

June 29, 2018

Mr. Peter Spir, Associate Planner
City of West Linn
22500 Salamo Rd.
West Linn, Oregon 97068

Rick Givens
Planning Consultant
18680 Sunblaze Dr.
Oregon City, Oregon 97045

RE: Ferndell Estates - Second Incompleteness Letter

Dear Peter:

I believe that we have now addressed or come to an agreement on the responses to the issues listed in your May 21, 2018 letter of incompleteness for the Ferndell Estates project. I will summarize our response or understanding with respect to these issues below:

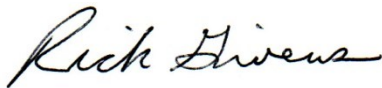
1. The question of the need for inclusion of TL 1000/1090 in the subdivision – As you know, there is no proposal to divide TL 1000/1090 at this time. This property is a separate legal lot of record that is owned by Mr. Varitz. The Ferndell Estates subdivision site is owned by a trust. We have agreed with staff that the storm water treatment facility should be included in the subdivision that it serves. To that end, we have filed a property line adjustment application to include it as Tract A on the Tentative Plan. The storm sewer outfall to the Willamette River will be within a storm sewer easement across Tax Lot 1000 that will be granted to the City prior to final plat approval.
2. Local street standard applicable to Ferndell Drive – We have revised the Tentative Plan and preliminary engineering documents to comply with Erich Lais's request that a 52' right-of-way/28' paved width be used on this street. The 50' access strip area will be a 50' right-of-way/26' paved width with curb-tight sidewalks and no parking in that section of the road.
3. Turn-around requirements – The Tentative Plan shows a temporary emergency vehicle turn-around that has been reviewed and approved by TVF&R. Tax Lot 1000/1090 will not be a part of the subdivision, but Mr. Varitz has agreed to dedicate 30' of right-of-way from the end of Ferndell Drive out to Robin View Ct. so as to ensure that this looped street will take place when TL 1000 is developed.
4. Planter strip width – The planter strip width specified in the City's local street diagram is 6 feet, but this is shown on the cross-section as being measured from the face of the curb. The actual width will be 5.5' (6' sidewalk + 5.5' planter + .5' curb + 28' paved width + .5' curb + 5.5' planter + 6' sidewalk = 52'). The construction plans will conform to this standard.
5. Storm water treatment facility location - The storm water treatment facility shown on plans submitted with this application is not located within the sanitary sewer easement existing along the north boundary of the subject property or within the 100 year flood plain boundary. Since the location does not need to be moved, there is no need to revise

the geotechnical report. The “rain gardens” proposed for this project are intended to provide for storm water treatment only. They will not have any infiltration function because the site is so close to the Willamette River, but instead will have an outflow to the storm sewer system. For this reason, there is no concern with siting them on slopes over 10% grade.

6. Schott & Associates HCA report revisions – This report has been modified to address the issues raised in the second letter of incompleteness. It now addresses TL 1000/1090.
7. Need for Flood Management Area Permit for TL 1000 storm improvements – The plan for the storm water outfall to the river has been revised to pipe the water so that the amount of soil disturbed will be under the 10 cubic yard threshold. For this reason, the FMA permit is not required.

Thank you for consideration of this letter and the revised plans and reports. Please let us know if there are any further questions.

Sincerely yours,

A handwritten signature in cursive script that reads "Rick Givens".

Rick Givens

FERNDELL ESATES

Ten-Lot Subdivision Application

Bill Varitz & Greg Sams

Proposal: This application requests approval of a 10-lot subdivision to be developed on property located at 3350 Riverside Court in West Linn. Also requested as a part of this application is a Willamette and Tualatin River Protection Area Permit. Finally, the application also includes a property line adjustment with the adjacent Tax Lot 1000/1090 to add area required for storm water treatment to the subdivision site.

The property is located on the east side of Old River Road at its intersection with the unconstructed Riverside Court. The subject property is described as Tax Lots 900 and 990 of Clackamas County Assessor's Map 21E14AD. The site is 3.35 acres (after property line adjustment) in area. It is presently developed with a single-family detached home and outbuildings. The home and outbuildings will be removed to allow for the development of the site. The subject property is zoned R-10.

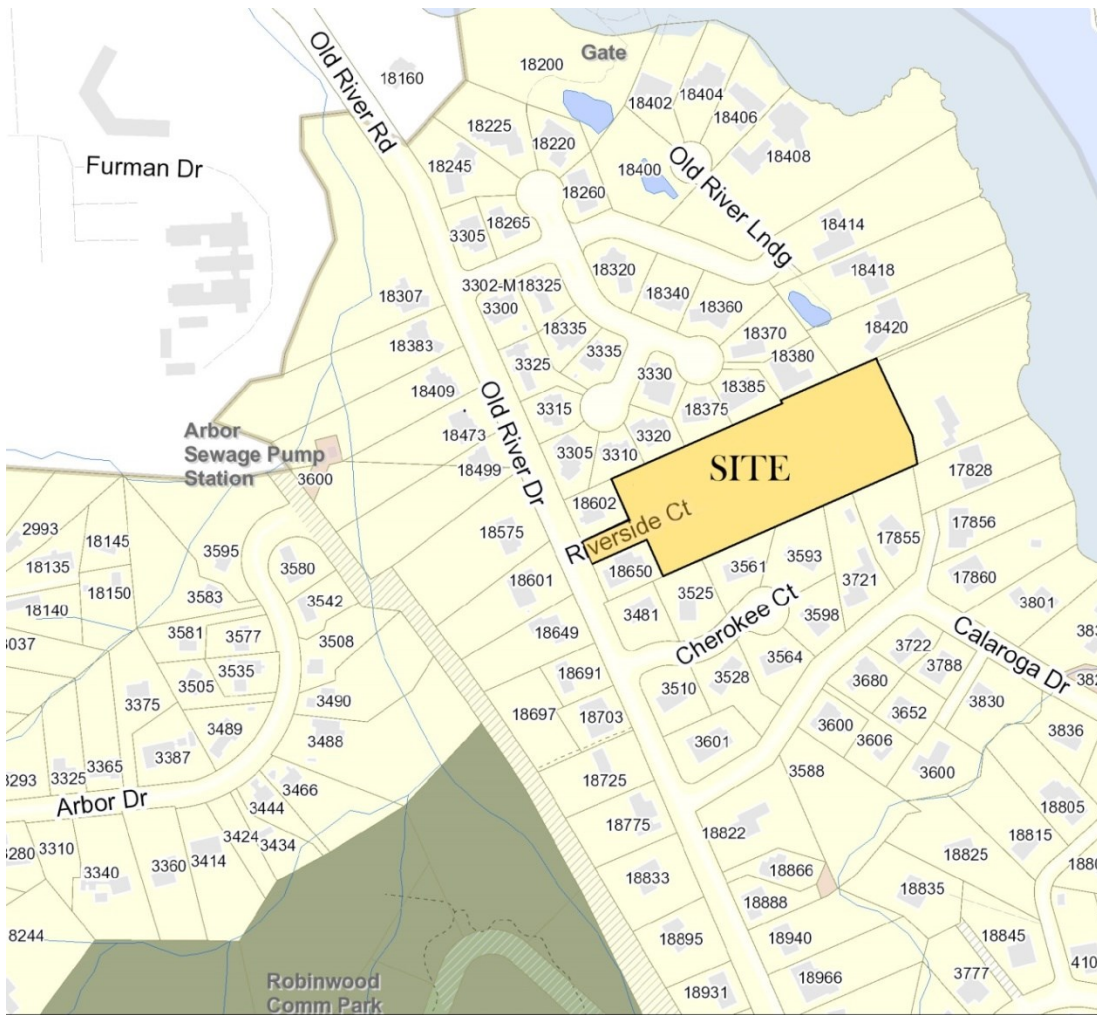


Figure 1: Vicinity Map

- d. *Conclusions and recommendations focused on geologic constraints for the proposed land use or development activity, limitations and potential risks of development, recommendations for mitigation approaches and additional work needed at future development stages including further testing and monitoring.*

Comment: Chapter 02 of the CDC defines Type I, II, and III lands as follows:

Type I lands. Lands that have severe constraints that preclude the use of standard development techniques and technical criteria. Type I lands exist in one or more of the following areas:

1. *Slope: Land that has slopes of 35 percent or more over more than 50 percent of the site, as shown on the RLIS topography GIS layer.*
2. *Drainage: All lands within the designated floodway as shown on the appropriate FEMA flood panel.*
3. *Geological hazard: All landslide areas shown on the City's Natural Hazard Mitigation Plan ("NHMP") and identified as "landslide potential exists" on Map 16 of the NHMP, or areas outside Map 16, but within Map 17, Landslide Vulnerable Analysis Area.*

Comment: As shown on the Slope Analysis map submitted with this application, there is a small area of slopes of 35% or greater grade on the eastern edge of the subdivision. This area amounts to only 2.3% of the site and does not trigger designation as Type I land. The site is not in the 100 year flood plain, let alone the floodway. Map 16 and Map 17 of the NHMP do not indicate any landslide or "landslide potential" areas on the property. Conclusion: The site does not contain Type I lands since slopes are not 35% or greater on more than 50% of the site.

Type II lands. Lands which have constraints that are sufficient to preclude most standard types of development. Constraints in these areas generally do not constitute a health or safety hazard, but require the use of non-standard technical design criteria. Type II lands exist in one or more of the following areas:

1. *Slope: Land that has slopes over 25 percent on more than 50 percent of the site, as shown on the RLIS topography GIS layer.*
2. *Drainage: All drainage courses identified on the water resource area maps or areas identified as protected Goal 5 Wetlands, and areas outside the floodway, but within the floodway fringe, also known as the 100-year floodplain.*
3. *Geology: All known mineral and aggregate deposits identified on the Comprehensive Plan map as protected Goal 5 resources.*

Comment: The Slope Analysis map indicates that only 1.6% of the site contains slopes in the 25% to 35% range. When aggregated with the 2.3% of slopes greater than 35% grade, the total percentage of the site having slopes greater than 25% grade is 3.9%. There are no water resources or wetlands on the property. There are no known mineral and aggregate deposits shown for this site on the Comprehensive Plan Map.

Conclusion: The site does not contain Type II lands because slopes are not greater than 25% on more than 50% of the site and the other criteria are also not met.

Type III lands. These lands are considered within the major portion of the City's developable lands. Standard development criteria can be applied through normal implementation measures. Type III lands have slopes over 10 percent on more than 50 percent of the site, as shown on the RLIS topography GIS layer.

Comment: The Slope Analysis map shows that 22.5 percent of the site contains slopes in the 10% to 25% range. When aggregated with the 2.3% of slopes greater than 35% grade and 1.6% of the site having slopes in the 15-35% range, the total percentage of the site having slopes greater than 10% grade is 26.4%. Conclusion: The site does not contain Type III lands since slopes are not greater than 10 percent grade on over 50 percent of the site.

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.

Comment: The subject property will extend Ferndell Drive (presently identified as Riverside Ct.) through the property from Old River Drive to the east boundary of the site. This extension was suggested by staff as a means of potentially allowing for a future connection to Robin View Ct. if Tax Lot 1000 is further divided. This will allow for a looped street configuration with improved connectivity in the surrounding neighborhood. A reserve strip will be provided at the end of Ferndell Drive, consistent with City standards. No cul-de-sac streets are proposed so the provisions of Section 85.200(A)11 are not applicable. A temporary turn-around has been provided in the site plan and has been approved by Tualatin Valley Fire & Rescue as meeting design requirements.

The proposed street name, Ferndell Drive, is not used elsewhere in the City. Consistent with City standards, the maximum street grade is 15%. This occurs at the east end of Ferndell Drive as the street traverses down a short hillside area to the lower bench that TL 1000 is situated on. No alleys are proposed. All proposed streets have sidewalks and planter strips, consistent with City standards. All proposed streets will be dedicated without any reservations or restrictions. All lots in the subdivision have access to a public street, as shown on the Tentative Plan. No gated streets or special entry designs are proposed.

B. Blocks and lots.

Comment: No new blocks having a length of more than 800 feet are proposed. The distance along Ferndell Drive to the eventual connection with Robin View Ct. is a little over 700 feet. Due to terrain and surrounding development patterns, it is not

practicable to make blocks that are shorter. The proposed lots have property lines that are perpendicular to the street; contain sufficient area to meet the requirements of the R-10 zone, and provide for building envelopes that will meet required setbacks. The lots have buildable depths that do not exceed 2.5 times their width.

The development conforms to the provisions of Chapter 48, as discussed below in this report.

85.200(B) (5). No double frontage lots are proposed. The proposed lot lines within the development are approximately at right angles to the streets on which they front, as required by Section 85.200(B)(6). No flag lots are proposed. The proposed lots are not large enough to allow for future re-division under the provisions of the R-10 zone.

C. Pedestrian and bicycle trails.

Comment: No pedestrian or bicycle trails are proposed in this development. No bicycle improvements were listed on the Bicycle Master Plan.

D. Transit facilities.

Comment: Not applicable. No transit facilities are proposed or required as there is no TriMet service in this area.

E. Lot grading.

Comment: Grading of the proposed building site will conform to City standards. Preliminary grading plans for the street area is shown on the Preliminary Grading Plan submitted with this application. Compliance for individual homes will be reviewed at the time of building permit application.

F. Water.

Comment: City water is available in Old River Drive. The proposed project site is in the Robinwood water pressure zone, which has adequate volume and pressure of water to serve the subdivision. The new water main to be installed in Ferndell Drive will be 8" ductile iron and will be connected through to the water line in Robin View Ct. in order to provide a looped system.

G. Sewer.

Comment: As shown on the Preliminary Utility Plan, there is an existing public sewer line in an easement along the north side of the site. The sewer developed within the new street will connect to this line.

H. Storm.

Comment: As shown on the Preliminary Utility Plan, storm sewer will be installed in the new street and piped to a small treatment facility to be located in Tract A on the the eastern border of the site. Storm water will be released to the Willamette River via an easement across Tax Lot 1000, as shown on the Tentative Plan. No storm

water detention is proposed because of the proximity to the river. Please refer to the attached storm report for more detail.

We have been advised by Planning staff that the Planning Commission has recently stated a position that storm water detention facilities be considered a major utility, which would require approval of a conditional use permit. The proposed facility differs from the storm detention facility that was discussed at the November 15, 2017 Planning Commission hearing in several ways:

- The proposed facility is not a stormwater detention pond. No water will be detained at this facility. Rather, it is a facility containing vegetative media through which storm water will pass in order to filter sediments and pollutants out of the water prior to discharge to the Willamette River. Because the facility detains no water, it would have a lesser impact on a neighborhood than a facility where there would be standing water for some period of time.
- The scale of the facility is much smaller than the detention pond that was discussed at that hearing (less than 1,000 sq. ft. vs. nearly 9,000 sq. ft.). This small scale again means lesser potential for impact upon neighboring properties in terms of visibility and amount of storm water involved.
- The location of the proposed facility near the river means that there are fewer neighbors involved and that any overflow would go directly to the river so that there is not the same potential to impact neighbors as with a detention facility.

For all of these reasons, we believe that the Planning Commission can find that this is a minor utility that does not require Conditional Use approval.

Finally, in order to preserve all appeal rights, we must raise an objection to the Planning Commission's characterization of storm water detention and, potentially, treatment facilities, as major utilities. They are, in fact, an accessory or ancillary use to residential development. Per the provisions of Chapter 92 of the Community Development Code, as well as the City's Public Works Standards, residential development must provide for storm water detention and treatment. To make storm water facilities that are required in order to develop residential properties a conditional use would have the effect of making residential development itself a de facto conditional use, which would violate Statewide Planning Goal 10 and the Metropolitan Housing Rule.

- I. Utility easements. Utility easements are shown on the plans submitted with this application.
- J. Supplemental provisions.
 1. Wetland and natural drainageways. Comment: There are no wetlands or natural drainageways on or abutting the subject property.
 2. Willamette and Tualatin Greenways. Comment: See discussion of Chapter 48, below.

