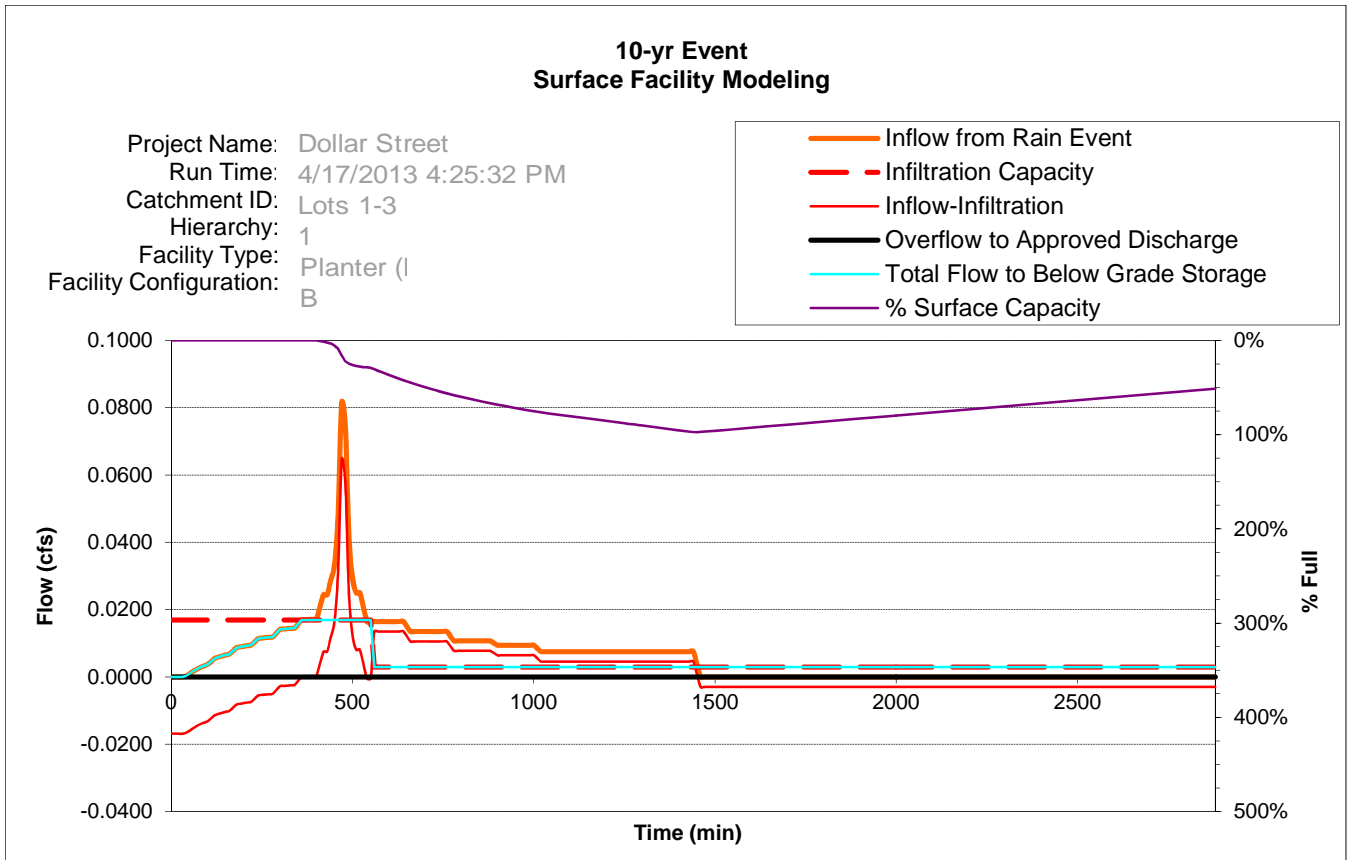
Surface Capacity at Depth 1 = **548** cf
 GM Design Infiltration Rate = **2.00** in/hr
 Infiltration Capacity = **0.017** cfs

Rock Storage Capacity = **274** cf
 Native Design Infiltration Rate = **0.35** in/hr
 Infiltration Capacity = **0.003** cfs

RESULTS		Overflow Volume	
Pollution Reduction	PASS	0 CF	0% Surf. Cap. Used
			15% Rock Cap. Used
10-yr	PASS	0 CF	98% Surf. Cap. Used
			100% Rock Cap. Used

FACILITY FACTS	
Total Facility Area Including Freeboard =	365 SF
Sizing Ratio (Total Facility Area / Catchment Area) =	0.091





CALCULATIONS

Time of Concentration

SUBJECT: Dollar Street Lot Line Adjustment and Partition
PROJECT NO. 13110 **BY** KEF **DATE** 4/17/2013

TC1

SHEET FLOW

INPUT	VALUE	VALUE	VALUE
Surface Description	Type 9 Woods (light underbrush)	Type 10 Woods (Dense underbrush)	Type 10 Woods (Dense underbrush)
Manning's "n"	0.4	0.8	0.8
Flow Length, L (<300 ft)	234.56 ft	0 ft	0 ft
2-Yr 24 Hour Rainfall, P ₂	2.5 in	2.5 in	2.5 in
Land Slope, s	0.005755 ft/ft	0.07965 ft/ft	0.0922 ft/ft
OUTPUT			
Travel Time	1.32 hr	0.00 hr	0.00 hr

SHALLOW CONCENTRATED FLOW

INPUT	VALUE	VALUE	VALUE
Surface Description	Unpaved	Unpaved	Paved
Flow Length, L	0 ft	0 ft	0 ft
Watercourse Slope*, s	0.009 ft/ft	0.01 ft/ft	0.027 ft/ft
OUTPUT			
Average Velocity, V	1.53 ft/s	1.61 ft/s	3.34 ft/s
Travel Time	0.000 hr	0.000 hr	0.000 hr

CHANNEL FLOW

INPUT	VALUE	VALUE	VALUE
Cross Sectional Flow Area, a	7.5 ft ²	7.5 ft ²	15.06 ft ²
Wetted Perimeter, P _w	11.28 ft	11.28 ft	7.69 ft
Channel Slope, s	0.003 ft/ft	0.003 ft/ft	0.00 ft/ft
Manning's "n"	0.24	0.24	0.24
Flow Length, L	0 ft	0 ft	0 ft
OUTPUT			
Average Velocity	0.26 ft/s	0.26 ft/s	0.63 ft/s
Hydraulic Radius, r = a / P _w	0.66 ft	0.66 ft	1.96 ft
Travel Time	0.00 hr	0.00 hr	0.00 hr
Watershed or Subarea T _c =	1.32 hr	0.00 hr	0.00 hr
Watershed or Subarea T _c =	79 minutes	0 minutes	0 minutes

GEOTECHNICAL REPORTS



**Real-World Geotechnical Solutions
Investigation • Design • Construction Support**

April 23, 2013
GeoPacific Project No. 13-2970

John Wyland
J.T. Smith Companies
5282 Meadows Road, Suite 171
Lake Oswego, Oregon 97035

Copy: Brian Feeney (brian.feeney@3j-consulting.com)

Via e-mail with hard copies mailed

Subject: **GEOTECHNICAL ENGINEERING REPORT
DOLLAR STREET PROPERTY
NE CORNER OF DOLLAR STREET AND RIVER HEIGHTS CIRCLE INTERSECTION
WEST LINN, OREGON**

This report presents the results of a geotechnical engineering study conducted by GeoPacific Engineering, Inc. (GeoPacific) for the above referenced project. The purpose of this study was to evaluate subsurface conditions at the site and to provide geotechnical recommendations for site development. This geotechnical study was performed in accordance with GeoPacific proposal No. P-4454, dated April 1, 2013, and your subsequent authorization of our agreement and *General Conditions for Geotechnical Services*.

SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The site is located on the northeast side of the intersection of Dollar Street and River Heights Circle in West Linn, Oregon (Figure 1). The area of the planned development totals approximately 37,800 square feet and is roughly rectangular-shaped. A single family residence is present in the southeast portion of the site. The southern central portion of the site has been graded and tilled as a garden. The topography on the site is sloping very slightly down to the northwest. Vegetation on the site consists primarily of grass, brush, and small to large trees.

It is our understanding that the proposed development includes grading the site to support lots for new single-family homes and associated underground utilities. The current grading plan (Figure 2) shows a total of 3 lots. The existing residence is to be demolished and removed from the site. We anticipate that the maximum depth of cut and height of fill will be about 5 feet or less.

REGIONAL GEOLOGIC SETTING

Regionally, the subject site lies within the Willamette Valley/Puget Sound lowland, a broad structural depression situated between the Coast Range on the west and the Cascade Range on the east. A series of discontinuous faults subdivide the Willamette Valley into a mosaic of fault-bounded, structural blocks (Yeats et al., 1996). Uplifted structural blocks form bedrock highlands, while down-warped structural blocks form sedimentary basins.

