



CITY OF West Linn

PLANNING MANAGER DECISION

DATE: October 22, 2018

FILE NO.: WAP-18-02

REQUEST: Request for a Water Resource Area (WRA) permit to reduce the width of the water resource area at 2180 8th Court.

PLANNER: Jennifer Arnold, Associate Planner

 Planning Manager

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GENERAL INFORMATION

APPLICANT: Ed Bruin
735 SW 20th Place
Portland, OR 97205

OWNER: Willamette Capital Investments, LLC
Patrick Hanlin
PO Box 2507
Wilsonville, OR 97070

SITE LOCATION: 2180 8th Court

SITE SIZE: 45,491 square feet

LEGAL DESCRIPTION: Assessor’s Maps and Tax Lot – 21E35D 00903

COMP PLAN DESIGNATION: Commercial

ZONING: GC, General Commercial

APPROVAL CRITERIA: Community Development Code (CDC) Chapter 32

120-DAY RULE: The application was declared complete on July 9, 2018. The 120-day period ends on November 6, 2018.

PUBLIC NOTICE: Notice was mailed to property owners within 500 feet of the subject property and all Neighborhood Associations on September 27, 2018. A sign was placed on the property and the notice was also posted on the City’s website. Therefore, public notice requirements of CDC Chapter 99 have been met.

EXECUTIVE SUMMARY

The subject property located at 2180 8th Court on a parcel directly to the south of Bernert Creek. The property is currently developed with a parking lot and a former Shari's restaurant. The Water Resource Area Protection (WRA) buffer encompasses the majority of the parking lot on this property. The applicant is proposing a reduction to the WRA buffer due to non-native vegetation and previous permanent disturbances within the WRA. A 28' by 200' strip of vegetation separates Bernert Creek from the developed land. The applicant proposes to reduce that vegetated strip of land to 15' by 200', removing non-native vegetation, and planting native vegetation to increase the functionality of the WRA. A WRA permit is also required, per CDC Chapter 32, and the applicant has requested this application be reviewed under the alternative review process of CDC Chapter 32.070. The property is zoned general commercial and the reduction in the WRA buffer is due to possible future development of this property.

Public comments:

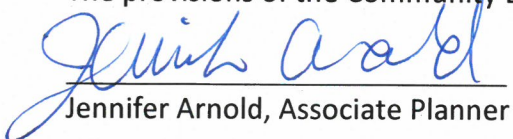
Staff did not received any public comments

DECISION

The Planning Manager (designee) approves this application (WAP-18-02), based on: 1) the findings submitted by the applicant, which are incorporated by this reference, 2) supplementary staff findings included in the Addendum below, and 3) the addition of conditions of approval below. With these findings, the applicable approval criteria are met. The conditions are as follows:

- 1. Mitigation and Re-Vegetation. The applicant shall notify the City upon completion of all on-site mitigation and revegetation per the Pacific Habitat Services, Inc. "Proposed Water Resource Area Mitigation Planting Plan" found in Figure 6 dated May 29, 2018. No building permit will be issued prior to conformation of the required mitigation and revegetation.**

The provisions of the Community Development Code Chapter 99 have been met.


Jennifer Arnold, Associate Planner

10/22/18
DATE

Appeals to this decision must be filed with the West Linn Planning Department within 14 days of the mailing date listed below. The cost of an appeal is \$400. The appeal must be filed by an individual who has established standing by submitting comments prior to the date identified in the public notice. Appeals will be heard by City Council.

Mailed this 23rd day of October 2018.

Therefore, the 14-day appeal period ends at 5 p.m., on November 6, 2018

**ADDENDUM
APPROVAL CRITERIA AND FINDINGS
WAP-18-02**

WATER RESOURCE AREA PROTECTION

32.080 APPROVAL CRITERIA (ALTERNATE REVIEW PROCESS)

Applications reviewed under the alternate review process shall meet the following approval criteria:

A. The proposed WRA shall be, at minimum, qualitatively equal, in terms of maintaining the level of functions allowed by the WRA standards of CDC [32.060\(D\)](#).

Staff Finding 1: Pacific Habitat Services, Inc. (May 30, 2018) provided findings stating the existing vegetated Water Resource Area (WRA) buffer is 28' X 200 lineal feet and proposes to reduce WRA buffer to 15' x 200 lineal feet. The required WRA buffer for this waterway is 65' x 200 lineal feet but the site has been previously disturbed with paved surfaces, non-native vegetation and periodically mowed grass down to the resource. See applicant's submittal Figures 4 and 5. Pacific Habitat Services, Inc. proposes to mitigate the reduced WRA buffer with native vegetation and restore the functions of the WRA buffer to roughly equal to the existing buffer.

B. If a WRA is already significantly degraded (e.g., native forest and ground cover have been removed or the site dominated by invasive plants, debris, or development), the approval authority may allow a reduced WRA in exchange for mitigation, if:

1. The proposed reduction in WRA width, coupled with the proposed mitigation, would result in better performance of functions than the standard WRA without such mitigation. The approval authority shall make this determination based on the applicant's proposed mitigation plan and a comparative analysis of ecological functions under existing and enhanced conditions (see Table 32-4).

2. The mitigation project shall include all of the following components as applicable. It may also include other forms of enhancement (mitigation) deemed appropriate by the approval authority.

a. Removal of invasive vegetation.

b. Planting native, non-invasive plants (at minimum, consistent with CDC [32.100](#)) that provide improved filtration of sediment, excess nutrients, and pollutants. The amount of enhancement (mitigation) shall meet or exceed the standards of CDC [32.090\(C\)](#).

c. *Providing permanent improvements to the site hydrology that would improve water resource functions.*

d. *Substantial improvements to the aquatic and/or terrestrial habitat of the WRA.*

Staff Finding 2: The applicant proposes to mitigate approximately 3,000 square feet with native vegetation. By removing the majority of the understory, which is made up of non-native plants and invasive species, the existing WRA functionality will be diminished. The applicant's proposal to mitigate the site with native vegetation will maintain or increase the existing functionality of the WRA and riparian area over time.

The amount of land proposed by the applicant to be mitigated in the re-vegetation plan is approximately 3,000 square feet and the existing vegetated WRA buffer is 2,710 square feet. The mitigated area exceeds the provisions of CDC 32.909.C which requires a 1:1 ratio permanently disturbed area to mitigated area. See applicant's submittal page 6 for proposed plants listed in the re-vegetation mitigation plan.

The criteria is met.

C. Identify and discuss site design and methods of development as they relate to WRA functions.

Staff Finding 3: Staff adopts the applicant's findings on page 7 of the applicant's submittal. The criteria is met.

D. Address the approval criteria of CDC [32.060](#), with the exception of CDC [32.060\(D\)](#).

Staff Finding 4: See Staff Findings 5 through 11.