3. Street trees. Comment: Street trees will be provided as required, as shown on the Tentative Plan.
4. Lighting. Comment: Prior to final plat approval, an analysis of existing street lighting will be conducted and, if necessary, improvements made to comply with these standards. The preliminary design for streetlight placement within the subdivision is shown on the preliminary utility plan. To reduce ambient light and glare, high or low pressure sodium light bulbs will be provided for all streetlights within the subdivision. The lights will be shielded so that the light is directed downwards rather than omni-directional.
5. Dedications and exactions. Comment: No new dedications or exactions to service off-site properties are anticipated in conjunction with this application.
6. Underground utilities. Comment: All utilities within the development will be placed underground, as required by this section.
7. Density requirement. Comment: The density calculations submitted with this application demonstrate that the maximum density permitted on this site is 10 units. The minimum allowable density would be 8 units. The proposed density of 10 units satisfies both the maximum and minimum density standard.

Density Calculations

	Area (sq. ft.)	Allowable Density	Units @1 per 10,000 sq.ft.
Gross Site Area	145,907		
Land in a boundary street right-of-way, water course, or planned open space where density transfer is not requested:	0		
Area in street right-of-way:	36,709		
Net Site Area:	109,198		
Net Area within Type I or II slopes where Developed:	4,422	50%	.22
Area within Type I or II slopes where Density Will be Transferred:	0	75%	0
Area within Water Resource Area-all development transferred.	0	50%	0
Open Space (Type III and IV Lands)	0	100%	0
Type III & IV Land Developed:	104,776	100%	10.48
Base Density Allowed:			10.70
Total Allowed Density:			10 Units

8. Mix requirement. Comment: Not applicable. This requirement only applies in the R-2.1 and R-3 zones. The subject property is zoned R-10.
9. Heritage trees/significant tree and tree cluster protection. Comment: No heritage trees, as defined in the Municipal Code, are present on the site. Other

existing trees are mapped on the Tree Plan, including those identified by the City Arborist as “significant”. Please see discussion of Chapter 55, below.

10. Annexation and street lights. Comment: Not applicable. The subject property is within the city limits.

Chapter 48 - ACCESS, EGRESS AND CIRCULATION

48.025 ACCESS CONTROL

B. Access control standards.

1. Traffic impact analysis requirements. *The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also CDC 55.125, Traffic Impact Analysis.)*

Comment: The trip generation rate for single-family homes is approximately 10 vehicle trips per day according to Institute of Transportation Engineers data. One of these trips will occur in the am peak hour and one will occur in the pm peak hour. The proposed subdivision will add five new dwellings (additionally, the existing home on the property will be replaced with a new dwelling, which will generate the same traffic as the existing home would). A total of 90 new trips per day would be expected from this development, with 9 occurring in the am peak hour and 9 occurring in the pm peak hour. Because of the small size and limited amount of traffic to be generated by this development, a Traffic Impact Analysis is not required for this project.

2. *The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.*

Comment: Access to the subdivision will from the extension of Ferndell Drive through the property from Old River Drive to the east boundary of the site. When property to the east (Tax Lot 1000) is partitioned, this will provide for an eventual connection of Riverside Drive to Robin View Ct., which loops back out to Old River Drive. One of the applicants, Mr. Varitz, is also the owner of Tax Lots 1000 and TL 21E13CB00500 and he has agreed to dedicate street right-of-way for the eventual completion of this connection prior to final plat approval. Street improvements within this right-of-way would not occur until Tax Lot 1000 is developed.

3. Access options. *When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with*

adopted public works standards and TSP). These methods are “options” to the developer/subdivider.

- a) Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.
- b) Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., “shared driveway”). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.
- c) Option 3. Access is from a public street adjacent to the development lot or parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in subsection (B)(6) of this section.

Comment: All lots will take access from the new Ferndell Drive within the subdivision.

4. Subdivisions fronting onto an arterial street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

Comment: The site plan provides local street access for all lots. The site does not abut an arterial street.

5. Double-frontage lots. When a lot or parcel has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street. When a lot or parcel has frontage opposite that of the adjacent lots or parcels, access shall be provided from the street with the lowest classification.

Comment: No double-frontage lots are proposed.

6. Access spacing.

- a. The access spacing standards found in Chapter 8 of the adopted Transportation System Plan (TSP) shall be applicable to all newly established public street intersections and non-traversable medians.
- b. Private drives and other access ways are subject to the requirements of CDC 48.060.

Comment: Old River Drive is designated as a Neighborhood Route by the West Linn Transportation Systems Plan. The minimum spacing distance listed between intersections on a Neighborhood Route is 150 feet. The proposed Ferndell Drive intersection is 233' north of Cherokee Ct., and 600' south of Riverwoods Place. This standard is met.

7. Number of access points. For single-family (detached and attached), two-family, and duplex housing types, one street access point is permitted per lot or parcel, when alley access cannot otherwise be provided; except that two access points may be permitted corner lots (i.e., no more than one access per street), subject to the access spacing standards in subsection (B)(6) of this section. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with subsection (B)(8) of this section, in order to maintain the required access spacing, and minimize the number of access points.

Comment: Each proposed lot will have one access point, as specified in this section.

8. Shared driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:

Comment: Not applicable. No shared accesses are proposed.

C. Street connectivity and formation of blocks required. In order to promote efficient vehicular and pedestrian circulation throughout the City, land divisions and large site developments shall produce complete blocks bounded by a connecting network of public and/or private streets, in accordance with the following standards:

1. Block length and perimeter. The maximum block length shall not exceed 800 feet or 1,800 feet along an arterial.

Comment: No block lengths in excess of 800 feet are proposed. The block length from Old River Drive to the eventual connection with Robin View is approximately 700 feet.

2. Street standards. Public and private streets shall also conform to Chapter 92 CDC, Required Improvements, and to any other applicable sections of the West Linn Community Development Code and approved TSP.

Comment: Proposed streets will comply with the public street standards of Chapter 92 (see below).

3. Exception. Exceptions to the above standards may be granted when blocks are divided by one or more pathway(s), in conformance with the provisions of CDC 85.200(C), Pedestrian and Bicycle Trails, or cases where extreme

topographic (e.g., slope, creek, wetlands, etc.) conditions or compelling functional limitations preclude implementation, not just inconveniences or design challenges. (Ord. 1635 § 25, 2014; Ord. 1636 § 33, 2014)

Comment: No exceptions to block length are necessary.

48.030 MINIMUM VEHICULAR REQUIREMENTS FOR RESIDENTIAL USES

A. Direct individual access from single-family dwellings and duplex lots to an arterial street, as designated in the transportation element of the Comprehensive Plan, is prohibited for lots or parcels created after the effective date of this code where an alternate access is either available or is expected to be available by imminent development application. Evidence of alternate or future access may include temporary cul-de-sacs, dedications or stubouts on adjacent lots or parcels, or tentative street layout plans submitted at one time by adjacent property owner/developer or by the owner/developer, or previous owner/developer, of the property in question.

Comment: All lots will take access from the internal local street system. No arterial streets are located in this area.

B. When any portion of any house is less than 150 feet from the adjacent right-of-way, access to the home is as follows:

- 1. One single-family residence, including residences with an accessory dwelling unit as defined in CDC 02.030, shall provide 10 feet of unobstructed horizontal clearance. Dual-track or other driveway designs that minimize the total area of impervious driveway surface are encouraged.*
- 2. Two to four single-family residential homes equals a 14- to 20-foot-wide paved or all-weather surface. Width shall depend upon adequacy of line of sight and number of homes.*
- 3. Maximum driveway grade shall be 15 percent. The 15 percent shall be measured along the centerline of the driveway only. Variations require approval of a Class II variance by the Planning Commission pursuant to Chapter [75](#) CDC. Regardless, the last 18 feet in front of the garage shall be under 12 percent grade as measured along the centerline of the driveway only. Grades elsewhere along the driveway shall not apply.*
- 4. The driveway shall include a minimum of 20 feet in length between the garage door and the back of sidewalk, or, if no sidewalk is proposed, to the paved portion of the right-of-way.*

Comment: All lots will have individual driveways that conform to these standards. Driveways will be reviewed at the time of building permit application.

C. When any portion of one or more homes is more than 150 feet from the adjacent right-of-way, the provisions of subsection B of this section shall apply in addition to the following provisions.

- 1. A turnaround may be required as prescribed by the Fire Chief.*
- 2. Minimum vertical clearance for the driveway shall be 13 feet, six inches.*
- 3. A minimum centerline turning radius of 45 feet is required unless waived by the Fire Chief.*

4. *There shall be sufficient horizontal clearance on either side of the driveway so that the total horizontal clearance is 20 feet.*

Comment: No lots will have portions of the homes located more than 150 feet for the adjacent right-of-way.

D. Access to five or more single-family homes shall be by a street built to full construction code standards. All streets shall be public. This full street provision may only be waived by variance.

Comment: The proposed street will be built to full City standards for local streets, with 52 feet of right-of-way and 28' of paving. A reduced section of 50' of right-of-way with 26' of pavement is proposed at the entrance to the site due to the constraints of the existing 50' access strip. This standard still exceeds the minimum standard for local streets of 48' of right-of-way and 24' of pavement. No parking will be allowed within this reduced width strip.

E. Access and/or service drives for multi-family dwellings shall be fully improved with hard surface pavement:

Comment: Not applicable. No multi-family dwellings are proposed.

F. Where on-site maneuvering and/or access drives are necessary to accommodate required parking, in no case shall said maneuvering and/or access drives be less than that required in Chapters 46 and 48 CDC.

Comment: Not applicable. All lots are for single-family homes and all parking will be provided on the home's driveway.

G. The number of driveways or curb cuts shall be minimized on arterials or collectors. Consolidation or joint use of existing driveways shall be required when feasible.

Comment: No driveways onto arterial or collector streets are proposed.

H. In order to facilitate through traffic and improve neighborhood connections, it may be necessary to construct a public street through a multi-family site.

Comment: Not applicable. No multi-family development is proposed.

I. Gated accessways to residential development other than a single-family home are prohibited. (Ord. 1408, 1998; Ord. 1463, 2000; Ord. 1513, 2005; Ord. 1584, 2008; Ord. 1590 § 1, 2009; Ord. 1636 § 34, 2014)

Comment: Not applicable. No gated accesses are proposed.

Chapter 55 - DESIGN REVIEW

As required by this chapter, the applicant retained the services of an arborist (Multnomah Tree Experts) to identify the size, species, and condition of existing trees on

the subject property. The trees were surveyed and mapped by Centerline Concepts, Inc., as shown on the Existing Conditions Map submitted with this application. Subsequently, the City Arborist visited the site and determined that 38 of these trees are significant trees. These trees are shown on the Tree Preservation Plan submitted with this application. The following provisions of Chapter 55 relating to tree preservation are applicable to this proposal:

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.

Comment: No heritage trees are located on the subject property.

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.

Comment: Only one of the significant trees identified by the City Arborist is located on slopes that are consistent with Type I or II lands. That tree is proposed to be preserved. It must be noted, however, that per the definitions of Type I and II lands in Chapter 2 of the Community Development Code, there are no such lands on the subject property. The percentage of the site that they occupy (1.6%-Slopes 25-35%, and 2.3%-Slopes 35% plus) is far lower than the 50% threshold set in the definition.

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.

Comment: The entire site is wooded and, as shown on the Tree Plan submitted with this application, Significant Trees impact every lot in the subdivision, as well as the proposed street. This makes full compliance with the 20 percent aspirational standard impracticable while maintaining reasonable building sites. A total of 17,725 sq. ft. of the site is proposed to be placed in tree preservation easement, as shown on the tree plan. This amounts to approximately 12.1% of site area. This does not mean that all of the Significant Trees located outside of these tree protection areas will be removed; rather it means that it will be necessary to build closer to some of these trees than the dripline-plus-10 standard. Where Significant Trees are located on lot lines or rear yard areas and it is practicable to save the trees, they will be retained.

- 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 lot or parcel is blocked by a row or screen of significant trees or tree clusters.*

Comment: Ferndell Drive will be stubbed to the east property line of the subject property. This street will be extended through the site to connect with Robin View Ct. in the future when Tax Lot 1000 is divided, as shown on the shadow plat on the Tentative Plan. This extension will result in the loss of 4 trees located within the street right-of-way. As is apparent from the slope analysis drawing, it is not practicable to relocate the street so that it would avoid these trees.

- 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.

Comment: The density calculations submitted with this application demonstrate that the project will achieve more than 70% of maximum density. The maximum density allowed is ten lots and that is the density proposed (100% of maximum density).

- 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.*

Comment: Not applicable. The site does not abut an arterial or collector street.

- 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.*

Comment: Trees located in the protected portions of the site will not be impacted by site grading.

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:*

Comment: As shown on the Tentative Plan, the developer proposes to construct Ferndell Drive to City local street standards, with a 52' right-of-way, 28' paved section, 6 foot sidewalks and 5' planter strips. The road will be 50' of right-of-way and 26' of pavement, with curb-tight sidewalks at the entrance to the subdivision from Old River Road. This reduced width is due to the constraints of the width of the access strip. The curb-tight sidewalks in that area are needed because of grading constraints imposed by cross slopes.

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

Comment: Not applicable. This subsection applies only when an applicant is proposing to construct less than full standard streets.

- 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.*

Comment: As shown on the Grading Plan submitted with this requirement will be met.

- 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.*

Comment: As shown on the Grading Plan submitted with this application, the proposed streets will be graded for the full right-of-way and improved to City standards.

- 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.*

Comment: Monumentation will be installed and/or reestablished at street intersections in accordance with this subsection.

- 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.*

Comment: The project engineer has prepared a storm drainage plan, as shown on the Utility Plan, and a storm report for this project. Please refer to those documents.

- 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.*

Comment: Sanitary sewers are available to this project from an existing line in an easement that crosses the subject property. This sewer will be extended to service all lots within the development, as required by this subsection.

- 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.*

Comment: A water line will be installed within Ferndell Drive and will be looped to connect to existing lines Robin View Ct.

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.*

Comment: As required by this subsection, sidewalks will be installed along all street frontages in this development.

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).*

Comment: Sidewalks will be constructed during home construction on each lot. The required letter of credit will be provided.

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.*

Comment: Sidewalks will be installed to City specifications.

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.*

Comment: Not applicable. The site does not abut an arterial or collector street.

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.*

Comment: Sidewalks are proposed on both sides of all streets within this subdivision.

- 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.*

Comment: No bicycle routes are called for on the local streets within this subdivision.

- 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.*

Comment: The developer will provide all required signs, consistent with City standards.

- 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.*

Comment: The required sign will be installed at the end of Ferndell Drive.

- 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.

Comment: Not applicable. No public dedications are proposed.

- 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.

Comment: Street lights will be installed by the developer, consistent with the requirements of this subsection.

- 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.

Comment: The developer will coordinate with utility companies for the installation of underground facilities for electrical, cable, natural gas, telephone, and street lighting. As required by this section.

- 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.

Comment: Curb cuts will be installed at the time of home construction and will be installed to City standards.

- 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.

Comment: The developer will coordinate with the City Parks and Recreation Department regarding installation of street trees and will be responsible for paying the appropriate fee.

- 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.

Comment: The developer will coordinate with the US Postal Service and the City Engineer regarding the location of joint mailbox clusters and will install them in accordance with this section.