The site is underlain by the Quaternary age (last 1.6 million years) Willamette Formation, a catastrophic flood deposit associated with repeated glacial outburst flooding of the Willamette Valley (Yeats et al., 1996; Evarts, 2004). The last of these outburst floods occurred about 10,000 years ago. These deposits typically consist of horizontally layered, micaceous, silt to coarse sand forming poorly-defined to distinct beds less than 3 feet thick.

Underlying the Willamette Formation is the Columbia River Basalt Formation (Beeson et al., 1989). The Miocene aged (about 14.5 to 16.5 million years ago) Columbia River Basalts are a thick sequence of lava flows. The basalts are composed of dense, finely crystalline rock that is commonly fractured along blocky and columnar vertical joints. Individual basalt flow units typically range from 25 to 125 feet thick and interflow zones are typically vesicular, scoriaceous, brecciated, and sometimes include sedimentary rocks.

At least three major source zones capable of generating damaging earthquakes are thought to exist in the vicinity of the subject site. These include the Gales Creek-Newberg-Mt. Angel Structural Zone, the Portland Hills Fault Zone, and the Cascadia Subduction Zone.

Gales Creek-Newberg-Mt. Angel Structural Zone

The Gales Creek-Newberg-Mt. Angel Structural Zone is a 50-mile-long zone of discontinuous, NW-trending faults that lies about 15.6 miles southwest of the subject site. These faults are recognized in the subsurface by vertical separation of the Columbia River Basalt and offset seismic reflectors in the overlying basin sediment (Yeats et al., 1996; Werner et al., 1992). A recent geologic reconnaissance and photogeologic analysis study conducted for the Scoggins Dam site in the Tualatin Basin revealed no evidence of deformed geomorphic surfaces along the structural zone (Unruh et al., 1994). No seismicity has been recorded on the Gales Creek or Newberg Faults (the faults closest to the subject site); however, these faults are considered to be potentially active because they may connect with the seismically active Mount Angel Fault and the rupture plane of the 1993 M5.6 Scotts Mills earthquake (Werner et al. 1992; Geomatrix Consultants, 1995).

Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that include the central Portland Hills Fault, the western Oatfield Fault, and the eastern East Bank Fault. These faults occur in a northwest-trending zone that varies in width between 3.5 and 5.0 miles. The combined three faults vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years) sediment (Madin, 1990). The Portland Hills Fault occurs along the Willamette River at the base of the Portland Hills, and is about 6 miles northeast of the site. The Oatfield Fault occurs along the western side of the Portland Hills, and is about 4.6 miles northeast of the site. The accuracy of the fault mapping is stated to be within 500 meters (Wong, et al., 2000). No historical seismicity is correlated with the mapped portion of the Portland Hills Fault Zone, but in 1991 a M3.5 earthquake occurred on a NW-trending shear plane located 1.3 miles east of the fault (Yelin, 1992). Although there is no definitive evidence of recent activity, the Portland Hills Fault Zone is assumed to be potentially active (Geomatrix Consultants, 1995).

Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year (Goldfinger et al., 1996). A growing body of geologic evidence suggests that prehistoric subduction zone earthquakes have occurred (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). This evidence includes: (1) buried tidal marshes recording episodic, sudden subsidence along the coast of northern California, Oregon, and Washington, (2) burial of subsided tidal marshes by tsunami wave

deposits, (3) paleoliquefaction features, and (4) geodetic uplift patterns on the Oregon coast. Radiocarbon dates on buried tidal marshes indicate a recurrence interval for major subduction zone earthquakes of 250 to 650 years with the last event occurring 300 years ago (Atwater, 1992; Carver, 1992; Peterson et al., 1993; Geomatrix Consultants, 1995). The inferred seismogenic portion of the plate interface lies roughly along the Oregon Coast at depths of 20 and 40 kilometers below the ocean surface.

FIELD EXPLORATION

Subsurface conditions were explored on April 12, 2013 by excavating 3 test pits to depths of 7 to 9.5 feet below ground surface, using a John Deere 310E backhoe with a 2-foot-wide toothed bucket. The approximate test pit locations are shown on the attached site plan (Figure 2). It should be noted that exploration locations were determined in the field by pacing or taping distances from apparent property corners and other site features shown on the plans provided. As such, the locations of the explorations should be considered approximate.

During excavation of the test pits, a GeoPacific engineer observed and recorded soil information such as color, stratigraphy, strength, and soil moisture. Soils were classified in general accordance with the Unified Soil Classification System (USCS). Logs of test pits are attached to this report.

At the completion of each test pit, the excavation was backfilled using the excavated soils, and tamped with the excavator bucket. This backfill should not be expected to behave as engineered fill and some settling and/or erosion of the ground surface may occur.

SUBSURFACE CONDITIONS

Soil and Rock

The following report sections summarize subsurface conditions anticipated at the site, based on our exploration program. On-site soils consist of undocumented fill, topsoil, and Willamette Formation, as described below.

Undocumented Fill: Undocumented fill was encountered in test pit TP-1. The fill material generally consisted of moderately organic SILT (OL-ML) with occasional gravel, cobbles, debris, and deleterious materials. The gravelly silt fill material generally had a soft consistency and moisture contents were generally moist. The total thickness of fill encountered in test pit TP-1 was 2 feet. We anticipate that additional localized fill zones may be present in the vicinity of the existing residence.

Topsoil: In test pits TP-2 and TP-3, the ground surface was directly underlain by topsoil. Topsoil generally consisted of soft, dark brown, moderately to highly organic SILT (OL-ML) with roots. The total thickness of the topsoil layer ranged from 10 to 12 inches. There is the potential for some tree roots or thicker topsoil zones in forested areas of site.

Willamette Formation: Underlying the undocumented fill in test pit TP-1 and the topsoil in test pits TP-2 and TP-3 was stiff silt belonging to the Willamette Formation. The Willamette Formation material was generally brown in color with increasing amounts of sand content with depth. Below approximately 6 feet, the Willamette Formation material graded to silty fine sand with a medium dense to dense consistency. Material belonging to the Willamette Formation extended beyond the maximum depths of our explorations (9.5 feet).

Groundwater

On April 12, 2013, groundwater seepage was not encountered in the test pits. The groundwater conditions reported are for the specific date and locations indicated, and therefore may not necessarily be indicative of other times and/or locations. It is anticipated that groundwater conditions will vary depending on the time of year, rainfall, local subsurface conditions, changes in site utilization, and other factors. During periods of heavy and prolonged precipitation, shallow perched groundwater conditions often occur over fine-grained native deposits such as those beneath the site, particularly during the wet season.

INFILTRATION TESTING

On April 13, 2013, GeoPacific performed two pushed-pipe falling head infiltration tests at the approximate locations shown on Figure 1. The tests were conducted in 6-inch diameter pipes pushed into the native soil at approximate depths of 2 and 8.5 feet below the ground surface. The infiltration tests were performed at the bottom of test pits TP-1 and TP-2. The soil encountered at the depth of the infiltration test performed in test pit TP-1 consisted of light gray brown silty fine SAND (SM). The soil encountered at the depth of the infiltration test performed in test pit TP-2 consisted of brown SILT (ML) with trace fine sand.

The test holes were pre-saturated overnight prior to performing the tests. During the tests, water levels were measured over 30 minute intervals with approximate head pressures ranging between 12 and 36 inches until three successive measurements showing a consistent infiltration rate were achieved. Approximate test locations are shown in Figure 2. Table 1 presents a summary of our infiltration test measurement results.

Table 1. Results of Infiltration Testing

Location	Depth	Infiltration Rate
TP-1	8.5 feet	0.7 in/hr
TP-2	2 feet	0.8 in/hr

The test results indicate very low infiltration rates. The measured rates reflect vertical flow pathways only.

CONCLUSIONS AND RECOMMENDATIONS

Results of this study indicate that the proposed development is geotechnically feasible, provided that the recommendations of this report are incorporated into the design and construction phases of the project. The proposed structure may be supported on shallow foundations bearing on competent undisturbed native soils, or engineered fill, designed and constructed as recommended in this report.

Recommendations are presented below for site preparation and undocumented fill removal, engineered fill, wet weather earthwork, seismic design, structural foundations, footing drains, storm water systems, permeable pavement systems, excavation conditions and utility trench backfill, and erosion control considerations. The recommendations of this report assume the single-family structures will have raised floors and crawlspaces.

Site Preparation and Undocumented Fill Removal

Proposed areas to receive fill should first be cleared of vegetation and any loose debris or undocumented fill (if encountered), and debris from clearing should be removed from the site. Organic-rich topsoil should be

stripped to the relatively inorganic native soils. We anticipate that the depth of stripping will be an average of roughly 6 to 12 inches over most of the site. Deeper stripping will be needed in areas that have been tilled in the past, areas of localized fill deposits, etc. The final depth of stripping removal may vary depending on local subsurface conditions and the contractor's methods, and should be determined on the basis of a site inspection after the initial stripping has been performed.

Stripped organic soil should be stockpiled only in designated areas or removed from the site and stripping operations should be observed and documented by GeoPacific. Any existing subsurface structures (tile drains, old utility lines, septic leach fields, etc.) beneath structures and pavements should be removed and the excavations backfilled with engineered fill.