32.060 APPROVAL CRITERIA (STANDARD PROCESS)

No application for development on property containing a WRA shall be approved unless the approval authority finds that the proposed development is consistent with the following approval criteria, or can satisfy the criteria by conditions of approval:

A. WRA protection/minimizing impacts.

1. Development shall be conducted in a manner that will avoid or, if avoidance is not possible, minimize adverse impact on WRAs.

2. Mitigation and re-vegetation of disturbed WRAs shall be completed per CDC [32.090](#) and [32.100](#), respectively.

Staff Finding 5: See Staff Finding 2 for functionality of the WRA. The applicant has submitted a mitigation plan (see Figure 6 of the applicant's submittal). The area requiring mitigation due to disturbance is 2,710 square feet, and per the applicant's Figure 6 the mitigated area will be 3,000 square feet. The amount of mitigation exceeds prescribed 1:1 ratio per CDC Chapter 32.090(C). The criteria is met.

B. Storm water and storm water facilities.

1. Proposed developments shall be designed to maintain the existing WRAs and utilize them as the primary method of storm water conveyance through the project site unless:

a. The surface water management plan calls for alternate configurations (culverts, piping, etc.); or

b. Under CDC [32.070](#), the applicant demonstrates that the relocation of the water resource will not adversely impact the function of the WRA including, but not limited to, circumstances where the WRA is poorly defined or not clearly channelized.

Re-vegetation, enhancement and/or mitigation of the re-aligned water resource shall be required as applicable.

Staff Finding 6: The applicant proposes no changes to the existing stormwater facility. Currently, water runoff is guided to a 12" PVC pipe and discharged above the ordinary high water mark into Bernert Creek. The applicant is not proposing any change to the alignment of Bernert Creek. The applicant's vegetation mitigation plan indicates a higher functioning WRA than what is existing (see Staff Finding 2). The criteria is met.

2. Public and private storm water detention, storm water treatment facilities and storm water outfall or energy dissipaters (e.g., rip rap) may encroach into the WRA if:

a. Accepted engineering practice requires it;

b. Encroachment on significant trees shall be avoided when possible, and any tree loss shall be consistent with the City's Tree Technical Manual and mitigated per CDC [32.090](#);

c. There shall be no direct outfall into the water resource, and any resulting outfall shall not have an erosive effect on the WRA or diminish the stability of slopes; and

d. There are no reasonable alternatives available.

A geotechnical report may be required to make the determination regarding slope stability.

Staff Finding 7: The applicant does not propose the construction of any structures or changes to the existing stormwater system with this application. Staff adopts the applicant's findings on page 9 of the applicant's submittal. Also see Staff Findings 2 and 6. The criteria is met.

3. Roadside storm water conveyance swales and ditches may be extended within rights-of-way located in a WRA. When possible, they shall be located along the side of the road furthest from the water resource. If the conveyance facility must be located along the side of the road closest to the water resource, it shall be located as close to the road/sidewalk as possible and include habitat friendly design features (treatment train, rain gardens, etc.).

Staff Finding 8: This application does not include any roadside stormwater conveyance and thus this criteria does not apply.

4. Storm water detention and/or treatment facilities in the WRA shall be designed without permanent perimeter fencing and shall be landscaped with native vegetation.

Staff Finding 9: The applicant does not propose the construction of any new structures or changes to existing structures on the subject property with this application. No change to the stormwater facility is proposed and therefore this criteria does not apply.

5. Access to public storm water detention and/or treatment facilities shall be provided for maintenance purposes. Maintenance driveways shall be constructed to minimum width and use water permeable paving materials. Significant trees, including roots, shall not be disturbed to the degree possible. The encroachment and any tree loss shall be mitigated per CDC [32.090](#). There shall also be no adverse impacts upon the hydrologic conditions of the site.

Staff Finding 10: The applicant does not propose any changes to the existing stormwater facility and therefore this criteria does not apply.

6. Storm detention and treatment and geologic hazards. Per the submittals required by CDC [32.050\(F\)\(3\)](#) and [92.010\(E\)](#), all proposed storm detention and treatment facilities must comply with the standards for the improvement of public and private drainage systems located in the West Linn Public Works Design Standards, there will be no adverse off-site impacts caused by the development (including impacts from increased intensity of runoff downstream or constrictions causing ponding upstream), and the applicant must provide sufficient factual data to support the conclusions of the submitted plan.

Staff Finding 11: No development is proposed with this application. This criteria does not apply.

PD-1 AFFADAVIT OF NOTICE

AFFIDAVIT OF NOTICE

We, the undersigned do hereby certify that, in the interest of the party (parties) initiating a proposed land use, the following took place on the dates indicated below:

GENERAL

File No. WAP-18-02 Applicant's Name Ed Bruin
Development Name _____
Scheduled Meeting/Decision Date 10-18-18

NOTICE: Notices were sent at least 20 days prior to the scheduled hearing, meeting, or decision date per Section 99.080 of the Community Development Code. (check below)

TYPE A

A. The applicant (date) 9-27-18 (signed) J. Shroyer
B. Affected property owners (date) 9-27-18 (signed) J. Shroyer
C. School District/Board (date) _____ (signed) _____
D. Other affected gov't. agencies (date) 9-27-18 (signed) J. Shroyer
E. Affected neighborhood assns. (date) 9-27-18 (all) (signed) J. Shroyer
F. All parties to an appeal or review (date) _____ (signed) _____

At least 10 days prior to the scheduled hearing or meeting, notice was published/posted:

Tidings (published date) N/A (signed) J. Shroyer
City's website (posted date) 9-27-18 (signed) J. Shroyer

SIGN

At least 10 days prior to the scheduled hearing, meeting or decision date, a sign was posted on the property per Section 99.080 of the Community Development Code.

(date) Oct. 5, 2018 (signed) Jennifer Arnold

NOTICE: Notices were sent at least 14 days prior to the scheduled hearing, meeting, or decision date per Section 99.080 of the Community Development Code. (check below)

TYPE B

A. The applicant (date) _____ (signed) _____
B. Affected property owners (date) _____ (signed) _____
C. School District/Board (date) _____ (signed) _____
D. Other affected gov't. agencies (date) _____ (signed) _____
E. Affected neighborhood assns. (date) _____ (signed) _____

Notice was posted on the City's website at least 10 days prior to the scheduled hearing or meeting.
Date: _____ (signed) _____

STAFF REPORT mailed to applicant, City Council/Planning Commission and any other applicable parties 10 days prior to the scheduled hearing.

(date) _____ (signed) _____

FINAL DECISION notice mailed to applicant, all other parties with standing, and, if zone change, the County surveyor's office.

(date) 10/23/18 (signed) Jennifer Arnold

PD-2 NOTICE MAILING PACKET

**CITY OF WEST LINN
NOTICE OF UPCOMING
PLANNING MANAGER DECISION
FILE NO. WAP-18-02**

The West Linn Planning Manager is considering a request for a Water Resource Area permit to reduce the width of the Water Resource Area Protection buffer at 2180 8th Court.