CHAPTER 28 - WILLAMETTE AND TUALATIN RIVER PROTECTION

28.030 APPLICABILITY

A. The Willamette and Tualatin River Protection Area is an overlay zone. The zone boundaries are identified on the City's zoning map, and include:

- 1. All land within the City of West Linn's Willamette River Greenway Area.*
- 2. All land within 200 feet of the ordinary low water mark of the Tualatin River, and all land within the 100-year floodplain of the Tualatin River.*
- 3. In addition to the Willamette Greenway and Tualatin River Protection Area boundaries, this chapter also relies on the HCA Map to delineate where development should or should not occur. Specifically, the intent is to keep out of, or minimize disturbance of, the habitat conservation areas (HCAs). Therefore, if all, or any part, of a lot or parcel is in the Willamette Greenway and Tualatin River Protection Area boundaries, and there are HCAs on the lot or parcel, a Willamette and Tualatin River Protection Area permit shall be required unless the development proposal is exempt per CDC 28.040.*

Comment: The subject property is not within the Willamette River or Tualatin River Greenway. The steep bluff area on the eastern end of the site is designated Medium Habitat Conservation Area by Metro and the City's GIS map.

28.040 EXEMPTIONS/USES PERMITTED OUTRIGHT

The use of Habitat Conservation Areas for residential purposes is not listed as a use that is exempt or permitted outright. However CDC 28.040AA does apply to this proposal:

AA. Lands that are designated as an HCA only due to a forested canopy shall be exempted since trees are already protected in the municipal code and Chapters 55 and 85 CDC. Development of lands that are designated as HCA due to other variables such as wetlands, flood areas and steep slopes shall still be regulated by the provisions of this chapter and not exempted.

Please see discussion of this provision under section 28.070, below.

28.050 PROHIBITED USES

The following are prohibited:

- 1. Residential floating structures, also known as floating homes or houseboats.*
- 2. Permanent ski jumps.*

3. *More than one dock with or without a boat house per riverfront lot of record, except City-owned tax lots 100, 200, 300, 400, and 500 of Assessor's Map 21 East 24.*
4. *The location of any dock under any water condition that prevents what would otherwise be historic, safe, uninterrupted water passage.*
5. *Any new lawn area or garden area consisting primarily of non-native vegetation within HCA lands. A lawn area in the "Allowed Development" area is permitted.*
6. *Planting of any species identified as nuisance or prohibited plants on the Metro Native Plant List.*
7. *Non-permitted storage of hazardous materials as defined by the Oregon Department of Environmental Quality and dumping of any materials of any kind.*
8. *Excessive trimming or removal of existing native vegetation within the HCA unless it is to reestablish native vegetation in place of non-native or invasive vegetation. (Ord. 1576, 2008)*

Comment: None of the uses listed in this section are proposed within the Habitat Conservation Area.

28.060 ADMINISTRATION AND APPROVAL PROCESS

An application for a protection area permit shall be processed pursuant to the provisions of Chapter 99 CDC, Procedures for Decision-Making: Quasi-Judicial.

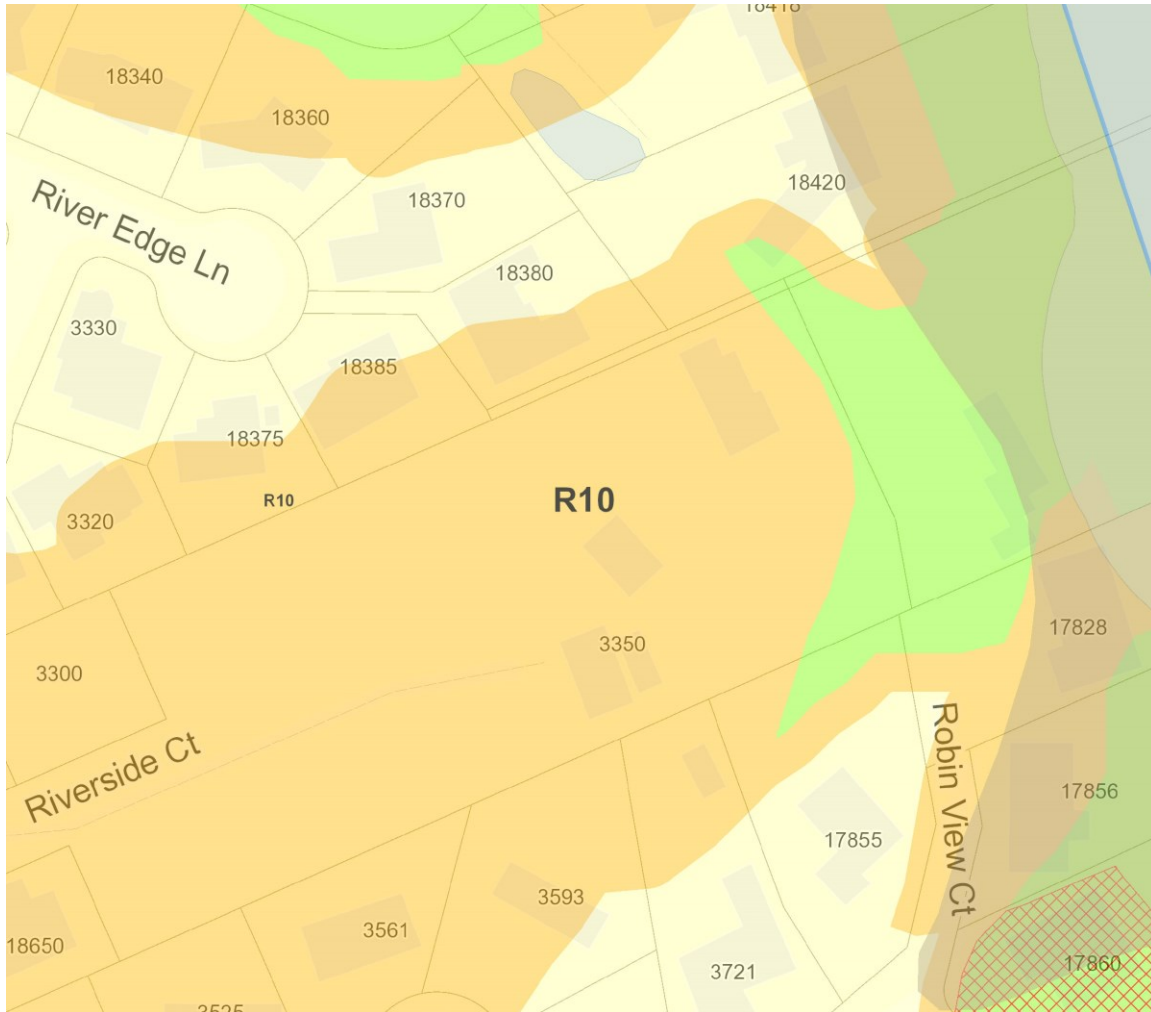
Comment: The application is being processed quasi-judicially, in accordance with the provisions of Chapter 99 of the CDC.

28.070 PLANNING DIRECTOR VERIFICATION OF METRO HABITAT PROTECTION MAP BOUNDARIES

A. *The HCA Map is the basis for identifying and designating the habitat conservation areas in the City. A copy of the latest, updated HCA Map is on file at the City and is adopted by reference for use with this chapter.*

It is inevitable, given the large area that Metro's HCA Map covers, that there may be some errors. In cases where, for example, three properties share the same contours and the same natural features but the map shows the middle lot with an HCA designation on it, it is reasonable to question the accuracy of that HCA designation. Using tree overstory as the sole basis for HCA designation will also allow a change in designation since trees are already protected in the municipal code and Chapters 55 and 85 CDC.

The map below shows the location of the HCA per the City of West Linn GIS mapping system.



The areas that are designated HCA due strictly to forested tree canopy are shown in tan. As noted in section 28.070(F) "Lands that are designated as an HCA only due to a forested overstory are exempt under CDC 28.040, Exemptions, since trees are already protected in the municipal code and Chapters 55 and 85 CDC." Therefore, the areas mapped in tan are not subject to the provisions of Chapter 28.

It is unclear as to why the HCA area mapped in green has received this designation as a moderate value HCA. An analysis of this area of the site was conducted by Schott & Associates and it has been determined that there are no HCA resources on the subject site or Tax Lot 1000. Please refer to that report.

B. The Planning Director shall verify the appropriate HCA or non-HCA designation by site visits or consultations with Metro or by other means. Determination is based on whether the Metro criteria are met or whether the Metro designation was based solely on tree overstory in which case a redesignation is appropriate. In cases where the determination is that the map is incorrect, the Planning Director will make a written finding of this as well as the site conditions that led to that conclusion.

Comment: Please refer to the Schott & Associates report for justification of removal of the HCA designation from the subject property and Tax Lot 1000.

C. Class B public notice, per Chapter 99 CDC, shall be required prior to issuance of the redesignation decision if it involves redesignation of the HCA boundary to allow the construction of, or addition to, a house.

Comment: The required notice will be provided.

D. This determination and findings shall become part of the City record and part of the record for any associated land use application. The Planning Director shall also include in the record the revised map boundary. The Planning Director's determination and map revisions shall also be sent to Metro so that their map may be corrected as necessary.

Comment: If approved, this requirement will be met by the City.

E. The Planning Director determination is appealable to the City Council per Chapter 99 CDC.

Comment: The applicant recognizes that the determination is appealable.

F. Lands that are designated as an HCA only due to a forested overstory are exempt under CDC 28.040, Exemptions, since trees are already protected in the municipal code and Chapters 55 and 85 CDC. Similar exemptions apply to lands that exhibit no constraints. (Ord. 1576, 2008; Ord. 1604 §§ 25 – 28, 2011)

Comment: The areas shown in tan are exempt due to this provision as there are no habitat resources in those areas other than forested overstory.

28.110 APPROVAL CRITERIA

No application for development on property within the protection area shall be approved unless the decision-making authority finds that the following standards have been met or can be met by conditions of approval. The development shall comply with the following criteria as applicable:

Comment: Upon approval of a change in designation, these provisions will no longer apply.

**NATURAL RESOURCE ASSESSMENT
Within
Habitat Conservation Area**

FOR

Ferndell Estates

Prepared for:
**Bill Varitz
17828 Robin View Ct
West Linn, OR 97068**

Prepared by:
Schott and Associates

June 2018
Project #: 2588

INTRODUCTION

Site Location

Schott and Associates was contracted to conduct a wetland delineation and natural resource assessment on the subject property located east of Old River Road in West Linn, Clackamas County, Oregon. The property consists of 3 main tax lots (T2S R1E Sec.14AD 990, 1000, 1001) with two narrow strips attached to the north that are considered tax lots as well (T2S R1E Sec.14AD TL#900 and 1090).

Site Description

The rectangular shaped subject property is situated east of Old River Road and west of the Willamette River. The property is bordered by residential housing to the north, south and west. The Willamette River binds the property to the east. The subject property is mainly gently east sloping, but toward the eastern portion sloping is steeper and terraced.

The properties are entered by Riverside Court directing east off of Old River Road in between two tax lots at the west border of tax lots 990 and 1001 . Riverside Court is a private drive turning into a long driveway leading to a house and associated outbuildings at the east end of tax lot 990. The main driveway then winds south and east to tax lot 1000 with an associated house and attached garage.

Tax lot 1001 of 0.23 AC, tax lot 990 of 3.01 AC and the associated tax lot strip 900 of 0.04 AC are the most western tax lots. These tax lots are located just east of Old River Road and entered by Riverside Court which turns into a long private driveway. All of tax lot 1001 and tax lot 900 and the western portion of tax lot 990 are forested on both sides of the long driveway. Vegetation consisted of an overstory of Douglas fir (*Pseudotsuga menziesii*) and big leaf maple (*Acer macrophyllum*) and some ornamental tree varieties. The understory consisted of English ivy (*Hedera helix*) with some snowberry (*Symphoricarpos albus*) and sword fern (*Polystichum munitum*) mixed in. North or south of the driveway, in the forested area, is one large shop and a smaller storage shed prior to the house located at the east end of tax lot 990. The house is mainly surrounded by a maintained lawn and ornamental landscaping. The driveway then loops north and south around the house entering onto the most eastern tax lot 1000.

Tax lots 1000 and 1090 are fully developed. The driveway ends at a large house with an attached garage. The house is surrounded by a manicured lawn and ornamental landscape. East of the house is a stone retaining wall and a lower terraced area that is entirely lawn bordering the Willamette River to the east.

Project Objectives

The applicant proposes a 10 lot residential subdivision entirely within tax lots 900, 990 and 1001. Tax lots 1000 and 1090 will not be part of the subdivision, but will have a storm sewer built across them at the northern end to serve the 10 lot residential subdivision. Main access will be from Riverside Ct, entered from Old River Road to the west and through the middle of the development. As shown on the HCA Map, the subject properties contain Habitat Conservation Areas (HCAs). The east end of the proposed roadway and the east end of proposed lots 5 and 6 are mapped within Medium HCA. The storm sewer improvement is proposed within Mapped Medium and High HCA. This report will provide HCA map verification and a description of site findings.

METHODS

A wetland and natural resource assessment were conducted on April 12, 2018. As per 28.030, 28.070 Habitat Conservation Area boundaries were determined and documented in this report.

Prior to visiting, site information was gathered, including recent and historical aerial photographs provided by Google Earth, the soil survey (NRCS web soil survey), the Local Wetland Inventory (LWI), the National Wetland Inventory (NWI), the Water Resource Area (WRA) map and the Habitat Conservation Area (HCA) map. The USGB topography map was also reviewed prior to the site visit.

The wetland delineation field work was conducted using the *1987 Manual and Regional Supplement to the Corps of Engineers Delineation Manual: Western Mountains, Valleys and Coast Region* to determine presence or absence of State of Oregon wetland boundaries and the Federal jurisdictional wetlands.

SENSITIVE AREA CONDITIONS

Waterway

There were no waterways onsite. The Willamette River bordered tax lot 1000 to the east and defines the property boundary. The waterway is not within the defined project area boundary.

Wetland

Based on soil, vegetation and hydrology data taken in the field no wetlands were found on the subject property. Sample plots were placed where geomorphic location or vegetation indicated the possibility of wetlands. Three sample plots were dug within the lowest lying areas located in the most eastern location of tax lot 1000 on a lower terrace bordering the Willamette River. The sample plots were all located within a mowed area of facultative grasses. Soils were mainly sand with a matrix color mix of 10YR 3/2, 3/3 and 4/4. No redoximorphic features were present and soils were dry. No hydrology indicators were present. No wetlands were present within the subject property.

The LWI, as well as the NWI and the WRA map, documented the Willamette River bordering the subject property to the east. The maps did not document any wetlands or waterways within the subject property. Onsite findings resulted in the same information.

The Web Soil Survey for Clackamas County mapped Cloquato silt loam and Woodburn silt loam 3 to 8% slopes within the subject property. Neither is considered a hydric soil.

HCA

28.070 PLANNING DIRECTOR VERIFICATION OF METRO HABITAT PROTECTION MAP BOUNDARIES

A. The HCA Map is the basis for identifying and designating the habitat conservation areas in the City. A copy of the latest, updated HCA Map is on file at the City and is adopted by reference for use with this chapter.

It is inevitable, given the large area that Metro's HCA Map covers, that there may be some errors. In cases where, for example, three properties share the same contours and the same natural features but the map shows the middle lot with an HCA designation on it, it is reasonable to question the accuracy of that HCA designation. Using tree overstory as the sole basis for HCA designation will also allow a change in designation since trees are already protected in the municipal code and Chapters 55 and 85 CDC.

B. The Planning Director shall verify the appropriate HCA or non-HCA designation by site visits or consultations with Metro or by other means. Determination is based on

whether the Metro criteria are met or whether the Metro designation was based solely on tree overstory in which case a redesignation is appropriate. In cases where the determination is that the map is incorrect, the Planning Director will make a written finding of this as well as the site conditions that led to that conclusion.

C. Class B public notice, per Chapter 99 CDC, shall be required prior to issuance of the redesignation decision if it involves redesignation of the HCA boundary to allow the construction of, or addition to, a house.

D. This determination and findings shall become part of the City record and part of the record for any associated land use application. The Planning Director shall also include in the record the revised map boundary. The Planning Director's determination and map revisions shall also be sent to Metro so that their map may be corrected as necessary.