In construction areas, once stripping is approved, the area should be ripped or tilled to a depth of 12 inches, moisture conditioned, and compacted in-place prior to the placement of engineered fill or crushed aggregate base for pavement (dry weather conditions). Exposed subgrade soils should be evaluated by GeoPacific. For large areas, this evaluation is normally performed by proof-rolling the exposed subgrade with a fully loaded scraper or dump truck. For smaller areas where access is restricted, and during wet weather, the subgrade should be evaluated by probing the soil with a steel probe.

Soft/loose soils identified during subgrade preparation should be compacted to a firm and unyielding condition or over-excavated and replaced with engineered fill, as described below. The depth of overexcavation, if required, should be evaluated by GeoPacific at the time of construction.

Engineered Fill

In general, we anticipate that soils from planned cuts and utility trench excavations will be suitable for use as engineered fill during dry weather conditions, provided they are adequately moisture conditioned prior to compacting and are free of highly organic material and debris. Imported fill material should be reviewed by GeoPacific prior to being imported to the site. Oversize material greater than 6 inches in size should not be used within 3 feet of foundation footings, and material greater than 12 inches in diameter should not be used in engineered fill.

Engineered fill should be compacted in horizontal lifts not exceeding 8 inches using conventional compaction equipment. We recommend that engineered fill be compacted to at least 90 percent of the maximum dry density determined by ASTM D1557 (Modified Proctor) or equivalent. On-site soils may be wet or dry of optimum; therefore, we anticipate that moisture conditioning of native soil will be necessary for compaction operations.

Proper test frequency and earthwork documentation usually requires daily observation and testing during stripping, rough grading, and placement of engineered fill. Field density testing should generally conform to ASTM D2922 and D3017, or D1556. Engineered fill should be periodically observed and tested by the project geotechnical engineer or his representative. Typically, one density test is performed for at least every 2 vertical feet of fill placed or every 500 cubic yards, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor be held contractually responsible for test scheduling and frequency.

Wet Weather Earthwork

The on-site soils are moisture sensitive and may be difficult to handle or traverse with construction equipment during periods of wet weather. Earthwork is typically most economical when performed under dry weather conditions. Earthwork performed during the wet-weather season will probably require expensive measures such as cement treatment or imported granular material to compact fill to the

recommended engineering specifications. If earthwork is to be performed or fill is to be placed in wet weather or under wet conditions when soil moisture content is difficult to control, the following recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soils should be followed promptly by the placement and compaction of clean engineered fill. The size and type of construction equipment used may have to be limited to prevent soil disturbance. Under some circumstances, it may be necessary to excavate soils with a backhoe to minimize subgrade disturbance caused by equipment traffic;
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water;
- Material used as engineered fill should consist of clean, granular soil containing less than 5 percent fines. The fines should be non-plastic. Alternatively, cement treatment of on-site soils may be performed to facilitate wet weather placement;
- The ground surface within the construction area should be sealed by a smooth drum vibratory roller, or equivalent, and under no circumstances should be left uncompacted and exposed to moisture. Soils which become too wet for compaction should be removed and replaced with clean granular materials;
- Excavation and placement of fill should be observed by the geotechnical engineer to verify that all unsuitable materials are removed and suitable compaction and site drainage is achieved; and
- Bales of straw and/or geotextile silt fences should be strategically located to control erosion.

If cement or lime treatment is used to facilitate wet weather construction, GeoPacific should be contacted to provide additional recommendations and field monitoring.

Seismic Design

Structures should be designed to resist earthquake loading in accordance with the methodology described in the 2009 International Building Code (IBC) with applicable 2010 Oregon Structural Specialty Code (OSSC) revisions. We recommend Site Class D be used for design per the OSSC, Table 1613.5.2. Design values determined for the site using the USGS (United States Geological Survey) *Earthquake Ground Motion Parameters* utility are summarized below.

Table 2. Recommended Earthquake Ground Motion Parameters (2009 IBC / 2010 OSSC)

Parameter	Value
Location (Lat, Long), degrees	45.349, -122.670
Mapped Spectral Acceleration Values (MCE, Site Class D):	
Short Period, S_s	0.907 g
1.0 Sec Period, S_1	0.326 g
Soil Factors for Site Class D:	
F_a	1.137
F_v	1.748
$SD_s = 2/3 \times F_a \times S_s$	0.687 g
$SD_1 = 2/3 \times F_v \times S_1$	0.380 g

Soil liquefaction is a phenomenon wherein saturated soil deposits temporarily lose strength and behave as a liquid in response to earthquake shaking. Soil liquefaction is generally limited to loose, granular soils located below the water table. Following development, on-site soils will consist predominantly of medium stiff to very stiff silt and engineered fill, which are not considered susceptible to liquefaction. Therefore, it is our opinion that special design or construction measures are not required to mitigate the effects of liquefaction.

Structural Foundations

Based on our understanding of the proposed project and the results of our exploration program, and assuming our recommendations for site preparation are followed, medium stiff to stiff native soil or engineered fill soils should be encountered at or near the foundation level of the proposed structures.

Shallow, conventional isolated or continuous spread footings may be used to support the proposed structures, provided they are founded on competent native soils. We recommend a maximum allowable bearing pressure of 2,000 pounds per square foot (psf) for designing footings on native soil near existing grade. The recommended maximum allowable bearing pressure may be increased by a factor of 1.33 for short term transient conditions such as wind and seismic loading. Exterior footings should be founded at least 18 inches below the lowest adjacent finished grade. Minimum footing widths should be determined by the project engineer/architect in accordance with applicable design codes.

Assuming construction is accomplished as recommended herein, and for the foundation loads anticipated, we estimate total settlement of spread foundations of less than about 1 inch and differential settlement between two adjacent load-bearing components supported on competent soil of less than about ½ inch. We anticipate that the majority of the estimated settlement will occur during construction, as loads are applied.

Wind, earthquakes, and unbalanced earth loads will subject the proposed structure to lateral forces. Lateral forces on a structure will be resisted by a combination of sliding resistance of its base or footing on the underlying soil and passive earth pressure against the buried portions of the structure. For use in design, a coefficient of friction of 0.5 may be assumed along the interface between the base of the footing and subgrade soils. Passive earth pressure for buried portions of structures may be calculated using an equivalent fluid weight of 390 pounds per cubic foot (pcf), assuming footings are cast against dense, natural soils or engineered fill. The recommended coefficient of friction and passive earth pressure values do not include a safety factor. The upper 12 inches of soil should be neglected in passive pressure computations unless it is protected by pavement or slabs on grade.

Footing excavations should be trimmed neat and the bottom of the excavation should be carefully prepared. Loose, wet or otherwise softened soil should be removed from the footing excavation prior to placing reinforcing steel bars. GeoPacific should observe foundation excavations prior to placing formwork and reinforcing steel, to verify that adequate bearing soils have been reached.

The above foundation recommendations are for dry weather conditions. Due to the high moisture sensitivity of on-site soils, construction during wet weather may require overexcavation of footings and backfill with compacted, crushed aggregate.

Footing and Roof Drains

To minimize the fluctuation of soil moisture content near structural foundations, we recommend that the structures be constructed with perimeter footing drains. Footing drains should consist of 4-inch minimum diameter perforated plastic pipe embedded in a minimum of 1 ft³ per lineal foot of clean, crushed drain rock or 1"- ¼" rounded drain rock. The drain pipe and surrounding drain rock should be wrapped in non-woven

geotextile (Mirafi 140N, or approved equivalent) to minimize the potential for clogging and/or ground loss due to piping. Water collected from the footing drains should be directed into the local storm drain system or other suitable outlet. A minimum 0.5 percent fall should be maintained throughout the drain and non-perforated pipe outlet. The footing drains should include clean-outs to allow periodic maintenance and inspection.

Down spouts and roof drains should collect roof water in a system separate from the footing drains in order to reduce the potential for clogging. Roof drain water should be directed to an appropriate discharge point well away from structural foundations. Grades should be sloped downward and away from buildings to reduce the potential for ponded water near structures.

Storm Water Management

We understand that on-site storm water systems may include pervious pavement, shallow infiltration facilities, and/or deep infiltration facilities. Infiltration test results indicate that infiltration rates in the near surface soils are on the order of 0.8 inches per hour at depths of 2 to 6 feet, and 0.7 inches per hour at depths of 6 to 8.5 feet. The designer should select an appropriate infiltration value based on our test results and the location of the proposed infiltration facility. The infiltration rates do not incorporate a factor of safety. For the design infiltration rate, the system designer should incorporate an appropriate factor of safety against slowing of the rate over time due to biological and sediment clogging.

Infiltration test methods and procedures attempt to simulate the as-built conditions of the planned disposal system. However, due to natural variations in soil properties, actual infiltration rates may vary from the measured and/or recommended design rates. All systems should be constructed such that potential overflow is discharged in a controlled manner away from structures, and all systems should include an adequate factor of safety. Infiltration rates presented in this report should not be applied to inappropriate or complex hydrological models such as a closed basin without extensive further studies. Evaluating environmental implications of stormwater disposal at this site are beyond the scope of this study.