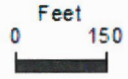
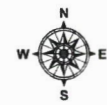
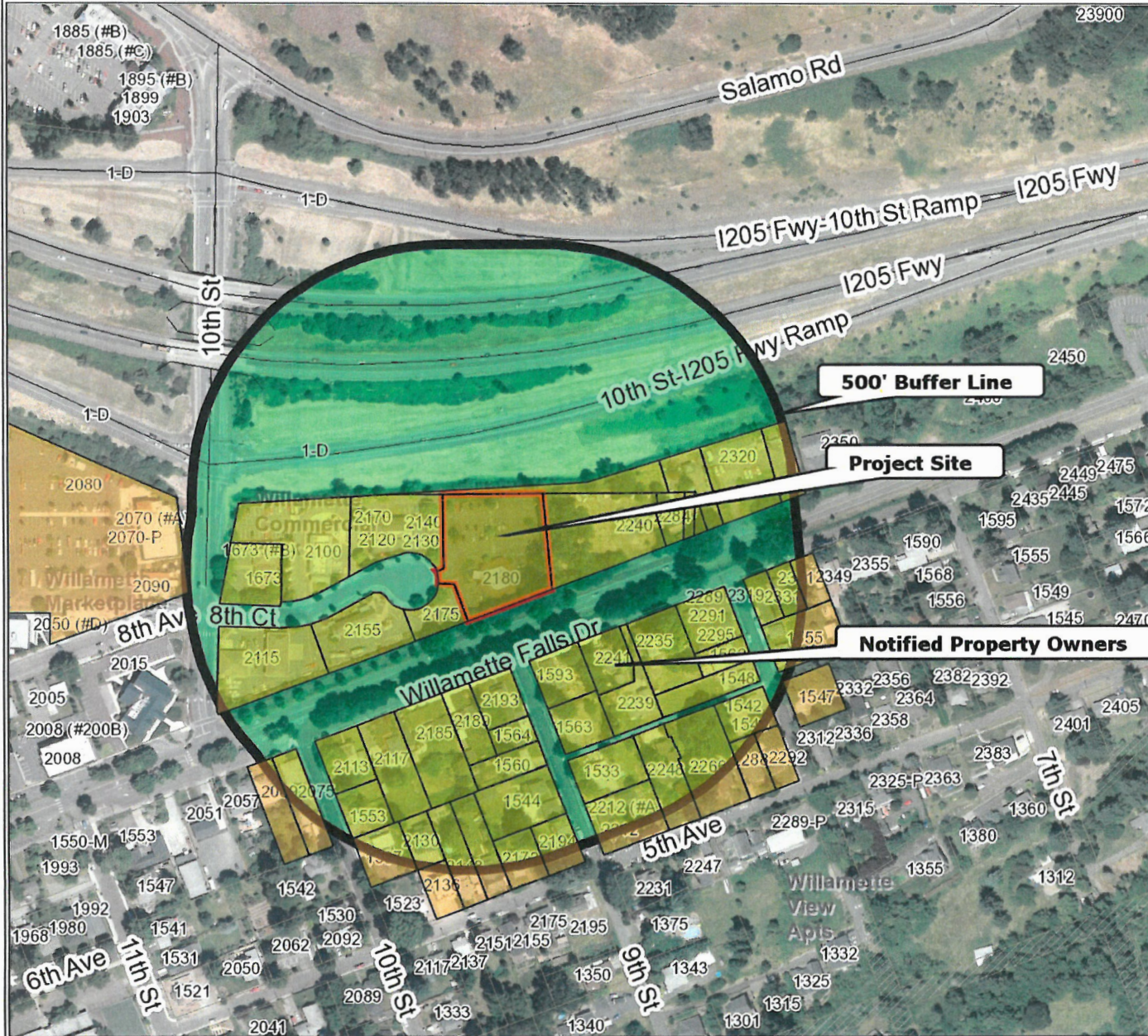
The decision will be based on the approval criteria in Chapters 19 and 32 of the Community Development Code (CDC). The applicant's proposal requests review under the alternative review process of CDC 32.070. The approval criteria from the CDC are available for review at City Hall, the City Library, and <http://www.westlinnoregon.gov/cdc>.

You have received this notice because County records indicate that you own property within 500 feet of this property (Tax Lot 903 of Clackamas County Assessor's Map 21E 35D) or as otherwise required by Chapter 99 of the CDC.

All relevant materials in the above noted file are available for inspection at no cost at City Hall, and on the city web site <https://westlinnoregon.gov/planning/2180-8th-court-water-resource-area-protection-permit> or copies may be obtained for a minimal charge per page. A public hearing will not be held on this decision. **Anyone wishing to present written testimony for consideration on this matter shall submit all material before 4:00 p.m. on October 18, 2018. Persons interested in party status should submit their letter along with any concerns related to the proposal by the comment deadline.** For further information, please contact Jennifer Arnold, Associate Planner, City Hall, 22500 Salamo Rd., West Linn, OR 97068, (503)742-6057, jarnold@westlinnoregon.gov.

Any appeals to this decision must be filed within 14 days of the final decision date with the Planning Department. Failure to raise an issue in person or by letter, or failure to provide sufficient specificity to afford the decision-maker an opportunity to respond to the issue, precludes the raising of the issue at a subsequent time on appeal or before the Land Use Board of Appeals.

2180 8th Court Notification Map



Scale 1:3,600 - 1 in = 300 ft
Scale is based on 8-1/2 x 11 paper size



Map created by: SSHROYER
Date Created: 12-Sep-18 05:00 PM

WEST LINN GIS

DISCLAIMER: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. Map scale is approximate. Source: West Linn GIS (Geographic Information System) MapOptix.



CITY OF

West Linn

**CITY OF WEST LINN
NOTICE OF UPCOMING
PLANNING MANAGER DECISION**

**PROJECT # WAP-18-02
MAIL: 9/27/18 TIDINGS: N/A**

CITIZEN CONTACT INFORMATION

To lessen the bulk of agenda packets, land use application notice, and to address the worries of some City residents about testimony contact information and online application packets containing their names and addresses as a reflection of the mailing notice area, this sheet substitutes for the photocopy of the testimony forms and/or mailing labels. A copy is available upon request.

PD-3 COMPLETENESS LETTER



CITY OF
West Linn

July 9, 2018

Ed Bruin
735 SW 20th Place
Portland, OR 97205

SUBJECT: WAP-18-02 application for Water Resource Area permit via Alternate Review Process to reduce the Water Resource Area width at 2180 8th CT.

Dear Mr. Bruin:

You submitted this application on June 6, 2018. The Planning Department found this application is **complete**. The City has 120 days to exhaust all local review; that period ends November 6, 2018.

Please be aware that a determination of a complete application does not guarantee a recommendation of approval from staff for your proposal as submitted – it signals that staff believes you have provided the necessary information for the Planning Director to render a decision on your proposal.

A 14-day public notice informing property owners of the Water Resource Area permit that is associated with this property will be prepared and mailed. This notice will identify the earliest potential decision date.