E. The Planning Director determination is appealable to the City Council per Chapter 99 CDC.

F. Lands that are designated as an HCA only due to a forested overstory are exempt under CDC 28.040, Exemptions, since trees are already protected in the municipal code and Chapters 55 and 85 CDC. Similar exemptions apply to lands that exhibit no constraints. (Ord. 1576, 2008; Ord. 1604 §§ 25 – 28, 2011)

HCA Map description

Most of tax lot 1000 and 1090 are mapped HCA. The eastern 2/3rds of tax lots 1000 and 1090 are mapped High HCA. The western 1/3 is mainly mapped Medium HCA. The east edge of tax lots 900 and 990 are mapped Medium HCA. The remaining area of these tax lots, as well as tax lot 1001, is mapped Habitat and Impact Areas not designated as HCAs. A 10 lot subdivision is proposed within tax lots 900, 990 and 1001. Only the very eastern property boundary of tax lots 900 and 990 are mapped Medium HCA, covering 5,155sf of area. No development is proposed in tax lots 1000 and 1090 where the majority of the HCA is mapped. However, a storm sewer is proposed at the north end of the property to serve the proposed subdivision. Two manholes of 3.14sf per and a Storm treatment facility of 600sf will be located in the approximate northwest corner of tax lots 1000, 1090. An open swale of 400sf will be located in the northeast corner of the property adjacent to the Willamette River. Total permanent impacts to the mapped HCA are 1,006.28sf. An underground discharge pipe will parallel the north property line connecting the storm treatment facility and the open swale. Temporary impacts caused by pipe installation will be approximately 2,650sf.

HCA on site findings

The site was visited and information documented in April of 2018. Tax lots 1000 and 1090 are located the furthest east within the subject property. They are bordered by the Willamette River to the east, therefore, within the City of West Linn Willamette Greenway Area. A majority of tax lots 1000 and 1090 are mapped High HCA and Medium HCA.

HCA mapping also covers a small area (5,155sf) within tax lots 900 and 990 at their eastern property line. Upon site investigation we have determined that there was a mapping error and there are no actual Habitat Conservation Areas within the subject property.

Tax lot 1000 and 1090 do border the Willamette River along the east property line, but the vegetation consists of a vast mowed lawn area vegetated with non-native grasses. The lawn area bordering the river is the lowest lying area within the subject property. From the river the lawn area varies in width to the west, from 50 to a 100' as the property angles at the eastern property line. Three sample plots were dug within the lowest lying areas and soils consisted of sand with a mixed matrix of 10YR3/3, 3/2 and 4/4. There were no redoximorphic features present. There were no hydrology indicators observed. It was determined that no wetlands were in the lowest area of the property where they would most likely be found.

At the west end of the lawn area is a stone retaining wall and a steep bank dominated by English ivy and a few scattered Douglas fir trees. At the top of the steep bank the property flattens out. This is where the house is located. The house is surrounded by a manicured lawn and ornamental plantings. In front of the house, to the west, is a long driveway directing north and south. The driveway is bordered to the west by another retained sloped bank dominated by ivy. There are a few Douglas fir and big leaf maples in the overstory and a few scattered snowberry and sword fern mixed in with the ivy on the slope. The driveway circles a second house on tax lot 990, located above the slope, in a north and south direction. The driveways meet west of the second house and then direct west to Old River Road. The second house, located on tax lot 990 was surrounded by ornamental landscape as well. HCA mapping basically stops east of the house on tax lot 990 except at the southeast corner of the lot where it extends a little further west past the house.

Upon site observation and site information gathered prior to the site visit, we contend that there was a mapping error and there is no actual HCA within any of the tax lots on the subject properties. What was observed was vast lawns, retaining walls, ivy dominated slopes, buildings with non-native landscapes and asphalt or gravel driveways. Per Google Earth aerial photos, the subject properties has been like this since at least 1994 and have remained the same to date.

Impacts to Wetlands/Waters

There are no wetlands or waterways onsite, therefore no impacts. The Willamette River borders tax lot 1000 and 1090 to the east. There is no proposed development for these two tax lots but proposed storm sewer improvements at the northern extent.

Impacts to the mapped HCA

Development is proposed on tax lots 900, 990 and 1001. Medium HCA is mapped at the east boundary of tax lots 900 and 990. Proposed lot 5 will impact 725sf and lot 6 will impact 3,750sf of mapped Medium HCA. The proposed roadway ends at the east property line of tax lot 990, impacting 680sf of mapped Medium HCA. Total impact is 5,155sf of mapped Medium HCA.

Additionally, storm sewer improvements are proposed through tax lots 1000 and 1090 at the northern extent. A storm treatment facility (600sf), two manholes (6.28sf) and an open swale (400sf) will permanently impact 1,006.28sf of combined Mapped Medium and High HCA. The discharge pipe connecting the Storm treatment facility in the NW corner to the open swale in the NE corner will temporarily impact approximately 2,600sf Mapped Medium and High HCA. The impacts are minor and temporary. As the area will be trenched and backfilled it will be put back to good condition and overseeded with a native upland seed mix.

Onsite investigation determined that there is no HCA on the property and most of the mapped HCA on tax lot 900 and 990 is within a steep ivy covered, rock retained slope or on a hardscape driveway.

The mapped HCA on tax lots 1000 and 1090 is mainly non-native grasses on the eastern half and developed landscaped property on the western portion and should not be considered HCA. However, the property does border the Willamette River to the east.

The homes on tax lot 990 and 1000 were built in 1994. Per Google Earth the properties have been developed since at least 1994 and remain the same to date.

28.110 APPROVAL CRITERIA

No application for development on property within the protection area shall be approved unless the decision-making authority finds that the following standards have been met or can be met by conditions of approval. The development shall comply with the following criteria as applicable:

A. Development: All sites.

1. Sites shall first be reviewed using the HCA Map to determine if the site is buildable or what portion of the site is buildable. HCAs shall be verified by the Planning Director per CDC 28.070 and site visit. Also, "tree canopy only" HCAs shall not constitute a development limitation and may be exempted per CDC 28.070(A). The municipal code protection for trees and Chapters 55 and 85 CDC tree protection shall still apply.

An HCA map with a development overlay is attached. As described above onsite conditions and review of historical aerials indicate a mapping error and no actual HCA was found to be onsite.

2. HCAs shall be avoided to the greatest degree possible and development activity shall instead be directed to the areas designated "Habitat and Impact Areas Not Designated as HCAs," consistent with subsection (A)(3) of this section.

The attached development plan demonstrates that a majority of the proposed development is within "Habitat and Impact Areas Not Designated as HCAs". A minimal amount of the proposed development is within mapped Medium HCA area. The storm sewer improvements will be contained at the northern extent of tax lots 1000 and 1090. The impacts will extend through some Mapped HCA that actually consists of all non-native grasses. We believe the mapping is in error and there were no HCAs on the subject properties.

3. If the subject property contains no lands designated "Habitat and Impact Areas Not Designated as HCAs" and development within HCA land is the only option it shall be directed towards the low HCA areas first, then medium HCA areas and then to high HCA as the last choice. The goal is to, at best, avoid or, at least, minimize disturbance of the HCAs. (Water-dependent uses are exempt from this provision.)

Most of the development is within non HCAs, and the minimal amount within mapped HCA is believed to be a mapping error.

4. All development, including exempted activities of CDC 28.040, shall have approved erosion control measures per Clackamas County Erosion Prevention and Sediment Control Planning and Design Manual, rev. 2008, in place prior to site disturbance and be subject to the requirements of CDC 32.070 and 32.080 as deemed applicable by the Planning Director.

This condition shall be met.

B. Partitions, subdivisions and incentives.

1. When dividing a property into lots or parcels, an applicant shall verify the boundaries of the HCA on the property.

See attached HCA map with development overlay. This map is provided for reference as the site visit has verified no actual HCA onsite.

2. Applicant shall partition or subdivide the site so that all lots or parcels have a buildable site or envelope available for home construction located on non-HCA land or areas designated "Habitat and Impact Areas Not Designated as HCAs" per the HCA Map.

A majority of the lots are proposed in non HCAs and all lots have a buildable site envelope located outside the mapped HCA. The proposed storm sewer improvements are at the northern extent of tax lots 1000 and 1090. Impacts will be minimal. As identified onsite and described in this report no actual HCA was found onsite.

3. Development of HCA-dominated lands shall be undertaken as a last resort. A planned unit development (PUD) of Chapter 24 CDC may be required.

A minimal amount of Mapped HCA would be impacted, but we believe the HCA map is in error as described above and there is no HCA on the subject property.

4. Incentives are available to encourage provision of public access to, and/or along, the river. By these means, planned unit developments shall be able to satisfy the shared outdoor recreation area requirements of CDC 55.100(F). Specifically, for every square foot of riverfront path, the applicant will receive credit for two square feet in calculating the required shared outdoor recreation area square footage. Applicants shall also be eligible for a density bonus under CDC 24.150(B). To be eligible to receive either of these incentives, applicants shall:

a. Provide a minimum 20-foot-wide all-weather public access path along the project's entire river frontage (reduced dimensions would only be permitted in response to physical site constraints such as rock outcroppings, significant trees, etc.); and

b. Provide a minimum 10-foot-wide all-weather public access path from an existing public right-of-way to that riverfront path or connect the riverfront path to an existing riverfront path on an adjoining property that accesses a public right-of-way;

c. Fencing may be required near steep dropoffs or grade changes.

No development is proposed near the river as the tax lot bordering the river is not part of the proposed development plan. (tax lot 1000) However, a storm sewer is proposed at the northern extent of tax lots 1000 and 1090 that will end near the river, but is a temporary impact only.

28.160 MITIGATION PLAN

If any HCA is permanently disturbed as a result of the proposed development of any uses or structures, the applicant shall prepare and implement a revegetation and mitigation plan pursuant to the provision of CDS 32.070 and 32.080. (Ord. 1576, 2008)

There is a total proposed impact of 5,155sf within the mapped medium HCA for development.

Per above described documentation we believe the HCA map is in error and there is no HCA on the subject property within tax lots 900 and 990 therefore, no mitigation is proposed.

A storm sewer is proposed at the northern end of tax lots 1000 and 1090 through Mapped HCA to serve the proposed subdivision. The impacts are minor. The temporary impacts, which require trenching and backfill will be brought to good condition by overseeding with a native grass seed mix.

Conclusion

Tax lots 900, 990, 1000, 1001 and 1090 were walked to verify HCA mapping accuracy. Tax lots 1000 and 1090 border the Willamette River and are almost entirely mapped HCA. Tax lot 1001 is mapped as non HCA. Tax lots 900 and 990 are HCA mapped at their eastern property boundary. A 10 lot development plan has been proposed within tax lots 900, 990 and 100, impacting 5,155sf of mapped Medium HCA. A storm sewer is proposed at the north end of tax lots 1000 and 1090 impacting 1,006.28sf of mapped HCA. Installation of a discharge pipe will impact approximately 2,600sf of Mapped HCA. The temporary impacts will be brought to good condition and overseeded with a native seed mix. Upon walking the site and conducting a natural resource assessment, we believe the HCA mapping is in error and there is no HCA within any of the tax lots on the subject properties. This may be verified by the Planning Director per 28.070. No HCA impacts are proposed and no mitigation should be required with the exception of overseeding with a native grass seed mix for the temporary impacts caused by the discharge pipe for the storm sewer installation.