Permeable Pavement Design Recommendations

We understand that permeable pavements may be incorporated in project design. We recommend pervious Portland cement concrete (PCC), or manufactured permeable paver blocks such as Anchor Holland Permeable with integrated spacer gaps (or similar). Pervious asphalt pavement is not recommended due to its tendency for raveling and insufficient durability. A typical detail for permeable pavement sections is attached to this report.

For use in sizing calculations, we recommend an ultimate infiltration rate of 0.8 inches per hour be used for the near surface silt soils. For the design infiltration rate, the system designer/builder should incorporate an appropriate factor of safety against slowing of the rate over time due to biological and sediment clogging. Stormwater exceeding soil infiltration and/or soil storage capacities will need to be directed to a suitable discharge location. We suggest the pervious pavement designer assume a void ratio of 30 percent for the crushed rock / reservoir course. The crushed rock / reservoir course material should consist of Open-Graded Aggregate per ODOT Standard Specifications Section 02630.11. Care should be taken to avoid overcompaction of the subgrade soils and reservoir course, which could limit the void ratio of these materials and reduce the functionality as a pervious pavement.

We do not recommend a density specification for the crushed rock / reservoir course material beneath pervious pavements, due to concerns about overcompaction as discussed above. During placement of the

base rock / reservoir course material, visual observations should be made to verify the material has been compacted to a relatively firm and unyielding condition.

We assume that the private driveway will accommodate primarily passenger vehicles and light trucks. Consequently, our design was formulated using design methods prescribed by AASHTO for light-duty roads.

Table 3 presents our recommended minimum section for construction of a permeable paver private driveway section in dry-weather conditions. The driveway should be constructed on firm, unyielding subgrade soil. The edges of permeable pavement sections should be retained by concrete curbs extending to subgrade below the base of the section, or as specified by the project civil engineer.

Table 3. Recommended Permeable Paver Section for Dry-Weather Construction

Material Layer	Minimum Thickness (in.)
Pervious PCC / Manufactured Paver Blocks	4 inches / 3.125 inches
Open Graded Crushed Aggregate (washed) 1" - 1/10" ODOT Table 02630-2	1 inch
Open Graded Crushed Aggregate (washed) (2" - 3/4" diameter)	11 inches (see Note)
Non-woven Geotextile Filter Fabric (Mirafi 160N or Equivalent)	-
Unyielding Native Subgrade Soil	-

Note: Thickness of reservoir section may need to be increased by the storm water system designer, due to storm water detention or other requirements.

Subgrade strength be verified visually by GeoPacific prior to section placement; soft areas may need to be stabilized or overexcavated prior to pavement section construction. Overexcavations should be backfilled using additional crushed drain rock.

If pavement areas are to be constructed during wet weather, GeoPacific should review the subgrade and proposed construction methods immediately prior to the placement of base course so that specific recommendations can be provided. Wet-weather construction is likely to require additional crushed aggregate base course thickness.

Excavating Conditions and Utility Trench Backfill

We anticipate that on-site soils can be excavated using conventional heavy equipment. Maintenance of safe working conditions, including temporary excavation stability, is the responsibility of the contractor. Actual slope inclinations at the time of construction should be determined based on safety requirements and actual soil and groundwater conditions. All temporary cuts in excess of 4 feet in height should be sloped in accordance with U.S. Occupational Safety and Health Administration (OSHA) regulations (29 CFR Part 1926), or be shored. The existing native soils classify as Type B Soil and temporary excavation side slope inclinations as steep as 1H:1V may be assumed for planning purposes. This cut slope inclination is applicable to excavations above the water table only.

Shallow, perched groundwater should be anticipated in excavations and utility trenches. The depth of groundwater will likely be less during the wet weather season and greater during the dry weather season.

Vibrations created by traffic and construction equipment may cause some caving and raveling of excavation walls. In such an event, lateral support for the excavation walls should be provided by the contractor to prevent loss of ground support and possible distress to existing or previously constructed structural improvements.

PVC pipe should be installed in accordance with the procedures specified in ASTM D2321. We recommend that structural trench backfill be compacted to at least 90% of the maximum dry density obtained by Modified Proctor (ASTM D1557) or equivalent. Initial backfill lift thicknesses for a ¾"-0 crushed aggregate base may need to be as great as 4 feet to reduce the risk of flattening underlying flexible pipe. Subsequent lift thickness should not exceed 1 foot. If imported granular fill material is used, then the lifts for large vibrating plate-compaction equipment (e.g. hoe compactor attachments) may be up to 2 feet, provided that proper compaction is being achieved and each lift is tested. Use of large vibrating compaction equipment should be carefully monitored near existing structures and improvements due to the potential for vibration-induced damage.

Adequate density testing should be performed during construction to verify that the recommended relative compaction is achieved. Typically, at least one density test is taken for every 4 vertical feet of backfill on each 200-lineal-foot section of trench.

Erosion Control Considerations

During our field exploration program, we did not observe soil types that would be considered highly susceptible to erosion. In our opinion, the primary concern regarding erosion potential will occur during construction, in areas that have been stripped of vegetation. Erosion at the site during construction can be minimized by implementing the project erosion control plan, which should include judicious use of straw bales and silt fences. If used, these erosion control devices should be in place and remain in place throughout site preparation and construction.

Erosion and sedimentation of exposed soils can also be minimized by quickly re-vegetating exposed areas of soil, and by staging construction such that large areas of the project site are not denuded and exposed at the same time. Areas of exposed soil requiring immediate and/or temporary protection against exposure should be covered with either mulch or erosion control netting/blankets. Areas of exposed soil requiring permanent stabilization should be seeded with an approved grass seed mixture, or hydroseeded with an approved seed-mulch-fertilizer mixture.

UNCERTAINTIES AND LIMITATIONS

We have prepared this report for the owner and their consultants for use in design of this project only. This report should be provided in its entirety to prospective contractors for bidding and estimating purposes; however, the conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations that may not be detected by a geotechnical study. If, during future site operations, subsurface conditions are encountered which vary appreciably from those described herein, GeoPacific should be notified for review of the recommendations of this report, and revision of such if necessary.

Sufficient geotechnical monitoring, testing and consultation should be provided during construction to confirm that the conditions encountered are consistent with those indicated by explorations. Recommendations for design changes will be provided should conditions revealed during construction differ from those anticipated, and to verify that the geotechnical aspects of construction comply with the contract plans and specifications.

April 23, 2013
GeoPacific Project No. 13-2970


Within the limitations of scope, schedule and budget, GeoPacific executed these services in accordance with generally accepted professional principles and practices in the field of geotechnical engineering at the time the report was prepared. No warranty, expressed or implied, is made. The scope of our work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous or toxic substances in the soil, surface water, or groundwater at this site.



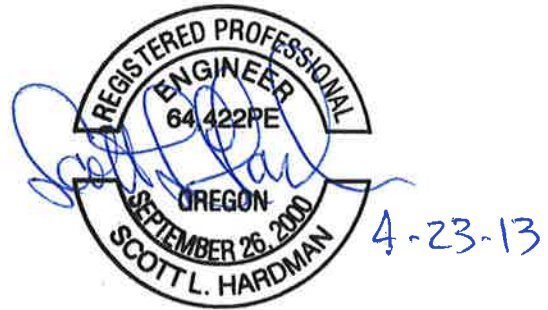
We appreciate this opportunity to be of service.

Sincerely,

GEOPACIFIC ENGINEERING, INC.