Please contact me at 503-742-6057, or by email at jarnold@westlinnoregon.gov if you have any questions or comments.

Sincerely,

Jennifer Arnold
Associate Planner

PD-4 APPLICANT'S SUBMITTAL

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT <i>Jennifer Arnold</i>	PROJECT NO(S). <i>WAP-18-02</i>	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S) <i>\$1850</i>	TOTAL <i>1850</i>

Type of Review (Please check all that apply):

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

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

Site Location/Address: 2180 8 TH COURT, WEST LINN, OR	Assessor's Map No.: 21e35d
	Tax Lot(s): 903
	Total Land Area: 1.4 ac

Brief Description of Proposal:

PROPOSE TO REDUCE THE WIDTH OF THE WRA WHILE STILL PROTECTING THE FUNCTIONS OF THE WATER RESOURCE.

Applicant Name: ED BRUIN <small>(please print)</small>	Phone: 503 292 7733
Address: 735 SW 20 TH PLACE	Email: ed@edgedevelop.com
City State Zip: PORTLAND, OR 97205	

Owner Name (required): WILLAMETTE CAPITAL INVESTMENTS, LLC PATRICK HANLIN	Phone: (503) 407-8957
Address: PO BOX 2507, WILSONVILLE, OR. 97070	Email: phanlin@msn.com

Consultant Name: Fred Small - Pacific Habitat Services, Inc. 9450 SW Commerce Circle, Suite 180, Wilsonville, OR 97070	Phone: (503) 570-0800 Email: fes@pacifichabitat.com
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- All application fees are non-refundable (excluding deposit). Any overruns to deposit will result in additional billing.
- The owner/applicant or their representative should be present at all public hearings.
- A denial or approval may be reversed on appeal. No permit will be in effect until the appeal period has expired.
- Three (3) complete hard-copy sets (single sided) of application materials must be submitted with this application.
One (1) complete set of digital application materials must also be submitted on CD in PDF format.
If large sets of plans are required in application please submit only two sets.

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

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

	6/5/18		6/5/18
Applicant's signature	Date	Owner's signature (required)	Date



PACIFIC HABITAT SERVICES, INC

9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

(800) 871-9333 • (503) 570-0800 • Fax (503) 570-0855

May 30, 2018

Edge Development
Attn: Ed Bruin
735 SW 20th Place, Suite 220
Portland, OR 97205

**In Re: Water Resource Area Protection Assessment for the proposed re-development of 2180
8th Court in West Linn, Oregon
PHS Project Number: 6415**

Dear Ed:

Pacific Habitat Services, Inc. (PHS) conducted a preliminary assessment of a protected Water Resource Area (WRA) extending onto 2180 8th Court, a developed commercial lot in the City of West Linn (City)(Figure 1, location; Figure 2, tax lot map). The 1.04-acre (45,491 SF) parcel borders an approximately 200-foot long channelized reach of Bernert Creek, which carries seasonal to perennial flows eastward to the Tualatin River. The stream channel is located just beyond the property's northern boundary. The property currently contains a Shari's restaurant and associated parking areas; the only currently undeveloped portion of the lot is an approximately 25-foot wide, densely vegetated buffer that extends southward into the parcel from a fenceline just above the stream's Ordinary High Water line. A mowed grassy buffer extends to the north of the creek upslope to the freeway onramp leading from 10th Street onto Interstate-205; presumably the north buffer is entirely within the ODOT right-of-way (Figure 3; GoogleEarth aerial).

A conceptual development plan for the property proposes two separate structures for commercial uses. The existing Shari's restaurant would be removed or redeveloped as part of this plan. Access lanes and parking (for up to 40 spaces) would complete the development. The proposed construction requires review and approval through the City's Community Development Code (CDC). This letter specifically addresses Chapter 32 - Water Resource Area Protection of the CDC. There are a number of reasons the City must implement the provisions of Chapter 32, but chief among them is to ensure compliance with Title 13 and Title 3 of Metro's Urban Growth Management Functional Plan.

Based on our review of the existing conditions of the property and specifically the WRA, we believe the width of the WRA (as determined by CDC 32.060(D), in Table 32-2) can be reduced while still

protecting the functions of the water resource (i.e. the channelized Bernert Creek). This letter describes the existing conditions within the property, the required and effective widths of the WRA, and a proposal to enhance/mitigate the WRA in order to comply with the provisions of the Alternate Review Process (CDC 32.070).

32.070 ALTERNATE REVIEW PROCESS

32.080 APPROVAL CRITERIA (ALTERNATE REVIEW PROCESS)

Applications reviewed under the alternate review process shall meet the following approval criteria:

A. The proposed WRA shall be, at minimum, qualitatively equal, in terms of maintaining the level of functions allowed by the WRA standards of CDC 32.060(D).

Response: Currently, the vegetated WRA within the proposed development property is approximately 25 feet wide, all of it extending south from the stream channel. The vegetated WRA currently covers an area of approximately 5,680 square feet. There is no wetland within the property, so the WRA distance is measured from the ordinary high water (OHW) mark of the stream south to the edge of the existing parking lot. The slope south of the creek (within the property) is less than 25%, which qualifies it for the standard 65-foot setback as per Table 32-2 of the CDC. The only proposed development activity within the property is to the south of the creek, since the channel does not appear to extend onto the property, and the entire north side is likely within the ODOT right-of-way. As such, the following discussion about proposed WRA reduction is focused on the south side of the stream channel. Figure 4 shows the existing conditions within the property.

The overall condition of the WRA is somewhat degraded, with approximately 50 percent of the WRA (the entire north buffer) comprised of a periodically mowed, grass-dominated field. In addition, most of the southern half of the south buffer is now a parking lot with minimal landscaping. By contrast, the overstory of the vegetated portion of the south buffer is in fair to good condition, with some maturing native tree cover. Many of the trees and shrubs in this area appear to have been planted, given the mix of both native and non-native species (the tree plantings are largely distinguishable in aerials from 2004). These plantings may have been required as buffer mitigation for WRA width reduction when the site was originally developed. More recently, invasive species have come to dominate the understory, making entry into the buffer extremely difficult without the assistance of power tools.

The tree canopy within the vegetated WRA south of the creek includes several maturing western red cedar (*Thuja plicata*), and a single black cottonwood (*Populus trichocarpa*). These natives are mixed in with a variety of native and non-native mid-to understory species that currently present a dense thicket. Other native plantings in the understory include Oregon white oak (*Quercus garryana*), Indian plum (*Oemleria cerasiformis*), oceanspray (*Holodiscus discolor*), and salal (*Gaultheria shallon*). Non-native trees or tall shrubs include hred maple (*Acer rubrum*), sweet cherry (*Prunus avium*), and English hawthorn (*Crataegus monogyna*). The understory can be considered relatively degraded due to its domination by non-native invasive species such as Himalayan blackberry (*Rubus armeniacus*), multiflora rose (*Rosa multiflora*), and English holly (*Ilex aquifolium*). Dominant groundcover species evident in mid-February include reed canarygrass (*Phalaris arundinacea*), which is largely contained within the channel banks, and sword fern (*Polystichum munitum*). As previously stated, the entire

WRA to the north of the creek is mowed right-of-way, dominated by common pasture grasses and forbs, along with scattered, cropped blackberry vines.