Appendices

A: Site Vicinity Map

B: Tax Map

C: HCA Map

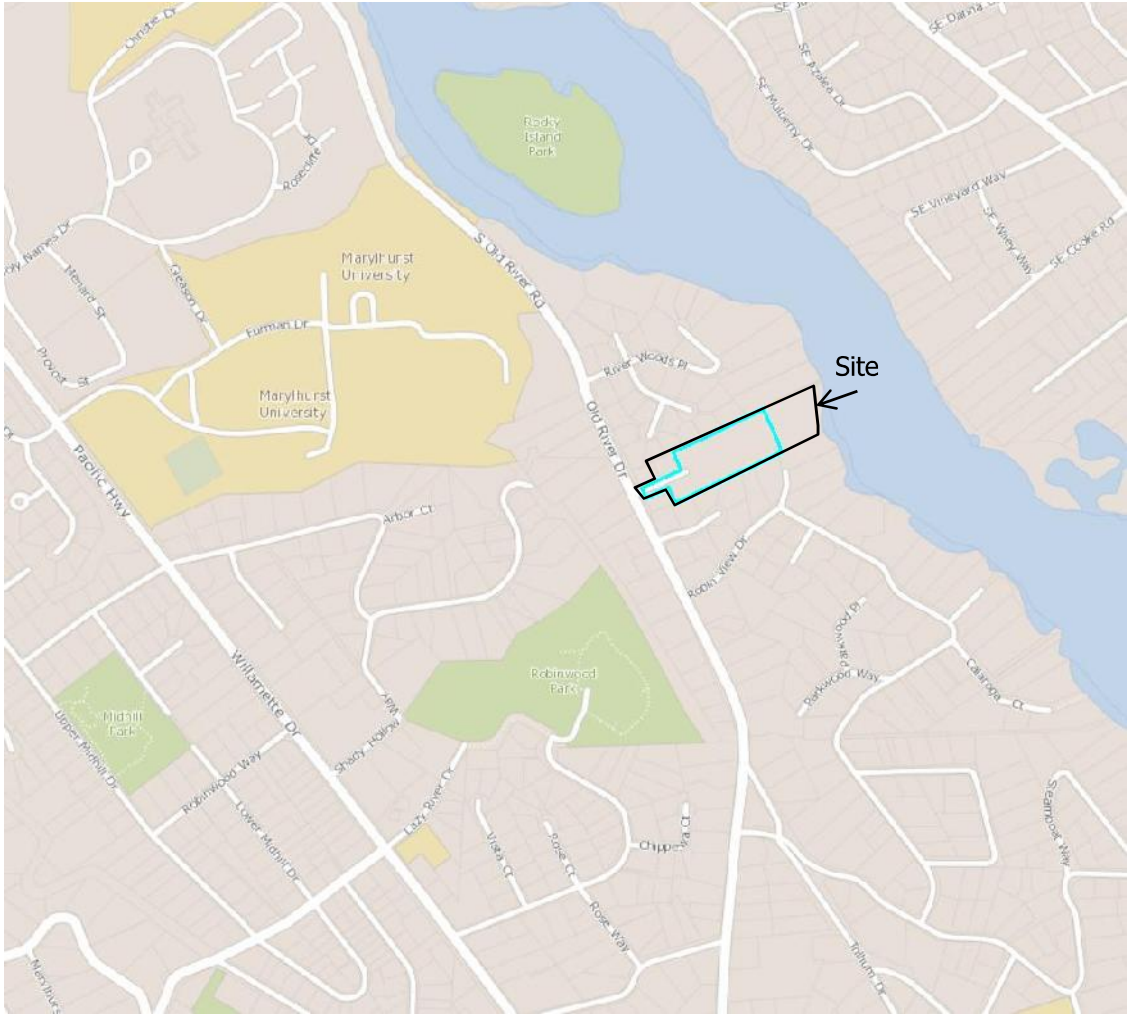
D: Aerial Photograph

E: Development Plan

F: Development Plan Overlay on HCA Map with Photo Points

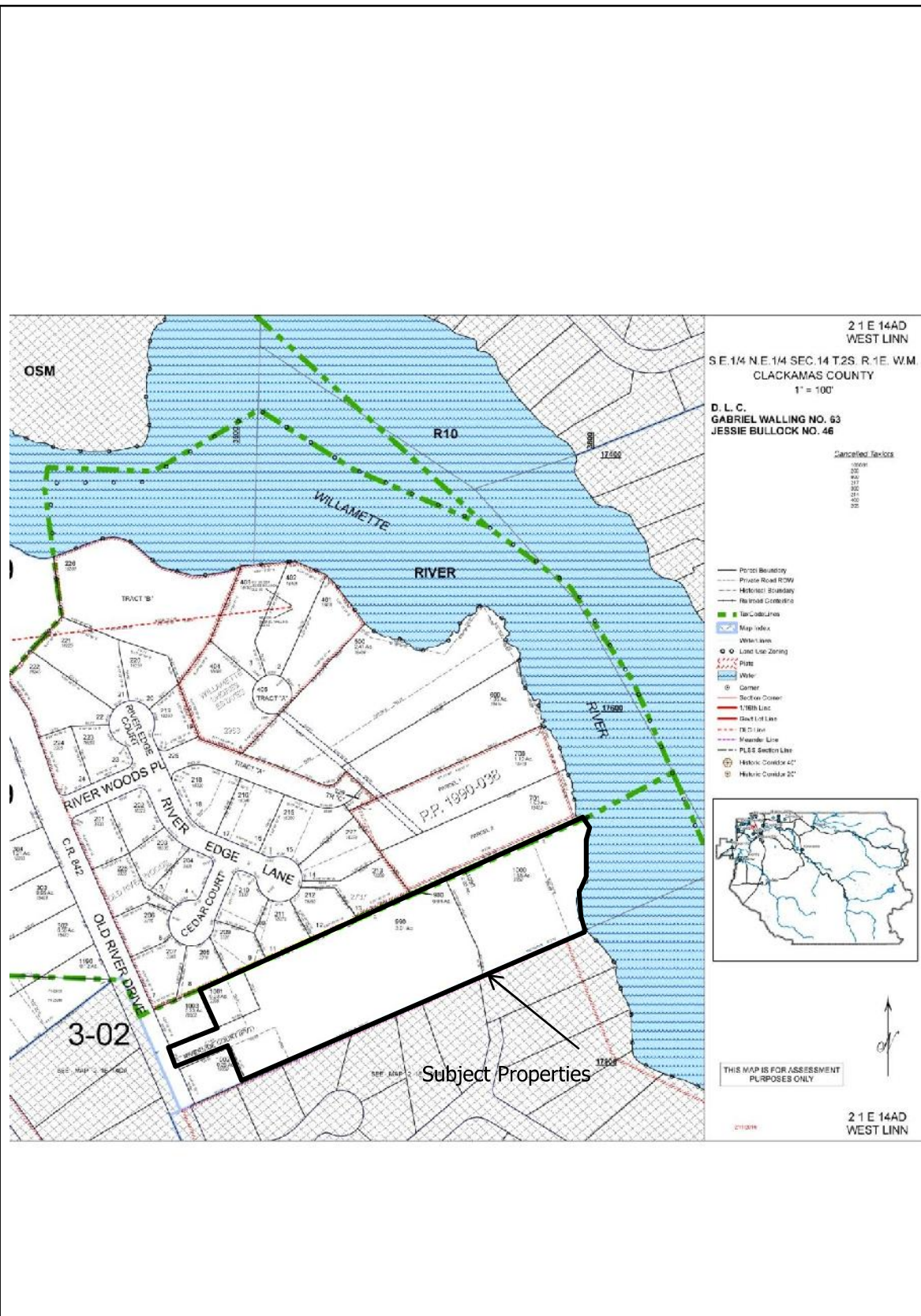
G: Ground Level Photographs

H: Utility plan



Appendix A: Site Vicinity Map
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Appendix B: Tax Map (tax lots 900, 990, 1000, 1001, 1090)
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



**Metro 2005
Habitat Conservation Areas (HCAs)**

Conservation Area



Data Source: Metro Data Resource Center
 Habitat Conservation Areas Map December 15, 2005
 Urban Growth Management Functional Plan
 Title 13, Nature in Neighborhoods
 Adopted Sept. 29, 2005 (Metro Ordinance No. 05 -1077C)
 Amended Dec. 8, 2005 (Metro Ordinance No. 05 -1097A)



Appendix D: Aerial Photograph
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007

Density Calculations

	Area (sq. ft.)	Allowable Density	Units @1 per 10,000 sq.ft.
Gross Site Area	142,933		
Land in a boundary street right-of-way, water course, or planned open space where density transfer is not requested:	0		
Area in street right-of-way:	36,708		
Net Site Area:	106,225		
Net Area within Type I or II slopes where Developed:	4,422	50%	.22
Area within Type I or II slopes where Density Will be Transferred:	0	75%	0
Area within Water Resource Area-all development transferred:	0	50%	0
Open Space (Type III and IV Lands)	0	100%	0
Net Type III & IV Land Developed:	101,803	100%	10.18
Base Density Allowed:			10.40
TOTAL ALLOWED DENSITY:			10 UNITS

SIGNED ON: 2-15-2018
 REGISTERED PROFESSIONAL LAND SURVEYOR

Richard E. Givens
 JULY 13, 2004
 (OR) C. 10120
 0057/L.S.

MAILED: DECEMBER 31, 2018
 Design by: Richard E. Givens, Planning Consultant
 Survey Work by: Centerline Concepts, Inc.

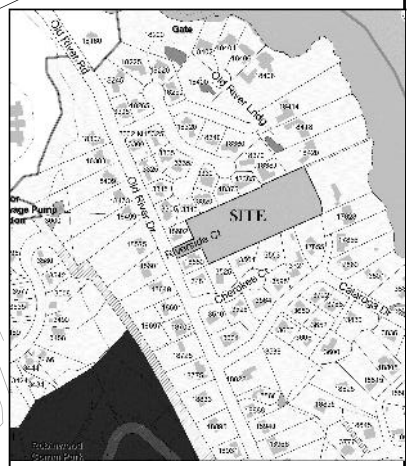
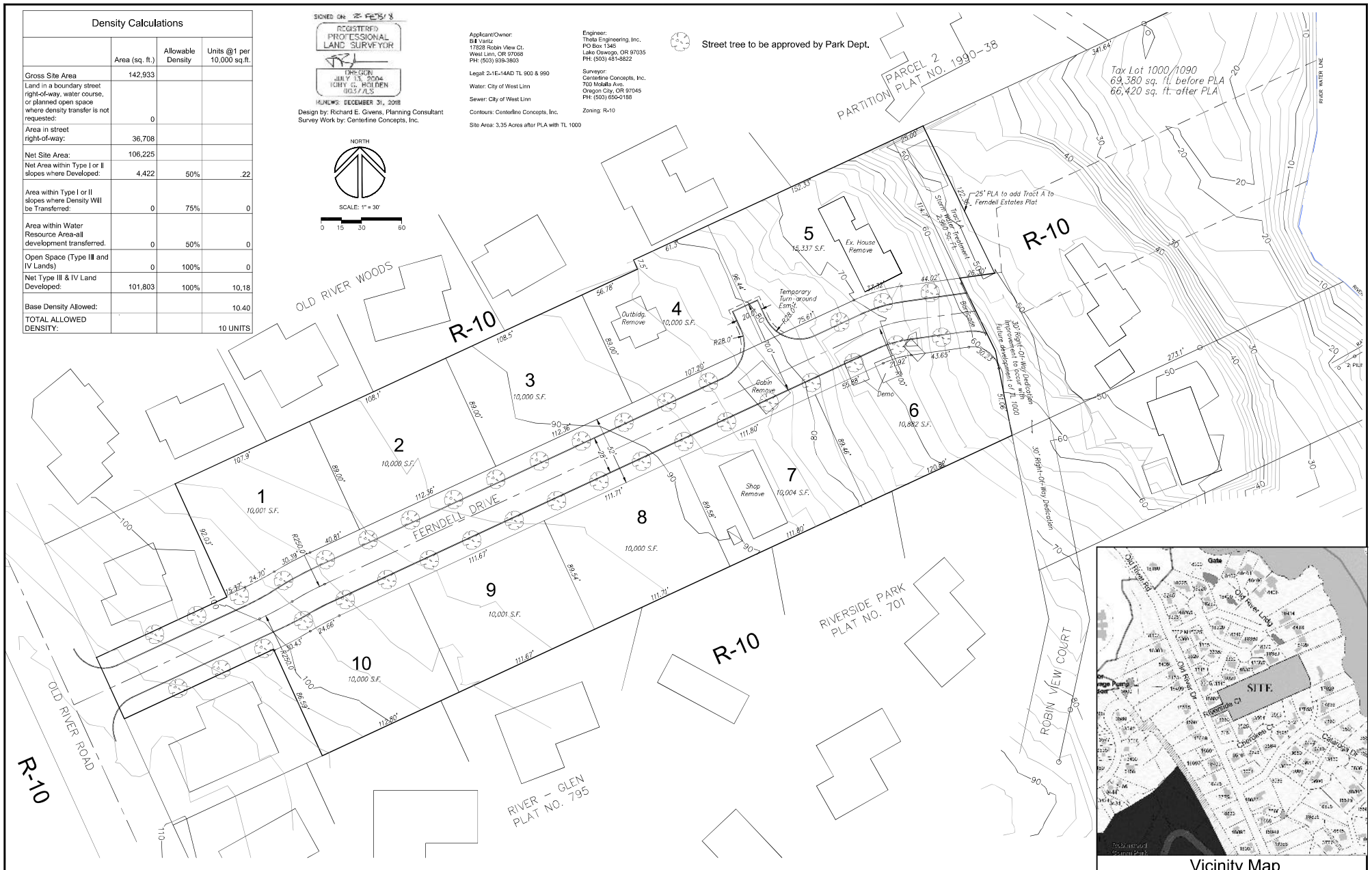


Applicant/Owner:
 Bill Varitz
 17829 Robin View Ct.
 West Linn, OR 97068
 PH: (503) 939-3803

Engineer:
 Thola Engineering, Inc.
 P.O. Box 1345
 Lake Oswego, OR 97035
 PH: (503) 451-8822

Legal: 2-1E-14AD TL 900 & 990
 Water: City of West Linn
 Sewer: City of West Linn
 Contours: Centerline Concepts, Inc.
 Zoning: R-10
 Site Area: 3.35 Acres after PLA with TL 1000

Street tree to be approved by Park Dept.



Vicinity Map

DESIGNED:	REG	5-3-2018	1	Add street trees, re-development plan for TL 1000, access & utility easement on TL 1000
DRAWN:	REG	6-6-2018	2	Widened street to 52'20" pavement.
SCALE:		1" = 30'		
DATE:		February 2018		
FILE:		13-1VAR-100		
DATE	NO.	REVISION		

Richard E. Givens, Planning Consultant
 18680 Sunblaze Dr.
 Oregon City, OR 97045
 PH: (503) 479-0097

APPLICANT: Greg Sams & Bill Varitz
 18811 Trillium Drive
 West Linn, OR 97068
 PH: (503) 939-6015

Ferndell Estates
 Tentative Plan

SHEET: 1/3



DESIGNED:	REG	PP= Photo Point
DRAWN:	REG	
SCALE:	1" = 30'	
DATE:	April 2018	
FILE:	16-VAR-100	DATE NO. REVISION

Richard E. Givens, Planning Consultant
 18680 Sunblaze Dr.
 Oregon City, OR 97045
 PH: (503) 479-0097

APPLICANT: Bill Varitz & Greg Sams
 18811 Trillium Drive
 West Linn, OR 97068
 PH: (503) 939-6015

Ferndell Estates
 HCA Analysis

SHEET
 4/4



Photo Point 1 facing north



Photo Point 1 facing west

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 2 facing south



Photo Point 2 facing east

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 2 facing north



Photo Point 2 facing west

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 3 facing



Photo Point 3 facing east

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 3 facing north



Photo Point 3 facing west

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 4 facing east



Photo Point 4 facing south

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 4 facing west



Photo Point 4 facing north

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 5 facing north



Photo Point 5 facing west

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Photo Point 5 facing south



Photo Point 5 facing east

Appendix G: Ground Level Photographs
S&A 2588
Ferndell Estates

Schott & Associates
P.O. Box 589
Aurora, OR. 97002
503.678.6007



Storm Addendum Memo

Ferndell Estates

Subject: Collection and disposal of storm water

Narrative:

Discharge of storm water from the site will be directly to the Willamette River. Storm water from the impervious streets will be collected in catch basins and piped to a water quality pond facility with discharge directly to the Willamette River. Storm water from the impervious roofs from the individual lots will be collected on site and provided either a rain garden or underground infiltrator system to provide water quality and some infiltration to the extent possible for a facility sized for water quality with an overflow to the street system.

The soils in this area are not known for good infiltration rates making total onsite disposal impractical. Detention is unnecessary since the disposal is directly to the Willamette River.

Bruce D. Goldson, PE

Theta

June 29, 2018

2017-250

RE: Ferndell Estates Tentative Plan - West Linn SUB-18-01

Ty.Darby@tvfr.com

4:02 PM

To: Rick Givens Cc: Peter Spir; Lais, Erich

Hi Rick,

Yes, this is acceptable. No parking fire lane signage will be needed as well.

Thank you,

Ty

From: Rick Givens <rickgivens@gmail.com>

Sent: Wednesday, June 6, 2018 10:13 AM

To: Darby, Ty M. <Ty.Darby@tvfr.com>

Cc: Peter Spir <Pspir@westlinnoregon.gov>; Lais, Erich <elais@westlinnoregon.gov>

Subject: Ferndell Estates Tentative Plan - West Linn SUB-18-01

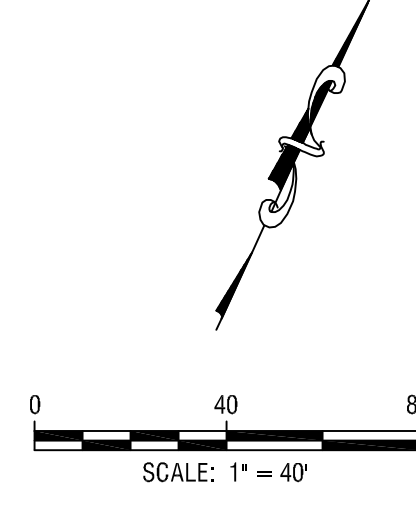
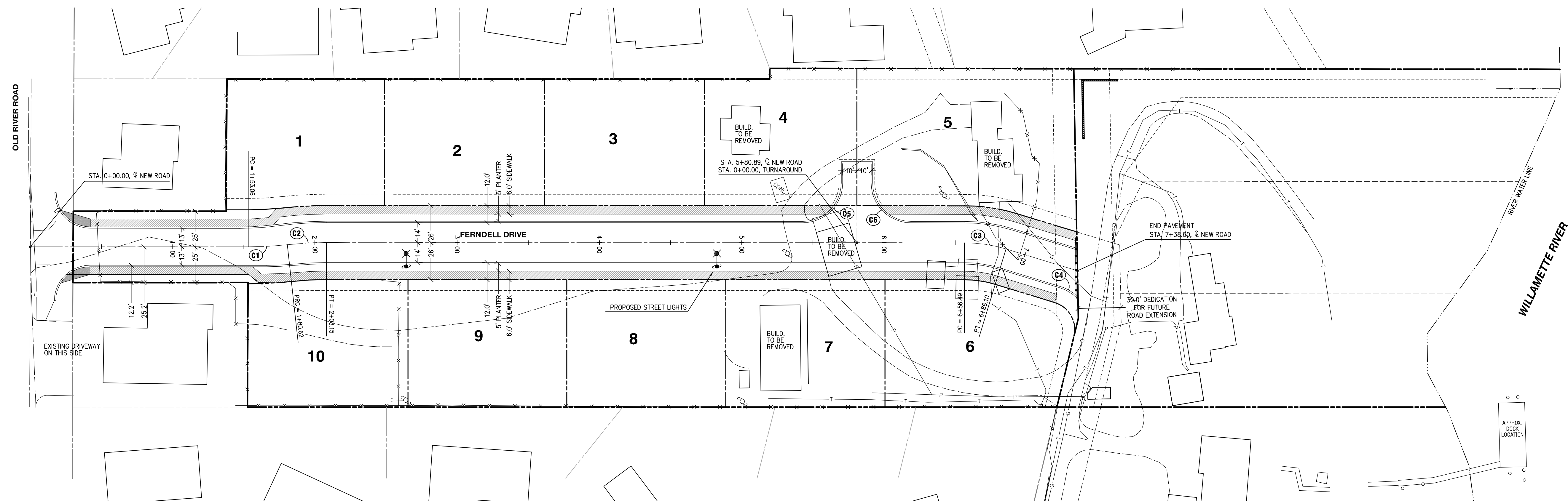
Hi Ty,

I'm attaching a revised plan for the Ferndell Estates project that you commented on in a letter dated March 7, 2018. Would you please take a look at the proposed design and location of the firetruck turn-around and let me know if it meets your standards.