Benjamin G. Anderson
Staff Engineer



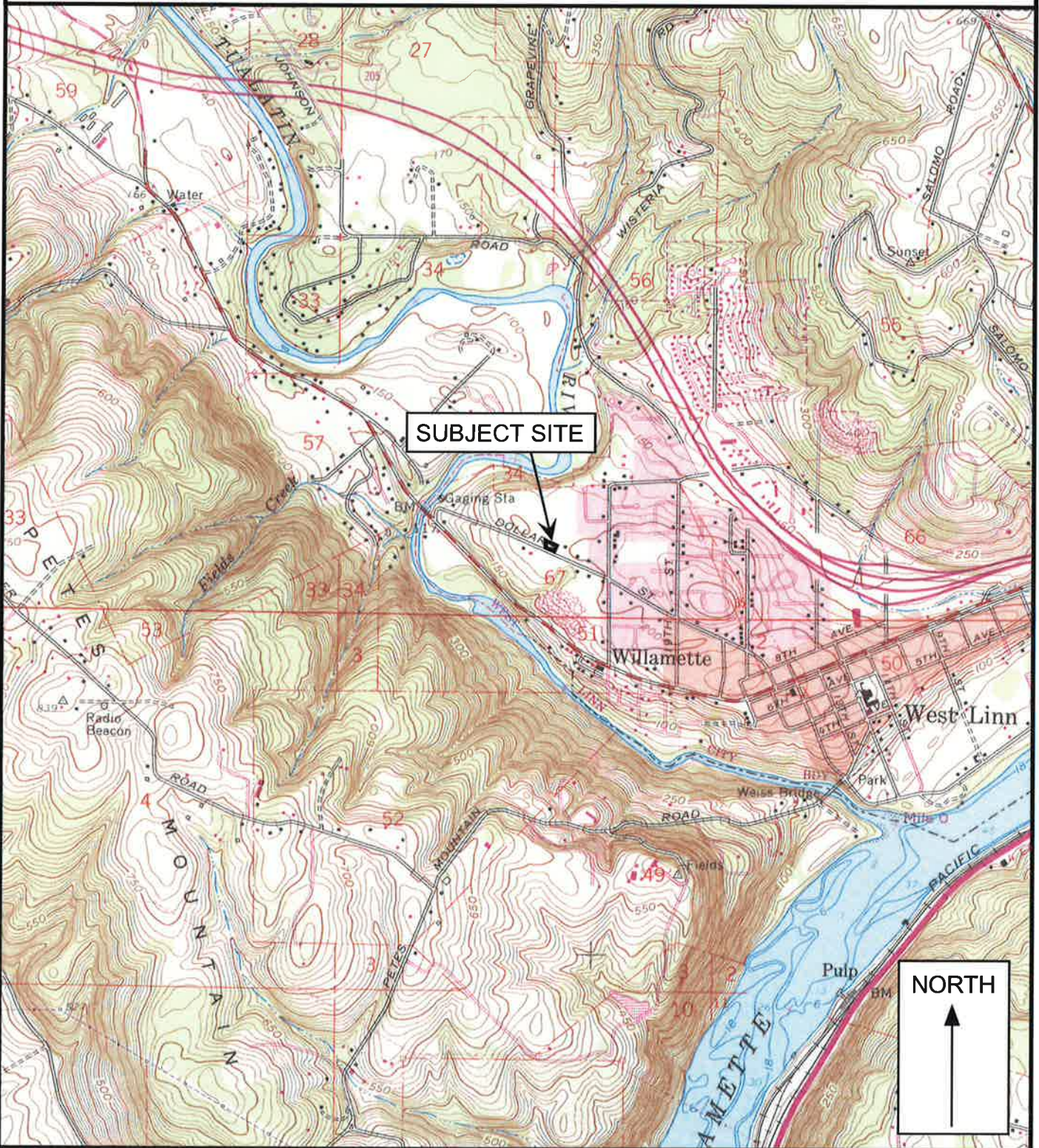
EXPIRES: 06-30-20 13

Scott L. Hardman, G.E., P.E.
Principal Geotechnical Engineer

- Attachments: References
 Figure 1 – Vicinity Map
 Figure 2 – Site and Exploration Plan
 Pervious Pavement (SW-110) Typical Detail
 Test Pit Logs (TP-1 through TP-3)

REFERENCES

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Legend

Approximate Scale 1 in = 2,000 ft

Date: 4/22/13
Drawn by: BGA

Base map: U.S. Geological Survey 7.5 minute Topographic Map Series, Canby, Oregon Quadrangle, 1961 (Photorevised 1985).

Project: Dollar Street Property
West Linn, Oregon

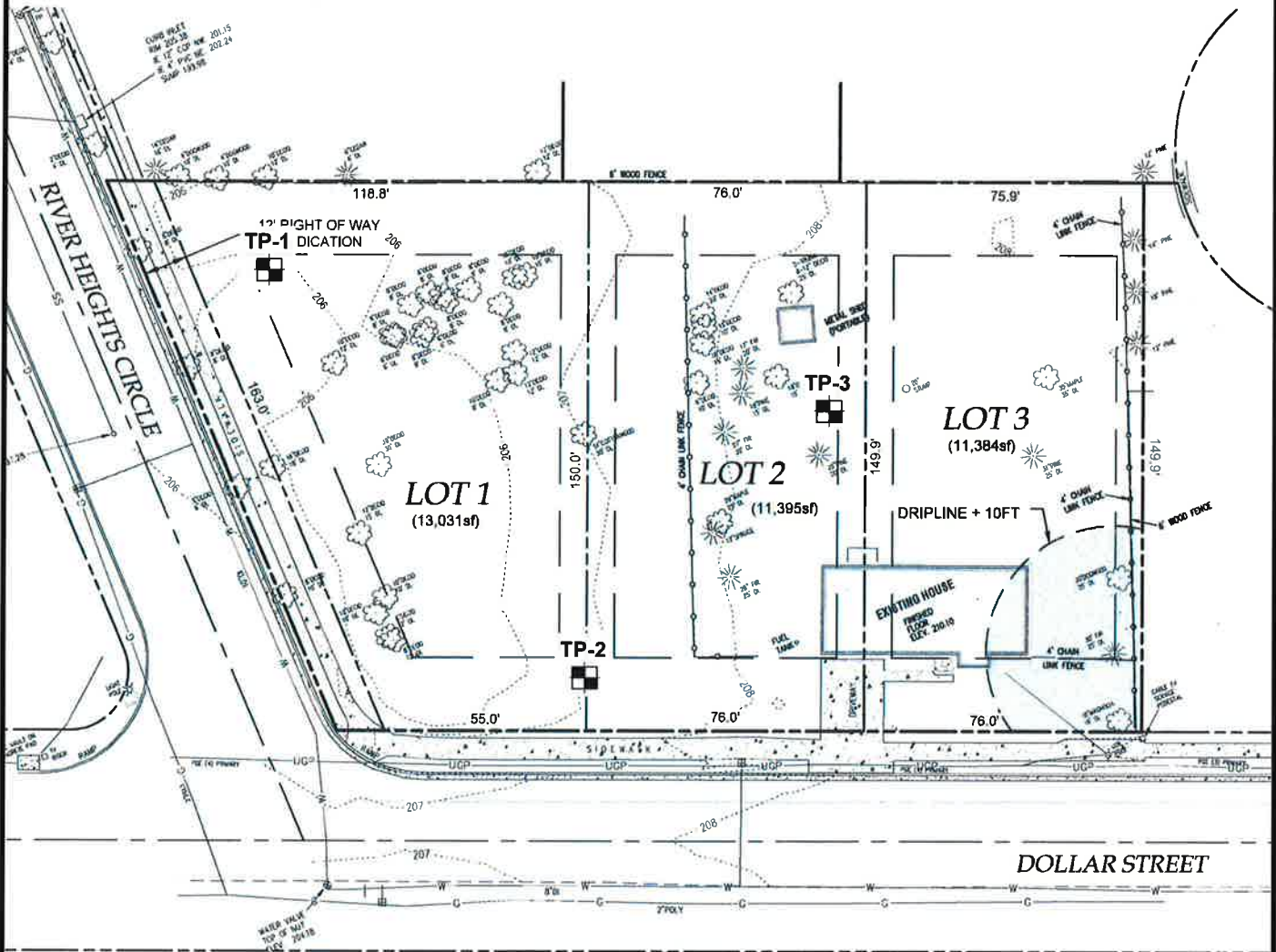
Project No. 13-2970

FIGURE 1



14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

SITE PLAN AND EXPLORATION LOCATIONS



Legend

TP-1
 Test Pit Designation and Approximate Location

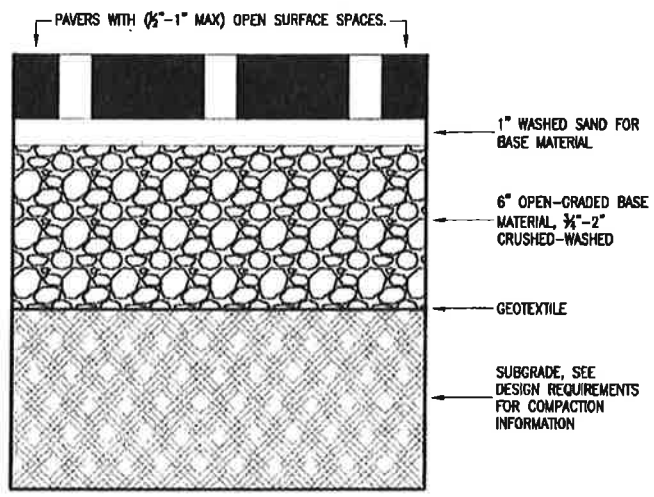


Date: 04/22/13
 Drawn by: BGA

Project: Dollar Street Property
 West Linn, Oregon

Project No. 13-2970

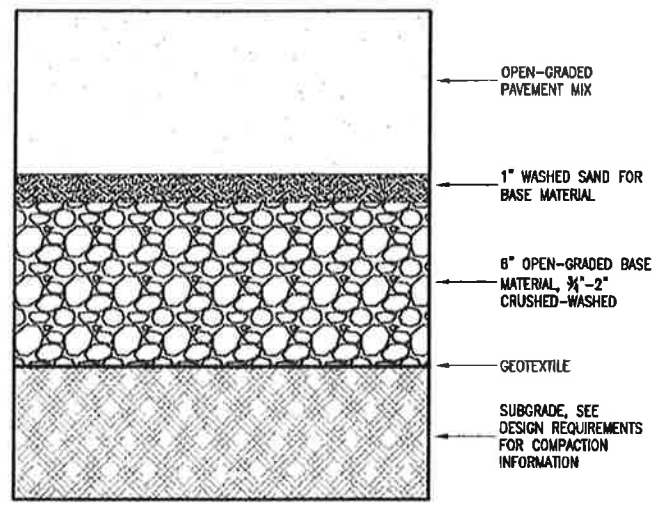
FIGURE 2



**PERMEABLE CONCRETE BLOCK
OR "PAVER" SYSTEMS**

	RESIDENTIAL DRIVEWAY OR PEDESTRIAN ONLY	PRIVATE STREET, PARKING LOT, OR FIRE LANE	PUBLIC STREET
CONCRETE	4"	4"	7"
ASPHALT	2 1/2"	3"	6"
PAVERS	2 3/8"	3 1/8"	3 1/8"
ENGINEERING REQ'D	NO	YES	YES
COMPACTION REQ'D	NO	YES	95%