The proposed WRA to the south of the creek will be 15 feet wide, reducing the average 28-foot existing vegetated buffer by almost half. The areas of the required, current, and proposed WRA are compared below:

Required WRA buffer:	65' x200 LF= 13,000 SF= 0.30 AC
Existing Vegetated buffer:	28' x200 LF= 5,680 SF= 0.13 AC
Proposed WRA buffer:	15' x200 LF= 3,000 SF= 0.07 AC

As shown above, approximately 7,400 square feet (0.17 acre) of the required WRA has long been impacted by existing development, with the remaining buffer south of the stream retained and enhanced vegetatively. By contrast, the effective WRA on the immediately adjacent parcels extending westward (upstream) to 10th Street is just 10 feet wide or less, providing very limited water resource functions. The two parcels to the west may have been fully developed prior to the City's implementation of Chapter 32 of the CDC.

Figure 5 depicts the location of the standard 65-foot setback relative to current developed condition, the proposed 15-foot wide WRA, and the proposed additional permanent disturbance area (PDA).

Although a reduction is proposed from the existing vegetated buffer, the functions provided by the proposed WRA will be restored to roughly equal those of the current buffer, once mitigation activities are completed. As described in more detail below, the proposed reduced WRA will be enhanced with native tree and shrub plantings, after non-native invasive species have been removed. This mitigated (enhanced) portion of the WRA will be planted to the density required in CDC 32.100 in order to ensure the WRA is restored to a good condition and the functions of the WRA are maintained.

B. If a WRA is already significantly degraded (e.g., native forest and ground cover have been removed or the site dominated by invasive plants, debris, or development), the approval authority may allow a reduced WRA in exchange for mitigation, if:

- 1. The proposed reduction in WRA width, coupled with the proposed mitigation, would result in better performance of functions than the standard WRA without such mitigation. The approval authority shall make this determination based on the applicant's proposed mitigation plan and a comparative analysis of ecological functions under existing and enhanced conditions (see Table 32-4).**

Response: Figure 6 shows the location of the proposed WRA mitigation area, which will cover 3,000 square feet and is slightly larger than the proposed reduction to the existing vegetated buffer (2,710 square feet). If the WRA were left in its current condition, the functions of the stream and its riparian area would likely remain somewhat higher than if the WRA were reduced as proposed without mitigation. However, since the understory is currently dominated by non-native invasive plants (e.g. Himalayan blackberry and multiflora rose), and these invasives will be removed and replaced with native species when the proposed mitigation plan is implemented, the function of the buffer should be maintained or even be increased over time, relative to its current condition.

The stream is currently partly shaded by the existing overstory within this parcel, so the riparian area may provide some local moderation of stream temperatures. However this effect is seasonally limited given the mostly open condition of its upstream reaches, combined with expected very low summer flows. Only minimal improvement to this function can be expected from further onsite vegetation enhancements.

2. **The mitigation project shall include all of the following components as applicable. It may also include other forms of enhancement (mitigation) deemed appropriate by the approval authority.**
 - a. **Removal of invasive vegetation.**
 - b. **Planting native, non-invasive plants (at minimum, consistent with CDC 32.100) that provide improved filtration of sediment, excess nutrients, and pollutants. The amount of enhancement (mitigation) shall meet or exceed the standards of CDC 32.090(C).**
 - c. **Providing permanent improvements to the site hydrology that would improve water resource functions.**
 - d. **Substantial improvements to the aquatic and/or terrestrial habitat of the WRA.**

Response: Mitigation will be achieved through the enhancement of 3,000 square feet of the existing WRA to be retained. As such, mitigation will be achieved on-site. The amount of mitigation exceeds the amount prescribed in CDC 32.909 C, which states that mitigation is at a 1:1 ratio (permanent disturbed area to mitigation area). **This finding assumes that the reduction to the existing vegetated buffer (2,000 square feet) is considered as the proposed permanent disturbance area for this project.**

Non-native, invasive vegetation will be removed from the mitigation area. The species to be removed include (but are not limited to) Himalayan blackberry and multiflora rose. These two species may be controlled by a combination of selective physical removal and limited herbicide applications. The removal of the non-native plants will be accomplished with minimal earth disturbance, which could create short term turbidity within the creek.

Note, however, that some functional benefits are currently provided by maturing English hawthorn (*Crataegus monogyna*) and sweet cherry (*Prunus avium*) within the WRA. These non-native trees may be retained on an individual basis depending on their size and location (such as near the streambank where the risk of erosion could significantly increase with their removal). Decisions on which trees and shrubs to retain or remove will be facilitated by initial invasive clearing efforts targeted primarily at the blackberry and rose, since these species currently cover a significant portion of the understory and prevent a reasonable assessment of which plants to retain.

The table below includes the species to be planted within the retained WRA (3,000 square feet);

Botanical Name	Common Name	Sizes (Height or gallon)	Planting density (on center)	Quantity
Trees				
<i>Acer macrophyllum</i>	Big leaf maple	≥0.5" inch caliper	8-12'	5
<i>Pseudotsuga menziesii</i>	Douglas fir	≥0.5" inch caliper	8-12'	5
<i>Quercus garryana</i>	Oregon white oak	1 gal	8-12'	5
<i>Thuja plicata</i>	Western red cedar	≥0.5" inch caliper	8-12'	5
			Total	20
Shrubs/Groundcover				
<i>Amelanchier alnifolia</i>	serviceberry	≥1 gallon	5'	20
<i>Mahonia aquifolium</i>	Oregon grape	≥1 gallon	5'	20
<i>Polystichum munitum</i>	Sword fern	≥1 gallon	5'	20
<i>Sambucus racemosa</i>	Red elderberry	≥1 gallon	5'	20
<i>Symphoricarpos albus</i>	Snowberry	≥1 gallon	5'	20
			Total	100

The total number of plants may need to be adjusted to account for the retention of desirable species; otherwise the planting may be overly dense and result in self-thinning. Nevertheless, this plant list assumes a virtual clearing of the buffer in order to assure that densities meet the City's requirements for mitigating the proposed permanent disturbance area.

In addition to the above woody plantings, any areas disturbed by the removal of non-native species will be seeded with the following grass seed mix at the rate of 1 pound per 1000 square feet;

- Hobbs and Hopkins 'PT 400 Native Upland mix' (or equivalent):

Blue Wildrye (*Elymus glaucus*)
 Meadow Barley (*Hordeum brachyantherum*)
 California Brome (*Bromus carinatus*)

The growth of a healthy understory will help moderate any potential surface runoff into the creek, which will decrease the potential for bank erosion. In addition, erosion from direct rainfall is minimized with a healthy canopy.