Thanks,

--

Rick Givens
Planning Consultant
18680 Sunblaze Dr.
Oregon City, OR 97045
Office: (503) 479-0097
Cell: (503) 351-8204

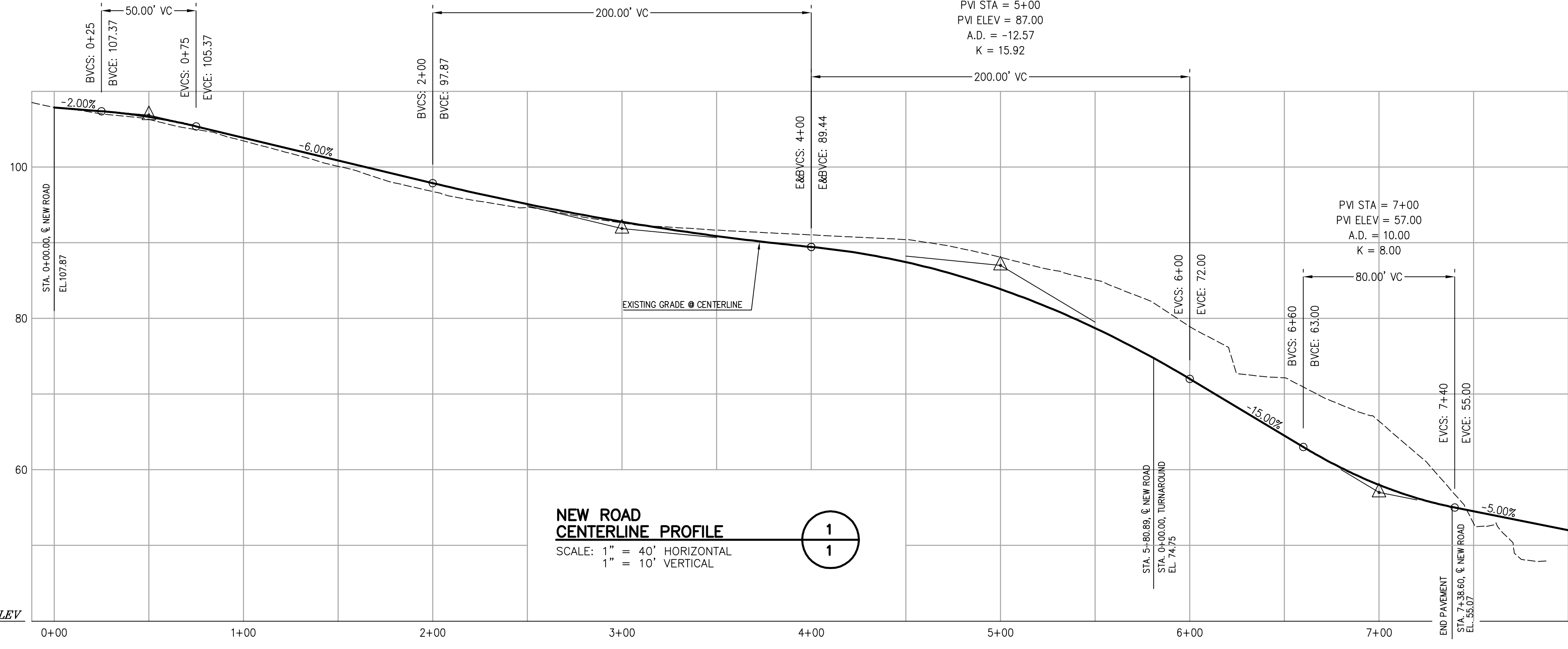


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 PVI ELEV = 106.87
 A.D. = -4.00
 K = 12.50

PVI STA = 3+00
 PVI ELEV = 91.87
 A.D. = 3.57
 K = 56.08

PVI STA = 5+00
 PVI ELEV = 87.00
 A.D. = -12.57
 K = 15.92

PVI STA = 7+00
 PVI ELEV = 57.00
 A.D. = 10.00
 K = 8.00



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C2	250.00	27.53	13.78	27.51	S61°59'08"W	6°18'32"
C3	100.00	29.62	14.92	29.51	S73°37'30"W	16°58'12"
C4	32.00	15.11	7.70	14.97	N84°21'45"W	27°03'18"
C5	28.00	43.99	28.01	39.60	N20°07'50"E	90°01'09"
C6	28.00	43.97	27.98	39.59	S69°52'10"E	89°58'51"

NEW ROAD CENTERLINE PROFILE
 SCALE: 1" = 40' HORIZONTAL
 1" = 10' VERTICAL

DATUM ELEV
 40.00

2018-250

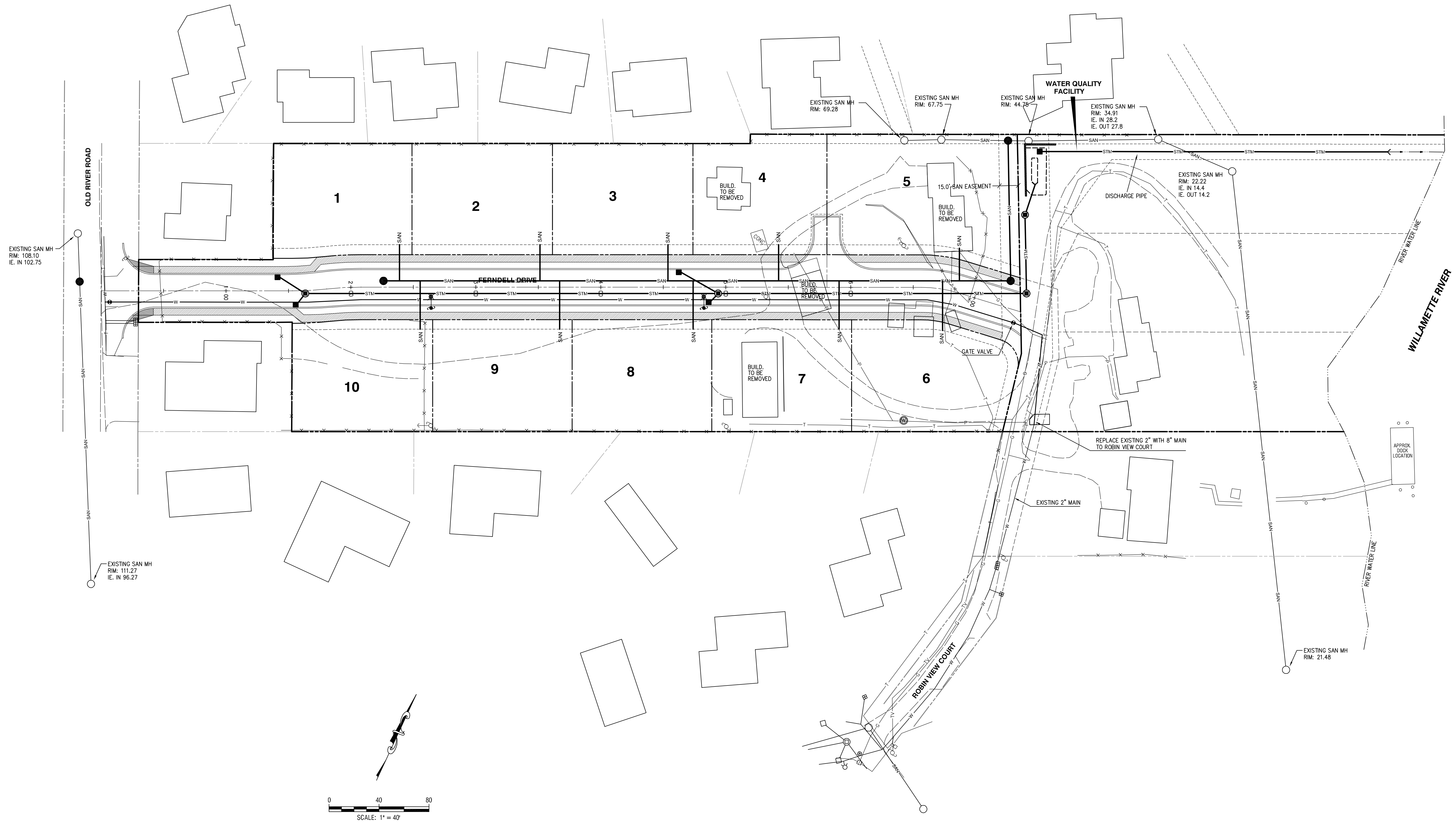
DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 40'			
DATE: June, 2017			
FILE: Ferndell Estates Prelim3	DATE	NO.	REVISION

Theta, llc
 ENGINEERING - SURVEYING - PLANNING
 PO Box 1345 503/481-8822
 Lake Oswego, Oregon 97035 email: thetaeng@comcast.net

PRELIMINARY STREET PLAN AND PROFILE

Ferndell Estates

SHEET:
 1/3



2018-250

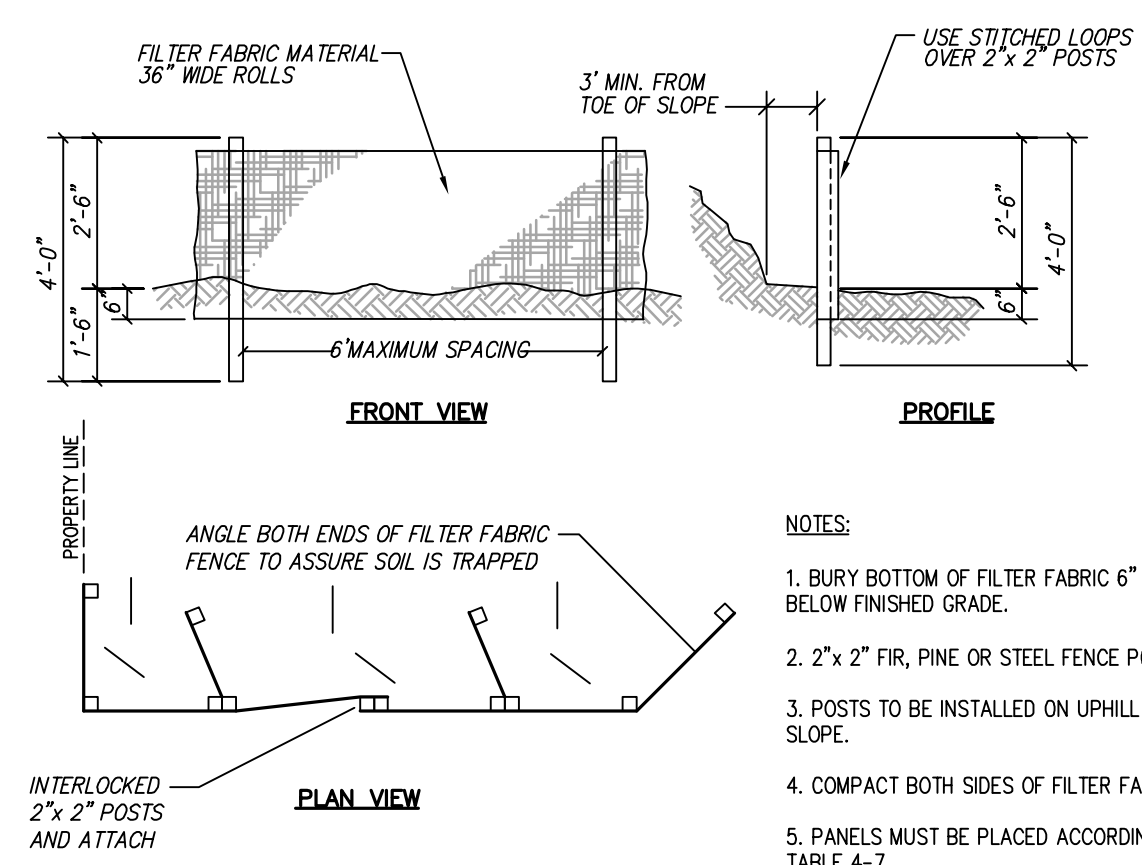
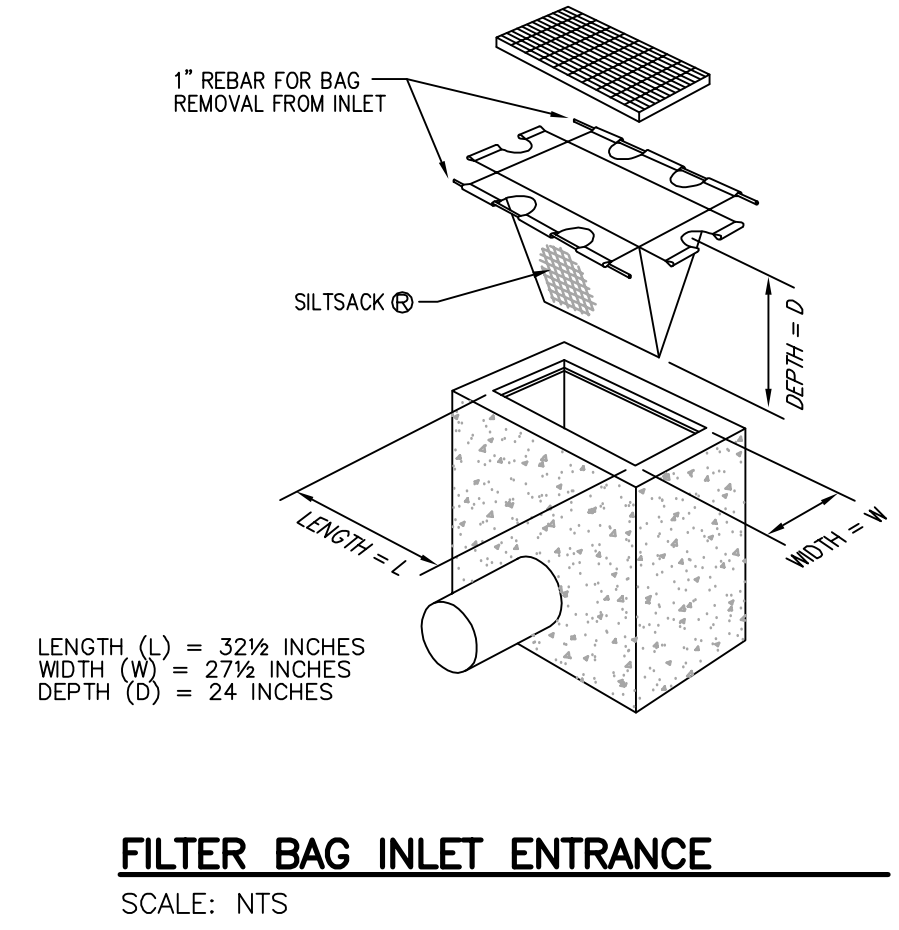
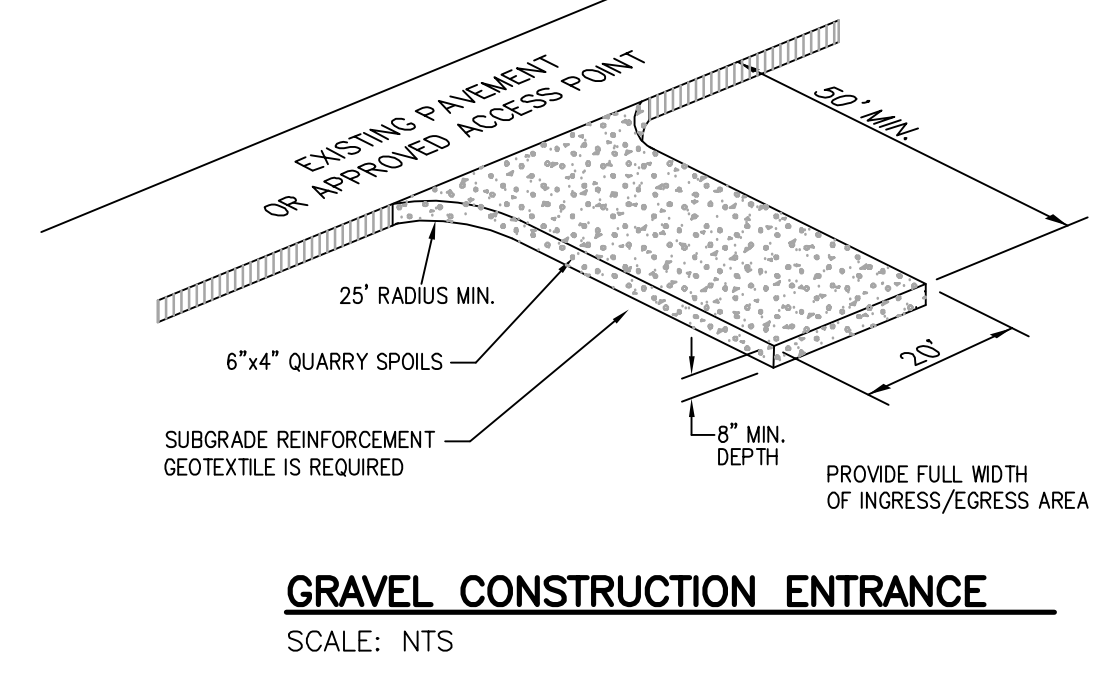
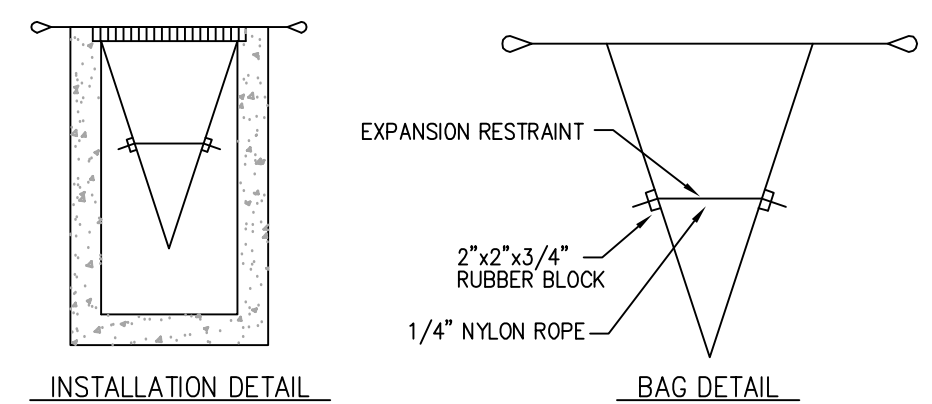
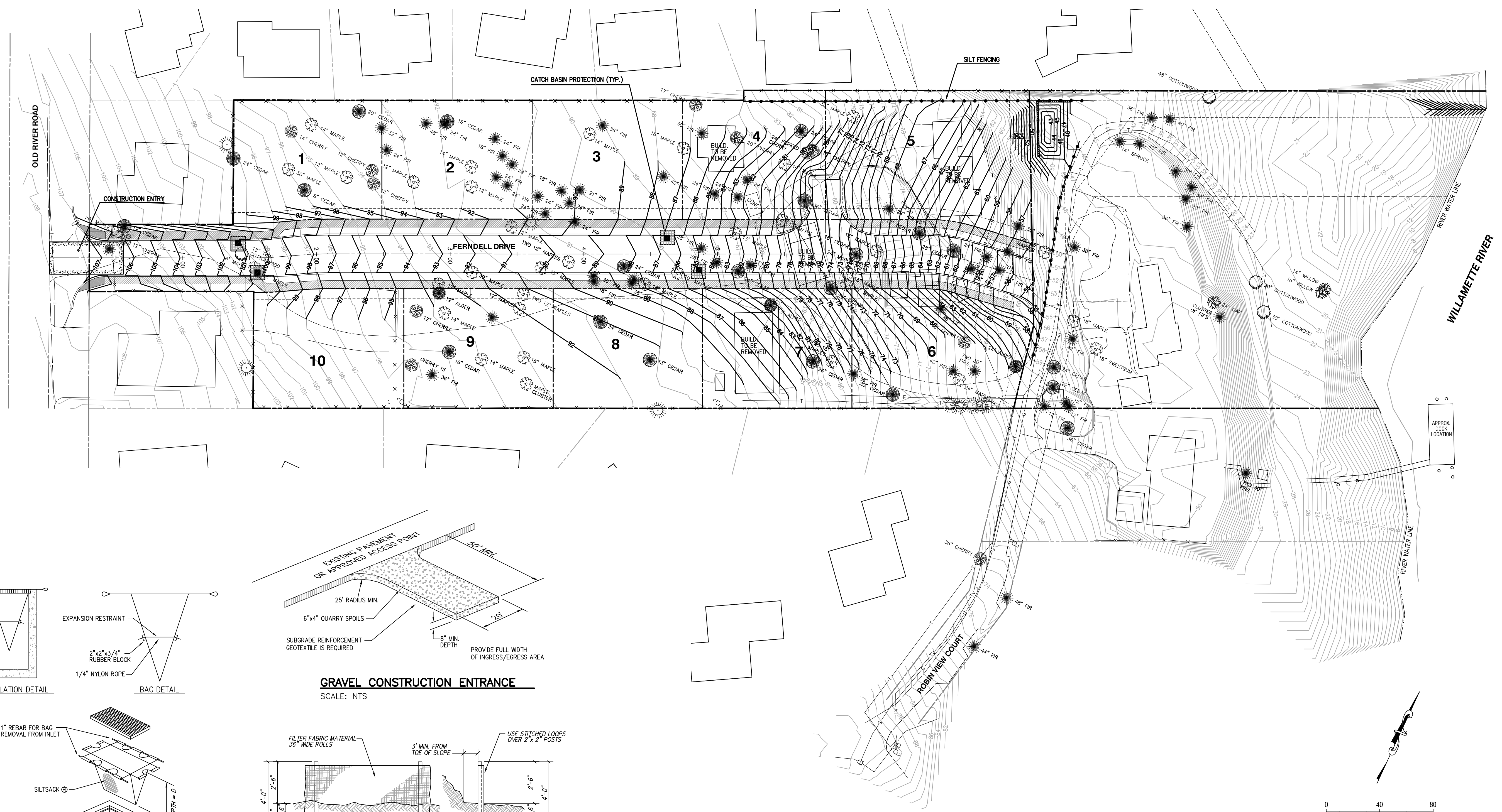
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DRAWN: BJS			
SCALE: 1" = 40'			
DATE: June, 2017			
FILE: Ferndell Estates Prelim3	DATE	NO.	REVISION