**EXHIBIT 2-8
PERVIOUS PAVEMENT REQUIREMENTS
FOR TOP LIFT DEPTH, ENGINEERING,
AND COMPACTION.**



**PERVIOUS (OPEN GRADED) CONCRETE
AND ASPHALT SYSTEMS**

- DRAWING NOT TO SCALE -

STORMWATER MANAGEMENT MANUAL TYPICAL DETAILS

- Simplified / Presumptive / Performance Design Approach -

Pervious Pavement

NUMBER

SW-110



Bureau of Environmental Services





14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Dollar Street Property West Linn, Oregon	Project No. 13-2970	Test Pit No. TP- 1
--	---------------------	---------------------------

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1						3" moderately organic SILT (OL-ML), brown, roots throughout, with occasional gravel, cobbles, construction debris, and glass, soft, moist (Fill)
2	3.0					Stiff, SILT (ML), brown, with trace sand, moist (Willamette Formation)
3	2.5					
3	3.0					
4	3.0					
5						Grades to sandy
6						
7						
8						Medium dense to dense silty fine SAND (SM), light gray brown, moist (Willamette Formation)
9						Test pit terminated at 8.5 feet. Note: No seepage or groundwater not encountered.
10						
11						
12						
13						
14						
15						
16						
17						

LEGEND

100 to 1,000 g	5 Gal. Bucket				
Bag Sample	Bucket Sample	Shelby Tube Sample	Seepage	Water Bearing Zone	Water Level at Abandonment

Date Excavated: 04/16/13
 Logged By: BGA
 Surface Elevation:









14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Dollar Street Property West Linn, Oregon	Project No. 13-2970	Test Pit No. TP-2
--	---------------------	--------------------------

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.0					12" moderately organic SILT (OL-ML), dark brown, roots throughout, previously tilled, soft, moist (Topsoil)
2	2.0					Stiff, SILT (ML), brown, with trace sand, moist (Willamette Formation)
3	2.5					
4	2.0					Grades to sandy
5	2.0					
6						Medium dense to dense silty fine SAND (SM), light gray brown, moist (Willamette Formation)
7						Test pit terminated at 7 feet.
8						Note: No seepage or groundwater not encountered.
9						
10						
11						
12						
13						
14						
15						
16						
17						

LEGEND

 Bag Sample	 Bucket Sample	 Shelby Tube Sample	 Seepage	 Water Bearing Zone	 Water Level at Abandonment
--	---	--	---	--	---

Date Excavated: 04/16/13
 Logged By: BGA
 Surface Elevation:









14835 SW 72nd Avenue
 Portland, Oregon 97224
 Tel: (503) 598-8445 Fax: (503) 941-9281

TEST PIT LOG

Project: Dollar Street Property West Linn, Oregon	Project No. 13-2970	Test Pit No. TP-3
--	---------------------	--------------------------

Depth (ft)	Pocket Penetrometer (tons/ft ²)	Sample Type	In-Situ Dry Density (lb/ft ³)	Moisture Content (%)	Water Bearing Zone	Material Description
1	1.5					10" highly organic SILT (OL-ML), dark brown, medium roots throughout, soft, moist (Topsoil)
2	3.0					Stiff, SILT (ML), brown, with trace sand and occasional medium size roots, moist (Willamette Formation)
3	3.0					Grades to without roots
4						
5						Grades to sandy
6						Medium dense to dense silty fine SAND (SM), light gray brown, moist (Willamette Formation)
7						
8						
9						
10						Test pit terminated at 9.5 feet.
11						
12						Note: No seepage or groundwater not encountered.
13						
14						
15						
16						
17						

LEGEND  Bag Sample  Bucket Sample  Shelby Tube Sample  Seepage  Water Bearing Zone  Water Level at Abandonment	Date Excavated: 04/16/13 Logged By: BGA Surface Elevation:
--	--

OPERATIONS AND MAINTENANCE

OPERATIONS AND
MAINTENANCE PLAN
FOR
STORMWATER FACILITIES

**DOLLAR STREET LOT LINE ADJUSTMENT
WEST LINN, OR**

April 19, 2013

Prepared For:

JT Smith Companies
5285 Meadows Road, Suite #171
Lake Oswego, OR 97035

Prepared By:

3J Consulting, Inc.
10445 SW Canyon Road, Suite 245
Beaverton, OR 97005
Project No: 13110
KEF



PURPOSE

The purpose of this Operations and Maintenance (O&M) Plan is to bring attention to the on-going needs of the storm water management facilities located at the proposed Dollar Street Subdivision. In order for the facilities to operate as intended and increase the environmental benefits, a high quality maintenance program is required.

This document has been prepared to provide Dollar Street Subdivision with a single source document that will explain the maintenance requirements of the storm water facilities. This also serves the regulatory agencies in which legal requirements have been placed on this site.

STORMWATER FACILITIES

Stormwater runoff from the onsite areas will be infiltrated utilizing infiltration planters on each lot. The planters will contain an overflow which will convey water to existing catch basins in River Heights Circle. The infiltration planters are designed to treat and infiltrate all storm events up to and including the 10-year event.

INSPECTION/MAINTENANCE SCHEDULE

Each part of the system shall be inspected and maintained quarterly and within 48 hours after each major storm event. For this O&M plan, a major storm event is defined as 1.0 inches of rain in 24 hours or more. All components of the storm system as described above must be inspected and maintained frequently or they will cease to function effectively. The facility owner shall keep a log, recording all inspection dates, observations, and maintenance activities. Receipts shall be saved when maintenance is performed and there is a record of expense. Please see the excerpts from the City of Portland Stormwater Management Manual for Facility Maintenance Guidelines.

Vegetated Facilities

- Remove sediment when:
 - Sediment depth reaches 4 inches.
 - Sediment depth is damaging or killing vegetation
 - Sediment is preventing the facility from draining in the time specified.

ELEMENTS

The storm water facilities located on the site consists of individual stormwater planters for each lot.

This document contains the following information.

1. Site Plan(s) of Storm Water Facilities
2. City of Portland Stormwater Management Manual:
 - a. Maintenance Specification: Planters
3. Maintenance Logs

Simplified Operations and Maintenance Specifications PLANTERS

What To Look For	What To Do
<p>Structural Components, including inlets and outlets/overflows, shall freely convey stormwater.</p>	
<ul style="list-style-type: none"> ➤ Clogged inlets or outlets ➤ Liner and foundation ➤ Cracked drain pipes 	<ul style="list-style-type: none"> ➤ Remove sediment and debris from catch basins, trench drains, curb inlets, and pipes to maintain at least 50% conveyance capacity at all times. ➤ Repair/seal cracks. Replace when repair is insufficient.
<p>Vegetation shall cover 90% of the facility.</p>	
<ul style="list-style-type: none"> ➤ Dead or strained vegetation ➤ Tall or overgrown plants ➤ Weeds 	<ul style="list-style-type: none"> ➤ Replant per original planting plan, or substitute from SWMM Appendix F.4 plant list. ➤ Irrigate as needed. Mulch annually. DO NOT apply fertilizers, herbicides, or pesticides. ➤ Prune to allow sight lines and foot traffic. ➤ Manually remove weeds. Remove all plant debris.
<p>Growing/Filter Medium, including soil and gravels, shall sustain healthy plant cover and infiltrate within 48 hours.</p>	
<ul style="list-style-type: none"> ➤ Gullies ➤ Erosion ➤ Ponding 	<ul style="list-style-type: none"> ➤ Fill, lightly compact, and plant vegetation to disperse flow. ➤ Replace splash blocks or inlet gravel/rock. ➤ Stabilize soils with plantings from SWMM Appendix F.4. ➤ Rake, till, or amend to restore infiltration rate.

Annual Maintenance Schedule

Summer. Make any structural repairs. Improve filter medium as needed. Clear drain. Irrigate as needed.

Fall. Replant exposed soil and replace dead plants. Remove sediment and plant debris.