At least 80% of the woody plants will be living at the end of three years after the planting. This assumes that supplemental watering and mulching may be required in the first few years of plant establishment, along with periodic weed control efforts to minimize competition with new plantings.

C. Identify and discuss site design and methods of development as they relate to WRA functions.

Response: The outer portion of the standard 65-foot WRA width has long been impacted by existing development; the proposed WRA width will constitute a further reduction to the existing buffer. The new impact will occur from the construction of a commercial building and/or access roadway and parking. The portion of the existing vegetated WRA that is proposed for impact is largely dominated by non-native shrub species.

Although there will be a further loss of WRA area, the functions will generally improve somewhat once most of the invasive species have been removed and more desirable native species planted, increasing the quality of the habitat for songbirds and other wildlife. There are no fish in the creek, but the ability of the riparian area to provide a microclimate will also improve with the enhancement of the understory and increased shading over time from more trees planted.

D. Address the approval criteria of CDC 32.060, with the exception of CDC 32.060(D).

32.060 APPROVAL CRITERIA (STANDARD PROCESS)

No application for development on property containing a WRA shall be approved unless the approval authority finds that the proposed development is consistent with the following approval criteria, or can satisfy the criteria by conditions of approval:

A. WRA protection/minimizing impacts.

- 1. Development shall be conducted in a manner that will avoid or, if avoidance is not possible, minimize adverse impact on WRAs.**

Response: The required 65-foot WRA was permanently impacted many years ago by lot development, being largely replaced by a paved parking area. The adjacent lots to the west were likely developed prior to adoption of Chapter 32 of the CDC, as there is virtually no vegetated WRA on those lots. Nevertheless, the subject parcel currently has an approximately 28-foot vegetated setback from the stream, indicating that a reduced WRA was approved for the previous development, or else the setback requirements have been changed during that time.

Total avoidance of the current WRA would not have allowed for the proposed lot partition, restricting the potential uses for the lot, and would not have necessarily resulted in a higher quality WRA. The proposed 15-foot WRA, while reducing the current buffer, will still provide buffer functions appropriate to the size and landscape position of the stream. The area of the proposed WRA is 3,000 square feet, whereas the existing vegetated buffer is approximately 5,680 square feet. As such, approximately 2,710 square feet of the existing WRA will be impacted by the proposed development.

Although somewhat smaller in size, the functions provided by the proposed WRA will be essentially equal to, if not slightly greater than the existing reduced WRA. The proposed WRA will first have the non-native invasive species controlled, then the planting of native trees and shrubs can occur. Every effort will be made to retain established native plantings within the WRA, which currently provide some structural and species diversity. Several maturing western red cedar will be prioritized for retention, as these are well established and provide benefits not readily replaced by new container

plantings. Other native shrubs will be protected from invasive removal efforts to the extent possible, with new native plantings being installed especially into spaces opened up by the invasive control efforts.

The enhanced (retained) area nearest the creek (3,000 SF) will be somewhat larger than the impacted (encroachment) area (2,710 SF). In addition, the enhanced portion of the WRA will be planted to the density required in CDC 32.100 in order to ensure the WRA is restored to a good condition and the functions of the WRA are maintained.

2. Mitigation and re-vegetation of disturbed WRAs shall be completed per CDC 32.090 and 32.100 respectively.

Response: As described above, mitigation will be achieved through the enhancement of 3,000 square feet of the existing WRA. As such, mitigation will be achieved on-site. The amount of mitigation exceeds the amount prescribed in CDC 32.909 C, which states that mitigation is at a 1:1 ratio (permanent disturbed area to mitigation area). The proposed additional permanent disturbance area (PDA) is 2,710 square feet. **Note that applying this ratio assumes that the standard 65-foot setback is no longer applicable within the existing PDA.**

B. Storm water and storm water facilities.

- 1. Proposed developments shall be designed to maintain the existing WRAs and utilize them as the primary method of storm water conveyance through the project site unless:**
 - a. The surface water management plan calls for alternate configurations (culverts, piping, etc.); or**
 - b. Under CDC 32.070, the applicant demonstrates that the relocation of the water resource will not adversely impact the function of the WRA including, but not limited to, circumstances where the WRA is poorly defined or not clearly channelized.**

Re-vegetation, enhancement and/or mitigation of the re-aligned water resource shall be required as applicable.

Response: Stormwater collected from 8th Court and the subject property is currently discharged to the creek via a 12" PVC outfall located above the creek's OHW elevation near the northeast corner of the property. New development may require upgrades to the current configuration; any new stormwater plans will be designed to meet City of West Linn stormwater requirements. In the event that native vegetation within the WRA must be impacted by utility upgrades, the mitigation planting plan will be adjusted to address these impacts.

- 2. Public and private storm water detention, storm water treatment facilities and storm water outfall or energy dissipaters (e.g., rip rap) may encroach into the WRA if:**
 - a. Accepted engineering practice requires it;**
 - b. Encroachment on significant trees shall be avoided when possible, and any tree loss shall be consistent with the City's Tree Technical Manual and mitigated per CDC 32.090;**

- c. There shall be no direct outfall into the water resource, and any resulting outfall shall not have an erosive effect on the WRA or diminish the stability of slopes; and**
- d. There are no reasonable alternatives available.**

A geotechnical report may be required to make the determination regarding slope stability.

Response: As noted in B above, stormwater is currently discharged to the creek from a 12” PVC outfall into a swale paralleling the creek. The nature and extent of any upgrades to the stormwater system cannot be quantified at this time, pending more detailed site plans. Any stormwater upgrades will meet City of West Linn stormwater requirements, and the water resource will not be impacted by any new or modified outfalls, energy dissipators, or other facilities. Energy from stormwater discharges will necessarily be dissipated prior to reaching the creek, so erosion of the bank will not be allowed to occur.

- 3. Roadside storm water conveyance swales and ditches may be extended within rights-of-way located in a WRA. When possible, they shall be located along the side of the road furthest from the water resource. If the conveyance facility must be located along the side of the road closest to the water resource, it shall be located as close to the road/sidewalk as possible and include habitat friendly design features (treatment train, rain gardens, etc.).**

Response: The project does not include a roadside storm water conveyance.

- 4. Storm water detention and/or treatment facilities in the WRA shall be designed without permanent perimeter fencing and shall be landscaped with native vegetation.**

Response: The project does not currently require a storm water detention or treatment facility inside the WRA. In the event that such a facility is required by the city, it will be constructed outside of the proposed WRA.

- 5. Access to public storm water detention and/or treatment facilities shall be provided for maintenance purposes. Maintenance driveways shall be constructed to minimum width and use water permeable paving materials. Significant trees, including roots, shall not be disturbed to the degree possible. The encroachment and any tree loss shall be mitigated per CDC 32.090. There shall also be no adverse impacts upon the hydrologic conditions of the site.**

Response: The project will not require a public storm water detention or treatment facility.