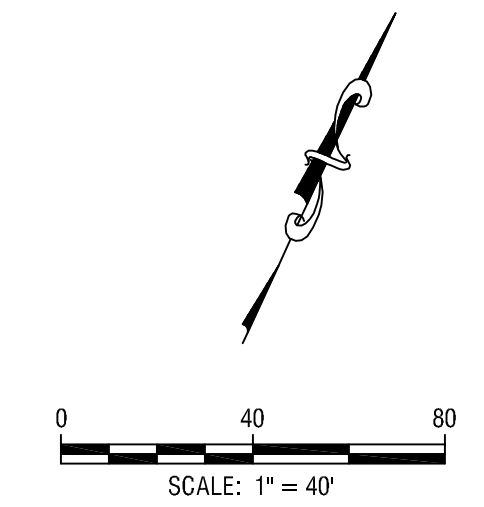
Theta, llc
 ENGINEERING - SURVEYING - PLANNING
 PO Box 1345 503/481-8822
 Lake Oswego, Oregon 97035 email: thetaeng@comcast.net

Ferndell Estates

SHEET:
2/3



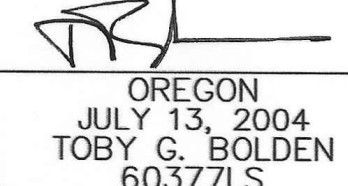
- NOTES:**
1. BURY BOTTOM OF FILTER FABRIC 6\"/>



2017-X			
DESIGNED: BDG			
DRAWN: BJS			
SCALE: 1" = 40'			
DATE: June, 2017			
FILE: Ferndell Estates Prelim3	DATE	NO.	REVISION

Theta, llc
 ENGINEERING - SURVEYING - PLANNING
 PO Box 1345 503/481-8822
 Lake Oswego, Oregon 97035 email: thetaeng@comcast.net

Density Calculations			
	Area (sq. ft.)	Allowable Density	Units @1 per 10,000 sq. ft.
Gross Site Area	142,933		
Land in a boundary street right-of-way, water course, or planned open space where density transfer is not requested:	0		
Area in street right-of-way:	36,708		
Net Site Area:	106,225		
Net Area within Type I or II slopes where Developed:	4,422	50%	.22
Area within Type I or II slopes where Density Will be Transferred:	0	75%	0
Area within Water Resource Area-all development transferred.	0	50%	0
Open Space (Type III and IV Lands)	0	100%	0
Net Type III & IV Land Developed:	101,803	100%	10.18
Base Density Allowed:			10.40
TOTAL ALLOWED DENSITY:			10 UNITS

SIGNED ON: **2 FEB 18**
REGISTERED PROFESSIONAL LAND SURVEYOR

OREGON
 JULY 13, 2004
TOBY G. BOLDEN
 60377LS
 RENEWS: DECEMBER 31, 2018
 Design by: Richard E. Givens, Planning Consultant
 Survey Work by: Centerline Concepts, Inc.

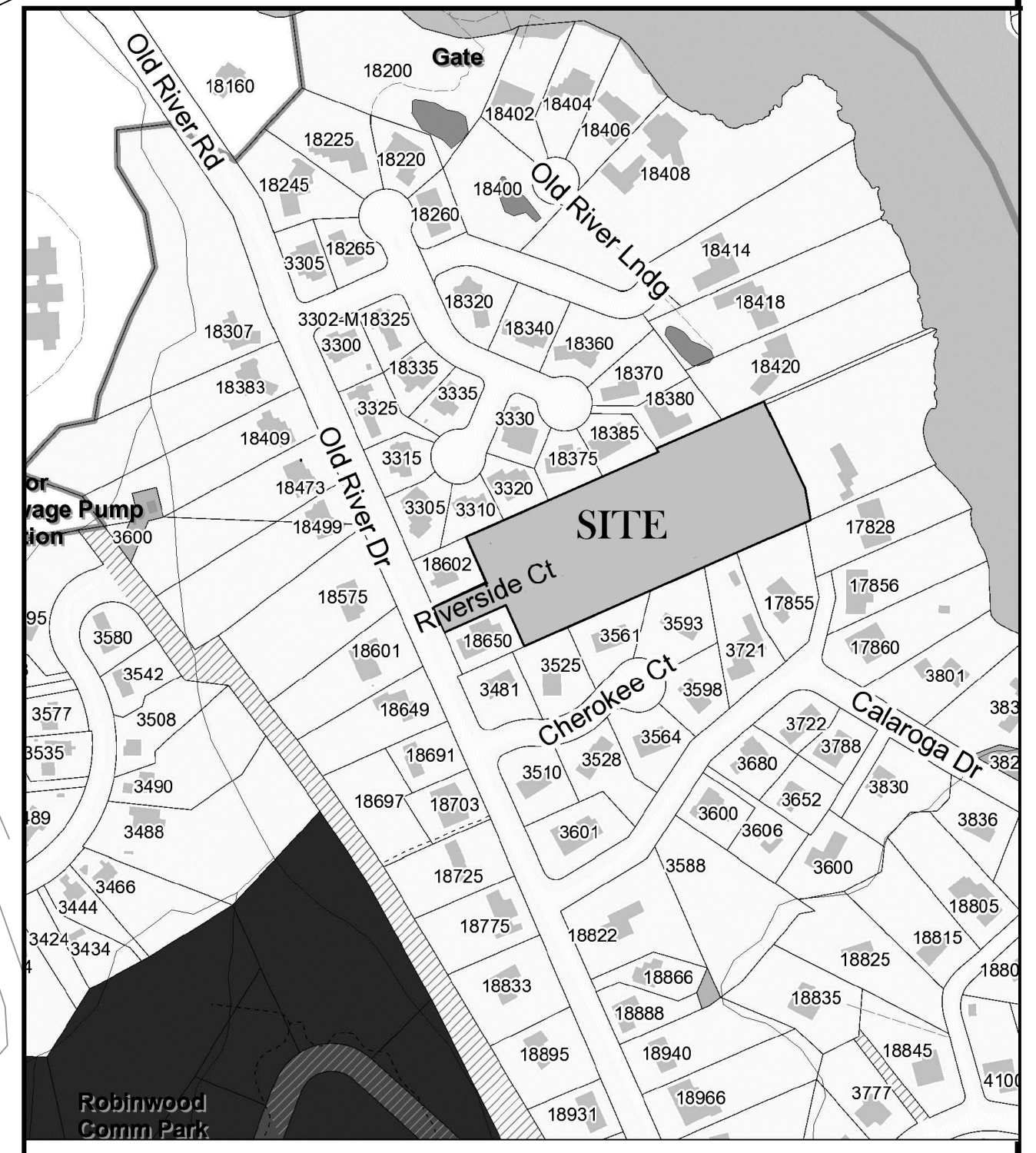
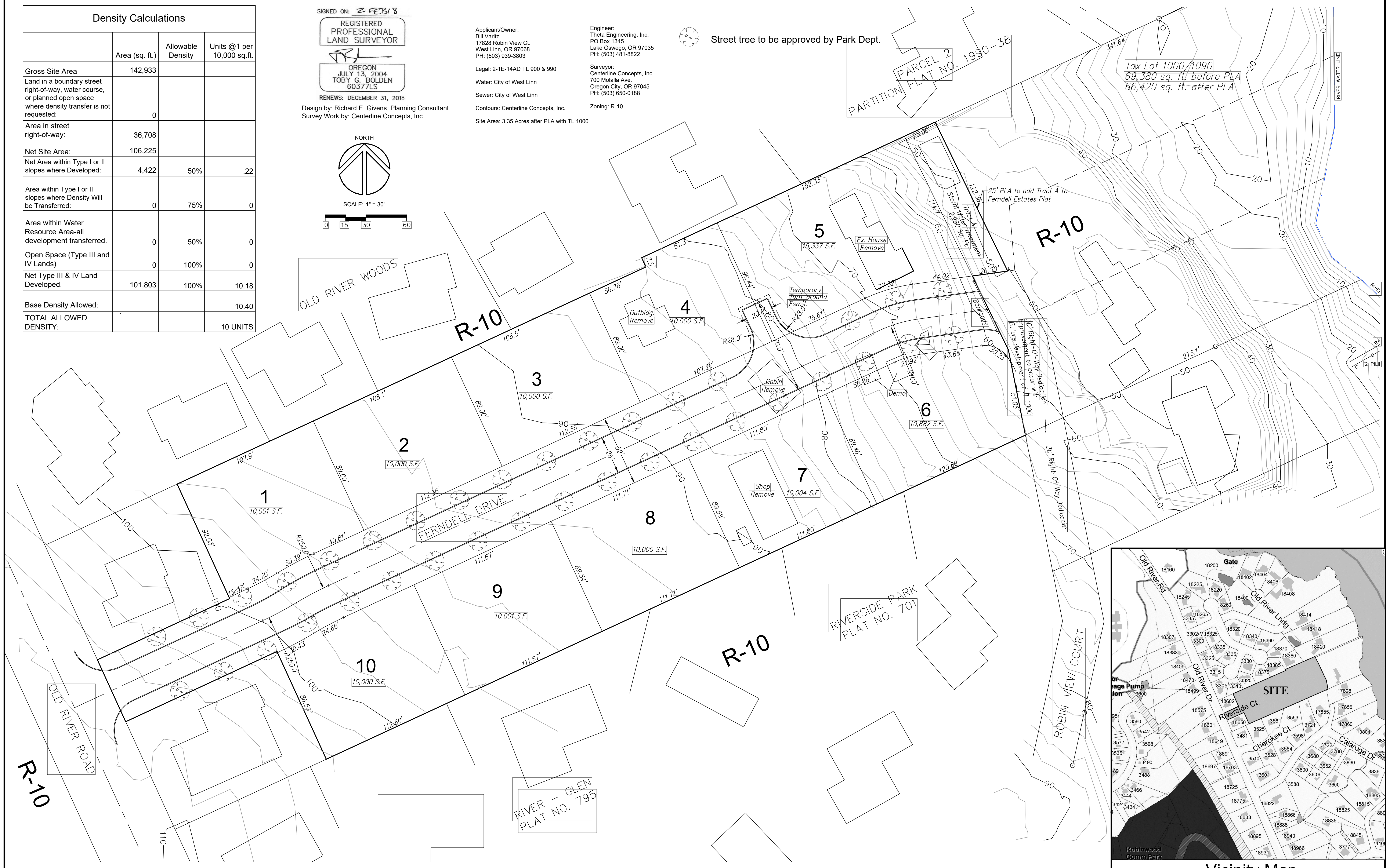
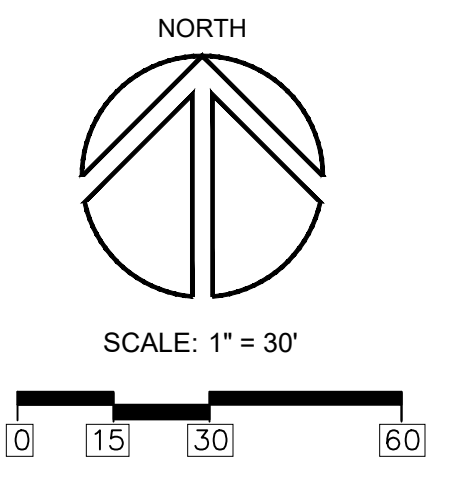
Applicant/Owner:
 Bill Varitz
 17828 Robin View Ct.
 West Linn, OR 97068
 PH: (503) 939-3803