Winter. Monitor infiltration/flow-through rates. Clear inlets and outlets/overflows to maintain conveyance.

Spring. Remove sediment and plant debris. Replant exposed soil and replace dead plants. Mulch.

All seasons. Weed as necessary.

Maintenance Records: Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities. Keep work orders and invoices on file and make available upon request of the City inspector.

Access: Maintain ingress/egress to design standards.

Infiltration/Flow Control: All facilities shall drain within 48 hours. Record time/date, weather, and site conditions when ponding occurs.

Pollution Prevention: All sites shall implement best management practices to prevent hazardous or solid wastes or excessive oil and sediment from contaminating stormwater. Contact Spill Prevention & Citizen Response at 503-823-7180 for immediate assistance responding to spills. Record time/date, weather, and site conditions if site activities contaminate stormwater.

Vectors (Mosquitoes & Rodents): Stormwater facilities shall not harbor mosquito larvae or rats that pose a threat to public health or that undermine the facility structure. Monitor standing water for small wiggling sticks perpendicular to the water's surface. Note holes/burrows in and around facilities. Call Multnomah County Vector Control at 503-988-3464 for immediate assistance to eradicate vectors. Record time/date, weather, and site conditions when vector activity observed.

MAINTENANCE LOGS

Record date, description, and contractor (if applicable) for all structural repairs, landscape maintenance, and facility cleanout activities. See Pervious Pavement Operations and Maintenance Plan and Checklist for Maintenance Log.

SAMPLE:

Month: Year: Initial & Date	Vegetated Facilities, Inlets and Overflow	Catch Basins	Document if materials are removed from catch basins
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Walter H. Knapp & Associates, LLC
Consultants in Arboriculture, Silviculture, and Forest Ecology

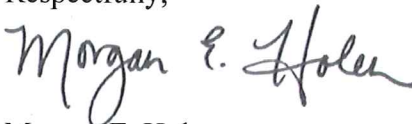
March 12, 2013

Planning and Building
City of West Linn
22500 Salamo Road #1000
West Linn, Oregon 97068

Re: Arborist Report and Tree Preservation Plan for Dollar Street Subdivision
West Linn, Oregon
Project No.: 1303 Dollar Street

Please find enclosed the Arborist Report and Tree Preservation Plan for the Dollar Street Subdivision project located at 960 Dollar Street in West Linn, Oregon. Please contact us if you have questions or need any additional information.

Respectfully,



Morgan E. Holen
Morgan Holen & Associates, LLC
ISA Certified Arborist, PN-6145A
ISA Tree Risk Assessment Qualified

Walter H. Knapp & Associates, LLC
Consultants in Arboriculture, Silviculture, and Forest Ecology

Arborist Report and Tree Preservation Plan

Dollar Street Subdivision
West Linn, Oregon

March 12, 2013

Table of Contents

Purpose 1
Site Description 1
Tree Inventory 1
Tree Plan Recommendations 2
Tree Protection Standards 2
Summary 4

March 12, 2013

**DOLLAR STREET SUBDIVISION – WEST LINN, OREGON
ARBORIST REPORT AND TREE PRESERVATION PLAN**

1303

Purpose

This Arborist Report and Tree Preservation Plan for the Dollar Street Subdivision project in West Linn, Oregon, is provided pursuant to City of West Linn Community Development Code, Chapter 55, Municipal Code Sections 8.500 and 8.600, and the West Linn Tree Technical Manual. This report describes the existing trees located on the project site, as well as recommendations for tree removal, retention and protection.

Site Description

The project site is located at 960 Dollar Street in West Linn. The site is primarily flat with trees scattered across the site and one existing home in the southeast area. The site is planned to be subdivided for residential development. A site visit was conducted on March 7, 2013 by ISA Certified Arborist Morgan Holen (PN-6145A) in order to evaluate the existing trees in terms of species, size, condition, significance, and suitability for preservation with development. The location of individual trees is shown on site plan drawings and tree numbers correspond with the enclosed inventory data.

Tree Inventory

In all, 60 existing trees were inventoried, including nine trees located on adjacent properties that will be protected throughout construction. The remaining 51 on-site trees include 13 different tree species. However, non-native and invasive sweet cherry (*Prunus avium*) is most common, accounting for 26 (51%) of the on-site trees. Table 1 provides a summary of the number of on-site trees by species.

Table 1. Count of On-Site Trees by Species and Location.

Common Name	Species Name	Quantity	Percent
bigleaf maple	<i>Acer macrophyllum</i>	1	2%
black cottonwood	<i>Populus trichocarpa</i>	4	8%
Callery pear	<i>Pyrus calleryana</i>	4	8%
dogwood	<i>Cornus</i> spp.	1	2%
Douglas-fir	<i>Pseudotsuga menziesii</i>	4	8%
lodgepole pine	<i>Pinus contorta</i>	3	6%
London planetree	<i>Platanus x acerifolia</i>	1	2%
magnolia	<i>Magnolia</i> spp.	1	2%
ponderosa pine	<i>Pinus ponderosa</i>	3	6%
Scouler's willow	<i>Salix scouleriana</i>	1	2%
spruce	<i>Picea</i> spp.	1	2%
sweet cherry	<i>Prunus avium</i>	26	51%
tuliptree	<i>Liriodendron tulipifera</i>	1	2%
Total		51	100%

Significant trees will be determined by the City Arborist. Based on our evaluation of the size, type, location, health, and long term survivability of the individual trees located on site, one tree was identified as potentially being classified as significant. Tree 2416 is a prominent 36-inch diameter Douglas-fir (*Pseudotsuga menziesii*) with no major defects located near the southeast corner of the site. The enclosed tree inventory data provides a complete description of the individual trees.

Tree Plan Recommendations

We coordinated with the project to team to discuss trees suitable for preservation in terms of proposed construction impacts. Of the 51 on site trees, 42 (82%) are planned for removal and 9 (18%) are planned for retention, including four Callery pear (*Pyrus calleryana*) trees located along River Heights Circle that could be removed and replaced with scarlet sentinel maples (*Acer fremanii* 'Scarsen') to maintain consistency with the character of the neighborhood. Table 2 provides a summary of the number of non-significant and significant trees by treatment recommendation.

Table 2. Number of On-Site Trees by Treatment Recommendation and Significance.

Treatment	Remove	Retain	Total	Percent
Non-Significant Trees	42	8	50	98%
Significant Trees	0	1	1	2%
Total	42	9		
Percent	82%	18%	51	100%

The Tree Plan drawing illustrates the location of trees to be removed and preserved, and the approximate location of tree protection fencing. The City's standard protection area for significant trees is the dripline plus 10-feet; this standard will be feasible for the one significant tree. Tree protection is recommended at the dripline of all other trees planned for retention, including the nine inventoried trees located on adjacent properties.

Tree Protection Standards

Trees to be protected during construction will need special consideration to assure their protection during construction. We recommend a preconstruction meeting with the owner, contractors and project arborist to review tree protection measures and address questions or concerns on site. Tree protection measures include:

Before Construction

1. **Tree Protection Zone.** The project arborist shall designate the Tree Protection Zone (TPZ) for each tree to be protected. Where feasible, the size of the TPZ shall be established at the dripline of the tree plus 10-feet. Alternatively, the TPZ shall be established at the dripline of non-significant trees. Where infrastructure (retaining walls, driveways, buildings, and utilities) must be installed closer to the tree(s), the TPZ may be established within the dripline area if the project arborist, in coordination with the City Arborist, determines that the tree(s) will not be unduly damaged. The location of TPZs shall be shown on construction drawings.

2. **Protection Fencing.** Protection fencing shall serve as the tree protection zone and shall be erected before demolition, grubbing, grading, or construction begins. All trees to be retained shall be protected by six-foot-high chain link fences installed at the edge of the TPZ. Protection fencing shall be secured to two-inch diameter galvanized iron posts, driven to a depth of a least two feet, placed no further than 10-feet apart. If fencing is located on pavement, posts may be supported by an appropriate grade level concrete base. Protection fencing shall remain in place until final inspection of the project permit, or in consultation with the project arborist.
3. **Signage.** An 8.5x11 –inch sign stating, “WARNING: Tree Protection Zone,” shall be displayed on each protection fence at all times.
4. **Designation of Cut Trees.** Trees to be removed shall be clearly marked with construction flagging, tree-marking paint, or other methods approved in advanced by the project arborist. Trees shall be carefully removed so as to avoid either above or below ground damage to those trees to be preserved. Roots of stumps that are adjacent to retained trees shall be carefully severed prior to stump extraction.
5. **Preconstruction Conference.** The project arborist shall be on site to discuss methods of tree removal and tree protection prior to any construction. Prior to commencement of construction, the project arborist will verify in writing to the City Arborist that tree protection fencing has been satisfactorily installed.