C. Repealed by Ord. 1647.

D. WRA width. Except for the exemptions in CDC 32.040, applications that are using the alternate review process of CDC 32.070, or as authorized by the approval authority consistent with the provisions of this chapter, all development is prohibited in the WRA as established in Table 32-2 below:

Response: This application will use the alternate review process of CDC [32.070](#). As such, the approval criterion of CDC [32.060\(D\)](#) does not need to be addressed.

E. Roads, driveways and utilities.

- 1. New roads, driveways, or utilities shall avoid WRAs unless the applicant demonstrates that no other practical alternative exists. In that case, road design and construction techniques shall minimize impacts and disturbance to the WRA by the following methods:**
 - a. New roads and utilities crossing riparian habitat areas or streams shall be aligned as close to perpendicular to the channel as possible.**
 - b. Roads and driveways traversing WRAs shall be of the minimum width possible to comply with applicable road standards and protect public safety. The footprint of grading and site clearing to accommodate the road shall be minimized.**
 - c. Road and utility crossings shall avoid, where possible:**
 - 1) Salmonid spawning or rearing areas;**
 - 2) Stands of mature conifer trees in riparian areas;**
 - 3) Highly erodible soils;**
 - 4) Landslide prone areas;**
 - 5) Damage to, and fragmentation of, habitat; and**
 - 6) Wetlands identified on the WRA Map.**

Response: No new roads, driveways or utilities are proposed to be constructed within the WRA. Note however that the existing stormwater and sanitary sewer easements for the property currently extend from west to east through the WRA; these may require upgraded facilities, as yet to be determined.

- 2. Crossing of fish bearing streams and riparian corridors shall use bridges or arch-bottomless culverts or the equivalent that provides comparable fish protection, to allow passage of wildlife and fish and to retain the natural stream bed.**

Response: No crossing of a fish bearing stream is proposed in this application.

- 3. New utilities spanning fish bearing stream sections, riparian corridors, and wetlands shall be located on existing roads/bridges, elevated walkways, conduit, or other existing structures or installed underground via tunneling or boring at a depth that avoids tree roots and does not alter the hydrology sustaining the water resource, unless the applicant demonstrates that it is not physically possible or it is cost prohibitive. Bore pits associated with the crossings shall be restored upon project completion. Dry, intermittent streams may be crossed with open cuts during a time period approved by the City and any agency with jurisdiction.**

Response: No new utilities spanning a fish bearing stream are proposed in this application

- 4. No fill or excavation is allowed within the ordinary high water mark [OHWM] of a water resource, unless all necessary permits are obtained from the City, U.S. Army Corps of Engineers and Oregon Department of State Lands (DSL).**

Response: No fill or excavation is being proposed within the OHWM of the water resource (Bernert Creek).

- 5. Crossings of fish bearing streams shall be aligned, whenever possible, to serve multiple properties and be designed to accommodate conduit for utility lines. The applicant shall, to the extent legally permissible, work with the City to provide for a street layout and crossing location that will minimize the need for additional stream crossings in the future to serve surrounding properties.**

Response: No crossings of a fish bearing stream are proposed by this application.

F. Passive recreation. Low impact or passive outdoor recreation facilities for public use including, but not limited to, multi-use paths and trails, not exempted per CDC [32.040\(B\)\(2\)](#), viewing platforms, historical or natural interpretive markers, and benches in the WRA, are subject to the following standards:

- 1. Trails shall be constructed using non-hazardous, water permeable materials with a maximum width of four feet or the recommended width under the applicable American Association of State Highway and Transportation Officials (AASHTO) standards for the expected type and use, whichever is greater.**
- 2. Paved trails are limited to the area within 20 feet of the outer boundary of the WRA, and such trails must comply with the storm water provisions of this chapter.**
- 3. All trails in the WRA shall be set back from the water resource at least 30 feet except at stream crossing points or at points where the topography forces the trail closer to the water resource.**
- 4. Trails shall be designed to minimize disturbance to existing vegetation, work with natural contours, avoid the fall line on slopes where possible, avoid areas with evidence of slope failure and ensure that trail runoff does not create channels in the WRA.**
- 5. Foot bridge crossings shall be kept to a minimum. When the stream bank adjacent to the foot bridge is accessible (e.g., due to limited vegetation or topography), where possible, fences or railings shall be installed from the foot bridge and extend 15 feet beyond the terminus of the foot bridge to discourage trail users and pets from accessing the stream bank, disturbing wildlife and habitat areas, and causing vegetation loss, stream bank erosion and stream turbidity. Bridges shall not be made of continuous impervious materials or be treated with toxic substances that could leach into the WRA.**
- 6. Interpretive facilities (including viewpoints) shall be at least 10 feet from the top of the water resource's bankfull flow/OHW or delineated wetland edge and constructed with a fence between users and the resource. Interpretive signs may be installed on footbridges.**

Response: No passive recreation facilities, including trails, foot bridges or interpretive facilities are being proposed as part of this application.

G. Daylighting Piped Streams.

- 1. As part of any application, covered or piped stream sections shown on the WRA Map are encouraged to be "daylighted" or opened. Once it is daylighted, the WRA will be limited to 15 feet on either side of the stream. Within that WRA, water quality measures are required which may include a storm water treatment system (e.g., vegetated bioswales),**

- continuous vegetative ground cover (e.g., native grasses) at least 15 feet in width that provides year round efficacy, or a combination thereof.**
- 2. The re-opened stream does not have to align with the original piped route but may take a different route on the subject property so long as it makes the appropriate upstream and downstream connections and meet the standards of subsections (G)(3) and (4) of this section.**
 - 3. A re-aligned stream must not create WRAs on adjacent properties not owned by the applicant unless the applicant provides a notarized letter signed by the adjacent property owner(s) stating that the encroachment of the WRA is permitted.**
 - 4. The evaluation of proposed alignment and design of the reopened stream shall consider the following factors:**
 - a. The ability of the reopened stream to safely carry storm drainage through the area without causing significant erosion.**
 - b. Continuity with natural contours on adjacent properties, slope on site and drainage patterns.**
 - c. Continuity of adjacent vegetation and habitat values.**
 - d. The ability of the existing and proposed vegetation to filter sediment and pollutants and enhance water quality.**
 - e. Provision of water temperature conducive to fish habitat.**
 - 5. Any upstream or downstream WRAs or riparian corridors shall not apply to, or overlap, the daylighted stream channel.**
 - 6. When a stream is daylighted the applicant shall prepare and record a legal document describing the reduced WRA required by subsections (G)(1) and (5) of this section. The document will be signed by a representative of the City and recorded at the applicant's expense to better ensure long term recognition of the reduced WRA and reduced restrictions for the daylighted stream section.**

Response: No piped streams will be daylighted as part of this application.