Legal: 2-1E-14AD TL 900 & 990
 Water: City of West Linn
 Sewer: City of West Linn
 Contours: Centerline Concepts, Inc.
 Site Area: 3.35 Acres after PLA with TL 1000

Engineer:
 Theta Engineering, Inc.
 PO Box 1345
 Lake Oswego, OR 97035
 PH: (503) 481-8822

Surveyor:
 Centerline Concepts, Inc.
 700 Molalla Ave.
 Oregon City, OR 97045
 PH: (503) 650-0188

Zoning: R-10



DESIGNED:	REG	5-3-2018	1	Added street trees, re-development plan for TL 1000, access & utility esmt on TL 1000
DRAWN:	REG	6-6-2018	2	Widened street to 52/28' pavement.
SCALE:	1" = 30'			
DATE:	February 2018			
FILE:	13-VAR-100	DATE	NO.	REVISION


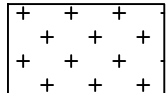
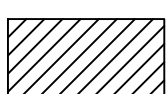

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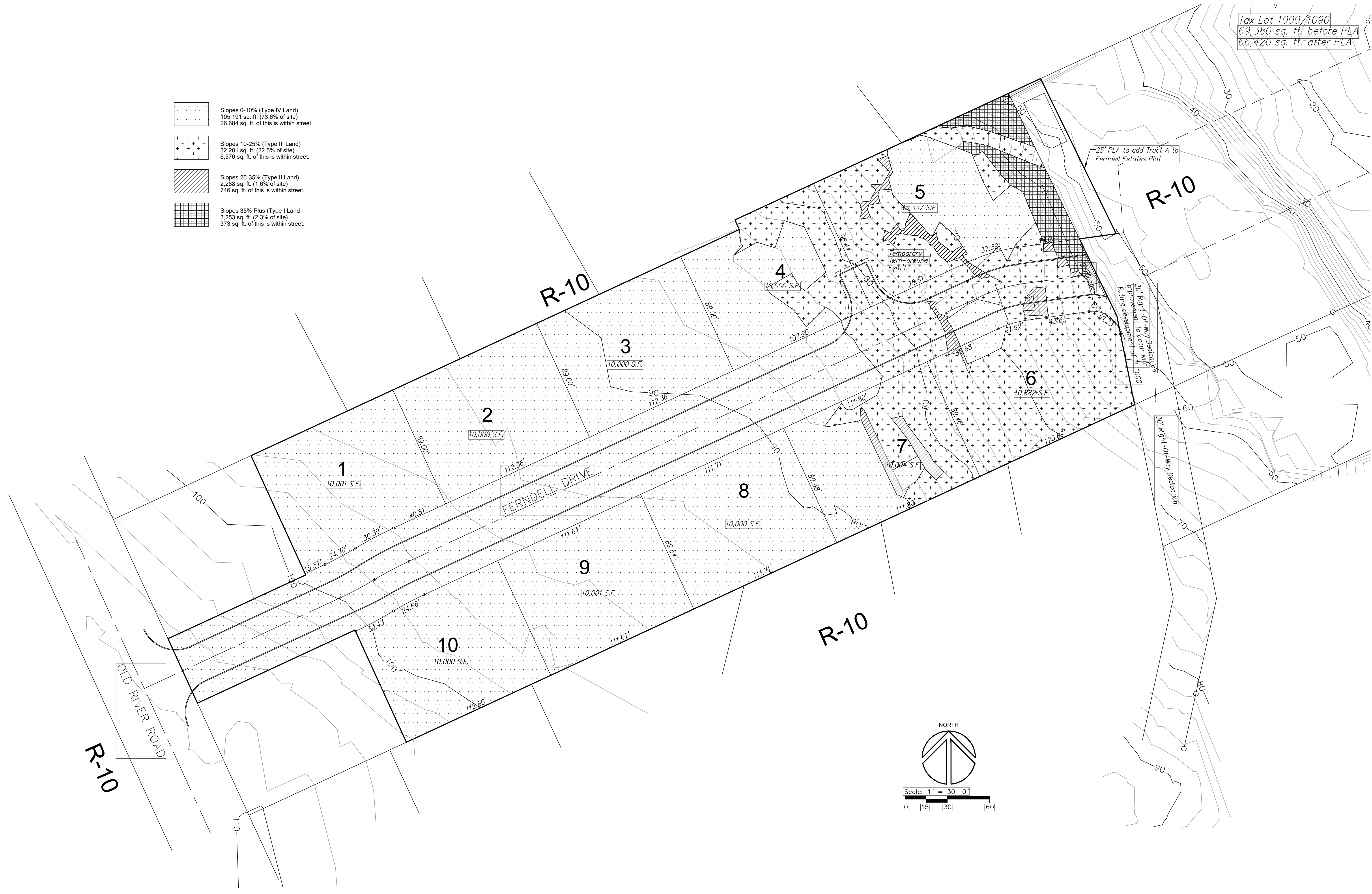
APPLICANT: Greg Sams & Bill Varitz
 18811 Trillium Drive
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Ferndell Estates
Tentative Plan

SHEET 1/3

Tax Lot 1000/1090
 69,380 sq. ft. before PLA
 66,420 sq. ft. after PLA

-  Slopes 0-10% (Type IV Land)
105,191 sq. ft. (73.6% of site)
26,884 sq. ft. of this is within street.
-  Slopes 10-25% (Type III Land)
32,201 sq. ft. (22.5% of site)
6,570 sq. ft. of this is within street.
-  Slopes 25-35% (Type II Land)
2,288 sq. ft. (1.6% of site)
746 sq. ft. of this is within street.
-  Slopes 35% Plus (Type I Land)
3,253 sq. ft. (2.3% of site)
373 sq. ft. of this is within street.



DESIGNED: REG			
DRAWN: REG			
SCALE: 1" = 30'			
DATE: February 2018			
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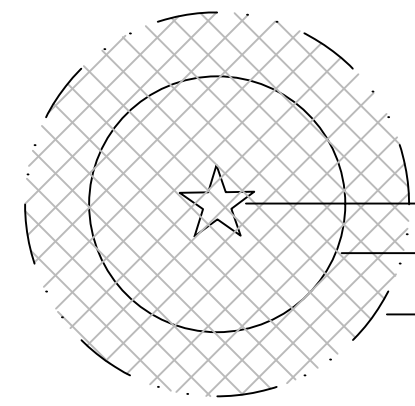
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Ferndell Estates
 Slope Analysis

Tag	Species	Diameter	Rating	Condition
1	Port Orford Cedar	13	2	added
2	Douglas Fir	34	1	co-dominant stem cut; decay present
3	big leaf maple	21	2	dead branches
4	western red cedar	38	2	viable
5	sweet cherry	16	2	ivy
6	big leaf maple	14	2	viable
7	big leaf maple	15	2	viable
8	western red cedar	33	2	co-dominant @ 35'
9	western red cedar	16	2	3' off-site; added
10	sweet cherry	13	2	added
11	sweet cherry	12	2	added
12	red alder	12	1	trunk decay; added
13	red alder	12	2	trunk swoop; added
14	big leaf maple	30	1	basal decay
15	western red cedar	14	2	
16	big leaf maple	16	2	
17	big leaf maple	12.13	2	co-dominant; added
18	western red cedar	25	2	co-dominant @ 25'
19	sweet cherry	14	2	added
20	big leaf maple	22	2	
21	sweet cherry	21	2	
22	big leaf maple	15	2	added
23	sweet cherry	12	2	
24	sweet cherry	15	2	ivy
25	sweet cherry	15	2	added
26	sweet cherry	13	2	added
27	big leaf maple	17	2	added
28	western red cedar	36	2	2' off-site; added
29	sweet cherry	18	2	
30	grand fir	40	3	
31	western red cedar	22	2	
32	big leaf maple	17	2	
33	big leaf maple	12	2	added
34	big leaf maple	18	2	

35	big leaf maple	36	1	multiple stems; basal decay; past failures
36	Douglas Fir	39	2	very tall
37	red alder	14	1	trunk decay; added
38	big leaf maple	14	2	added
39	sweet cherry	13	2	added
40	big leaf maple	17	2	co-dominant from base; added
41	big leaf maple	26	2	multiple stems; added
42	big leaf maple	22	2	multiple stems; added
43	big leaf maple	21	2	multiple stems; added
44	big leaf maple	25	2	multiple stems; added
45	big leaf maple	33	2	multiple stems; added
46	big leaf maple	44	1	multiple stems; added
47	big leaf maple	15	2	added
48	big leaf maple	13	2	added
49	sweet cherry	15	2	
50	big leaf maple	18	2	
51	red alder	13	2	
52	big leaf maple	17	2	
53	sweet cherry	12	2	added
54	big leaf maple	18	1	basal decay
55	big leaf maple	27	2	added
56	big leaf maple	14	2	added
57	big leaf maple	16	2	
58	Douglas Fir	26	2	very tall
59	Douglas Fir	40	2	very tall
60	Douglas Fir	49	2	very tall
61	Douglas Fir	33	2	very tall; shares stump with T62
62	western red cedar	21	2	shares stump with T61
63	big leaf maple	16	2	co-dominant from 1'; added
64	big leaf maple	13	2	
65	big leaf maple	15	2	
66	Douglas Fir	33	2	very tall
67	big leaf maple	17	2	added
68	big leaf maple	20	2	added
69	sweet cherry	12	2	added

70	Douglas Fir	19	2	poor trunk taper
71	Douglas Fir	30	2	
72	Douglas Fir	22	2	poor trunk taper
73	Douglas Fir	30	2	
74	Douglas Fir	26	2	
75	big leaf maple	13	2	added
76	Douglas Fir	17	2	
77	Douglas Fir	27	2	
78	big leaf maple	17	2	
79	big leaf maple	13	1	co-dominant stem is cut; basal decay
80	big leaf maple	20	2	
81	big leaf maple	26	2	co-dominant from 3'
82	Douglas Fir	34	2	
83	Douglas Fir	32	2	
84	Douglas Fir	27	2	
85	Douglas Fir	29	2	added
86	big leaf maple	17	2	
87	Douglas Fir	40	2	
88	big leaf maple	21	2	
89	big leaf maple	15	2	added
90	big leaf maple	13	2	added
91	sweet cherry	13	2	added
92	big leaf maple	12	2	added
93	big leaf maple	13	2	added
94	big leaf maple	20	2	
95	Douglas Fir	36	2	within 1' of out building
96	sweet cherry	20	2	
97	Douglas Fir	47	2	
98	sweet cherry	13	2	added
99	sweet cherry	13	2	added
100	Douglas Fir	40	2	
101	Douglas Fir	24	2	
102	western red cedar	30	2	
103	sweet cherry	15	2	trunks swoop; added
104	western red cedar	19	2	



- ★ Significant Trees to be protected.
- ★ Significant Trees to be retained where feasible.
- ★ Significant Trees to be removed.



105	sweet cherry	12	2	added
106	big leaf maple	18	1	trunk and basal decay; added
107	big leaf maple	12	2	added
108	western red cedar	26	2	<1' off-site; added
109	sweet cherry	13	2	added
110	big leaf maple	12	2	added
111	big leaf maple	21	1	multiple stems; added
112	big leaf maple	18	2	
113	Douglas Fir	39.33	2	co-dominant from base
114	western red cedar	29	2	trunk decay; co-dominant @ 20'
115	big leaf maple	20	2	
116	big leaf maple	15	2	added
117	Douglas Fir	33	2	
118	Douglas Fir	31	2	
119	western red cedar	26	2	
120	light pole	9	N/A	not a tree
121	red alder	19	2	
122	big leaf maple	16	2	
123	Douglas Fir	27	2	
124	Douglas Fir	30	2	
125	Douglas Fir	40	2	
126	sweet cherry	23	2	co-dominant; included bark
127	big leaf maple	12	2	added
128	big leaf maple	21	2	added
129	big leaf maple	15	2	
130	big leaf maple	19	2	
131	western red cedar	41	2	
132	sweet cherry	16.14	2	co-dominant from base
133	sweet cherry	16	2	added
134	western red cedar	30	2	
135	Scouler willow	14	2	added
136	big leaf maple	40	2	co-dominant @ 5'
137	red alder	12	2	added
138	Douglas Fir	40	2	
139	western red cedar	34	2	

140	chestnut	13	2	added
141	western red cedar	30	2	
142	big leaf maple	27	2	co-dominant @ 3'
143	Douglas Fir	45	2	
144	western red cedar	13	2	
145	sweet cherry	12	2	added
146	big leaf maple	16	2	
147	big leaf maple	17	2	
148	western red cedar	18	2	
149	big leaf maple	18	2	
150	big leaf maple	27	2	co-dominant @ 3'; added
151	big leaf maple	16	2	
152	incense cedar	18	2	multiple tops
153	western red cedar	32	2	
154	Douglas Fir	35	2	
155	Douglas Fir	50	2	
156	western red cedar	32	2	7' off-site
157	western red cedar	36	2	5' off-site
158	Douglas Fir	45	2	
159	big leaf maple	26	2	co-dominant @ 3'
160	Douglas Fir	59	1	P. schweinitzii root disease; co-dominant stems
161	western red cedar	14	2	hedgerow; added
162	western red cedar	13	2	hedgerow; added
163	western red cedar	12	2	hedgerow; added
164	western red cedar	19	2	hedgerow; added
165	western red cedar	12	2	hedgerow; added
166	sweet cherry	15	2	
167	Douglas Fir	27	2	
168	Pacific madrone	6	2	added
169	Douglas Fir	27	1	red-ring rot
170	Douglas Fir	23	2	
171	Douglas Fir	35	2	
172	big leaf maple	30	2	added
173	sweet cherry	13	2	added
174	big leaf maple	14.14	2	added

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Ferndell Estates
 Tree Plan