During Construction

6. **Tree Protection Zone Maintenance.** The protection fencing shall not be moved, removed, or entered by equipment except under direction of the project arborist, in coordination with the City Arborist.
7. **Storage of Material or Equipment.** The contractor shall not store materials or equipment within the TPZ.
8. **Excavation within the TPZ.**
 - a. Excavation within the TPZ shall be avoided if alternatives are available.
 - b. If excavation within the TPZ is unavoidable, the project arborist shall evaluate the proposed excavation to determine methods to minimize impacts to trees. This can include tunneling, hand digging or other approaches.
 - c. All construction within the TPZ shall be under the on-site technical supervision of the project arborist, in coordination with the City Arborist.
9. **Tree Protection Zone.** The project arborist shall monitor construction activities and progress, and provide written reports to the developer and the City at regular intervals. Tree protection inspections will occur monthly or more frequently if needed.
10. **Quality Assurance.** The project arborist shall supervise proper execution of this plan during construction activities that could encroach on retained trees. Tree protection site inspection monitoring reports will be provided to the Client and City on a regular basis throughout construction.

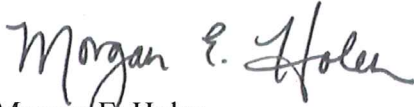
Post Construction

11. **Final Report.** After the project has been completed, the project arborist shall provide a final report to the developer and the City. The final report shall include concerns about any trees negatively impacted during construction, and describe the measures needed to maintain and protect the remaining trees for a minimum of two years after project completion.

Summary

The enclosed tree inventory provides complete data for individual trees at the Dollar Street Subdivision project site. The location of inventoried trees and tree protection measures shall be shown on site plan drawings. Forty-two trees are recommended for removal because of condition or for the purposes of construction and nine on-site trees and nine neighboring tree are planned for preservation with protection during construction. Four street trees planned for preservation could be removed and replaced with a different species in order to maintain consistency with the character of the neighborhood. It is the Client's responsibility to implement this plan and to monitor the construction process. The project arborist will be available during construction to help with tree related issues.

Please contact us if you have questions or need any additional information.



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Enclosure: 1303 Dollar Street - Tree Data 3-7-13

No.	Common Name	Species Name	DBH*	C-Rad^	Defects and Comments	Sig?	Recommendation
2005	lodgepole pine	<i>Pinus contorta</i>	14	10	no major defects, one-sided crown	N	retain
2006	lodgepole pine	<i>Pinus contorta</i>	18	10	no major defects, forked top	N	retain
2007	lodgepole pine	<i>Pinus contorta</i>	12	10	no major defects, forked top	N	retain
2012	lodgepole pine	<i>Pinus contorta</i>	12	10	no major defects, forked top	X	protect adjacent tree
2194	scarlet sentinel maple	<i>Acer fremanii</i> 'Scarsen'	2	4	new street trees	X	protect adjacent tree
2195	scarlet sentinel maple	<i>Acer fremanii</i> 'Scarsen'	2	4	new street trees	X	protect adjacent tree
2196	Callery pear	<i>Pyrus calleryana</i>	8	6	could replace with scarlet sentinel maple	N	retain or replace street tree
2197	Callery pear	<i>Pyrus calleryana</i>	8	6	could replace with scarlet sentinel maple	N	retain or replace street tree
2198	Callery pear	<i>Pyrus calleryana</i>	3	6	could replace with scarlet sentinel maple	N	retain or replace street tree
2199	Callery pear	<i>Pyrus calleryana</i>	8	6	could replace with scarlet sentinel maple	N	retain or replace street tree
2200	sweet cherry	<i>Prunus avium</i>	16	18	invasive species	N	remove
2416	Douglas-fir	<i>Pseudotsuga menziesii</i>	36	22	few broken branches, safety prune	Y	retain
2417	magnolia	<i>Magnolia</i> spp.	17	14	one-sided, well adapted, screens utility pole, crown pruned for pole clearance	N	retain
2538	Atlas cedar	<i>Cedrus atlantica</i>	14	12	C-Rad is distance to property line fence	X	protect adjacent tree
2539	Japanese maple	<i>Acer palmatum</i>	4	9	C-Rad is distance to property line fence	X	protect adjacent tree
2540	Japanese maple	<i>Acer palmatum</i>	4	9	C-Rad is distance to property line fence	X	protect adjacent tree
2541	Norway maple	<i>Acer platanoides</i>	10	9	C-Rad is distance to property line fence	X	protect adjacent tree
2542	cypress	<i>Chamaecyparis</i> spp.	6	4	C-Rad is distance to property line fence	X	protect adjacent tree
2543	Norway maple	<i>Acer platanoides</i>	12	8	C-Rad is distance to property line fence	X	protect adjacent tree
2544	sweet cherry	<i>Prunus avium</i>	10	12	invasive species	N	remove
2545	sweet cherry	<i>Prunus avium</i>	8	8	invasive species	N	remove
2546	sweet cherry	<i>Prunus avium</i>	6	6	invasive species	N	remove
2547	sweet cherry	<i>Prunus avium</i>	8	8	invasive species	N	remove
2548	sweet cherry	<i>Prunus avium</i>	6	6	invasive species	N	remove
2549	sweet cherry	<i>Prunus avium</i>	8	8	invasive species	N	remove
2550	sweet cherry	<i>Prunus avium</i>	6	8	invasive species	N	remove
2551	sweet cherry	<i>Prunus avium</i>	8	8	invasive species	N	remove
2552	sweet cherry	<i>Prunus avium</i>	8	8	invasive species	N	remove
2553	sweet cherry	<i>Prunus avium</i>	8	8	invasive species	N	remove
2554	sweet cherry	<i>Prunus avium</i>	8	8	invasive species	N	remove
2555	sweet cherry	<i>Prunus avium</i>	10	10	invasive species	N	remove
2556	sweet cherry	<i>Prunus avium</i>	10	10	invasive species	N	remove
2558	sweet cherry	<i>Prunus avium</i>	39	30	invasive species, poor structure, decay	N	remove

No.	Common Name	Species Name	DBH*	C-Rad [^]	Defects and Comments	Sig?	Recommendation
2559	sweet cherry	<i>Prunus avium</i>	12	15	invasive species	N	remove
2560	sweet cherry	<i>Prunus avium</i>	10	10	invasive species	N	remove
2561	sweet cherry	<i>Prunus avium</i>	10	10	invasive species	N	remove
2562	sweet cherry	<i>Prunus avium</i>	6	12	invasive species	N	remove
2563	sweet cherry	<i>Prunus avium</i>	8	12	invasive species	N	remove
2564	sweet cherry	<i>Prunus avium</i>	10	8	invasive species	N	remove
2565	sweet cherry	<i>Prunus avium</i>	12	12	invasive species	N	remove
2566	sweet cherry	<i>Prunus avium</i>	12	12	invasive species	N	remove
2567	sweet cherry	<i>Prunus avium</i>	8	10	invasive species	N	remove
2568	sweet cherry	<i>Prunus avium</i>	8	10	invasive species	N	remove
2569	black cottonwood	<i>Populus trichocarpa</i>	51	30	basal and stem decay, hazardous	N	remove
2570	Scouler's willow	<i>Salix scouleriana</i>	5*8	8	poor structure, extensive decay	N	remove
2571	Douglas-fir	<i>Pseudotsuga menziesii</i>	26	22	one-sided crown	N	remove
2572	spruce	<i>Picea spp.</i>	12	8	over-topped, poor structure and condition	N	remove
2573	tuliptree	<i>Liriodendron tulipifera</i>	28	24	over-crowded, poor crown structure	N	remove
2600	dogwood	<i>Cornus spp.</i>	20	25	poor structure, decay	N	remove
2601	ponderosa pine	<i>Pinus ponderosa</i>	32	25	probably not Willamette Valley variety; 12-degree lean, one-sided crown	N	remove
2602	bigleaf maple	<i>Acer macrophyllum</i>	35	35	poor structure, stem and branch decay	N	remove
2603	ponderosa pine	<i>Pinus ponderosa</i>	26	16	probably not Willamette Valley variety; gall rust, dead branches, forked top	N	remove
2604	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	16	small live crown, poor height:diameter	N	remove
2605	ponderosa pine	<i>Pinus ponderosa</i>	18	14	probably not Willamette Valley variety; over-crowded, small live crown	N	remove
2606	London planetree	<i>Platanus x acerifolia</i>	18	15	dead branches, broken top, small live crown, poor structure	N	remove
2607	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	16	over-crowded, small live crown, dead and broken branches	N	remove
2608	sweet cherry	<i>Prunus avium</i>	6	10	invasive species	N	remove
2609	black cottonwood	<i>Populus trichocarpa</i>	18	15	old broken top, inherent species limitations	N	remove
2610	black cottonwood	<i>Populus trichocarpa</i>	13	10	inherent species limitations	N	remove
2611	black cottonwood	<i>Populus trichocarpa</i>	14	20	old broken top, inherent species limitations	N	remove

*DBH is tree diameter measured at breast height, 4.5-feet above the ground level (inches)

[^]C-RAD is the average crown radius measured in feet

Sig? denotes whether or not the tree is considered significant, either Y (yes, significant), N (no, non-significant), or X (located off-site)