H. The following habitat friendly development practices shall be incorporated into the design of any improvements or projects in the WRA to the degree possible:

- 1. Restore disturbed soils to original or higher level of porosity to regain infiltration and storm water storage capacity.**

Response: Soils within the proposed 15-foot WRA will be restored in the event of disturbance, which may occur through control of invasive plants and/or the planting of native species for buffer enhancement. It is not anticipated at this time that potential utility upgrades will extend into the proposed WRA, however soil restoration and revegetation will certainly occur in the event of such activities.

- 2. Apply a treatment train or series of storm water treatment measures to provide multiple opportunities for storm water treatment and reduce the possibility of system failure.**

Response: Vegetated swales or other LID measures will be considered for this project; in the event such measures are used, these will meet City of West Linn standards and will be constructed outside of the WRA.

3. Incorporate storm water management in road rights-of-way.

Response: Not applicable to this project.

4. Landscape with rain gardens to provide on-lot detention, filtering of rainwater, and groundwater recharge.

Response: Rain gardens and other LID stormwater measures will be considered as planning progresses for this project.

5. Use multi-functional open drainage systems in lieu of conventional curb-and-gutter systems.

Response: Open drainage systems will be considered for those areas where such an alternative may be feasible.

6. Use green roofs for runoff reduction, energy savings, improved air quality, and enhanced aesthetics.

Response: Green roofs will be considered if determined to be feasible for this project.

7. Retain rooftop runoff in a rain barrel for later on-lot use in lawn and garden watering.

Response: Not readily applicable to this project.

8. Disconnect downspouts from roofs and direct the flow to vegetated infiltration/filtration areas such as rain gardens.

Response: Roof runoff may be directed to infiltration/filtration facilities if determined to be feasible for this project.

9. Use pervious paving materials for driveways, parking lots, sidewalks, patios, and walkways.

Response: Pervious paving will be used wherever possible; otherwise, alternative LID measures will be utilized.

10. Reduce sidewalk width to a minimum four feet. Grade the sidewalk so it drains to the front yard of a residential lot or retention area instead of towards the street.

Response: Not applicable to this commercial development.

11. Use shared driveways.

Response: A single, shared access road into the site is proposed.

12. Reduce width of residential streets and driveways, especially at WRA crossings.

Response: Not applicable; commercial development.

13. Reduce street length, primarily in residential areas, by encouraging clustering.

Response: Not applicable; this is a commercial development.

14. Reduce cul-de-sac radii and use pervious and/or vegetated islands in center to minimize impervious surfaces.

Response: This is not applicable for this project.

15. Use previously developed areas (PDAs) when given an option of developing PDA versus non-PDA land.

Response: The project is a PDA.

16. Minimize the building, hardscape and disturbance footprint.

Response: The impervious areas and disturbance areas have been minimized due to the presence of trees and the WRA.

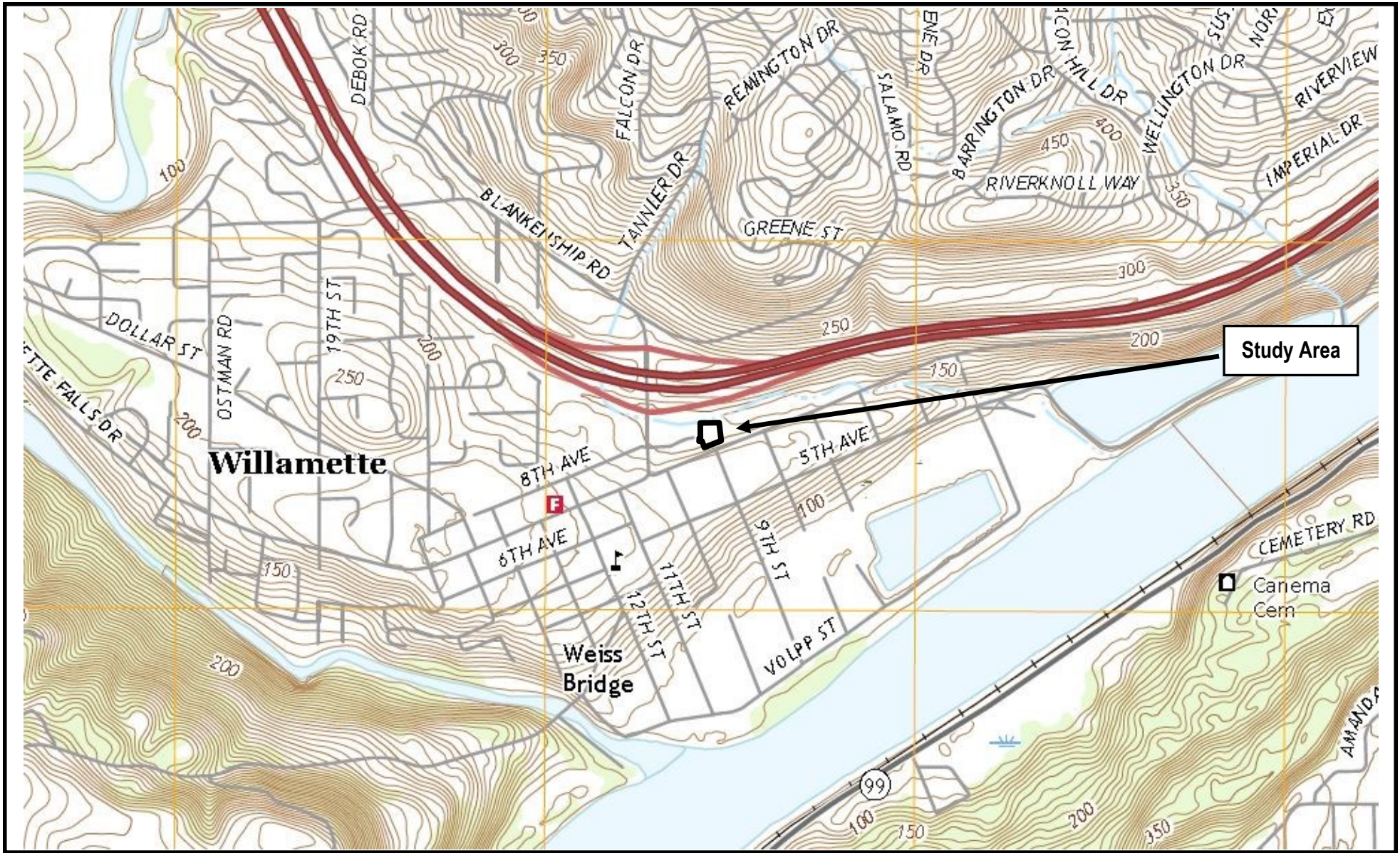
17. Consider multi-story construction over a bigger footprint.

Response: Multi-story construction is not appropriate for this site.

Please let me know if you have any questions.

Sincerely,

Fred Small
Natural Resource Specialist



#6415
5/18/2018



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

General Location and Topography
8th Ct - West Linn, Oregon
United States Geological Survey (USGS), Canby, Oregon, 7.5 Quadrangle, 2017
(viewer/nationalmap.gov/basic)

FIGURE
1

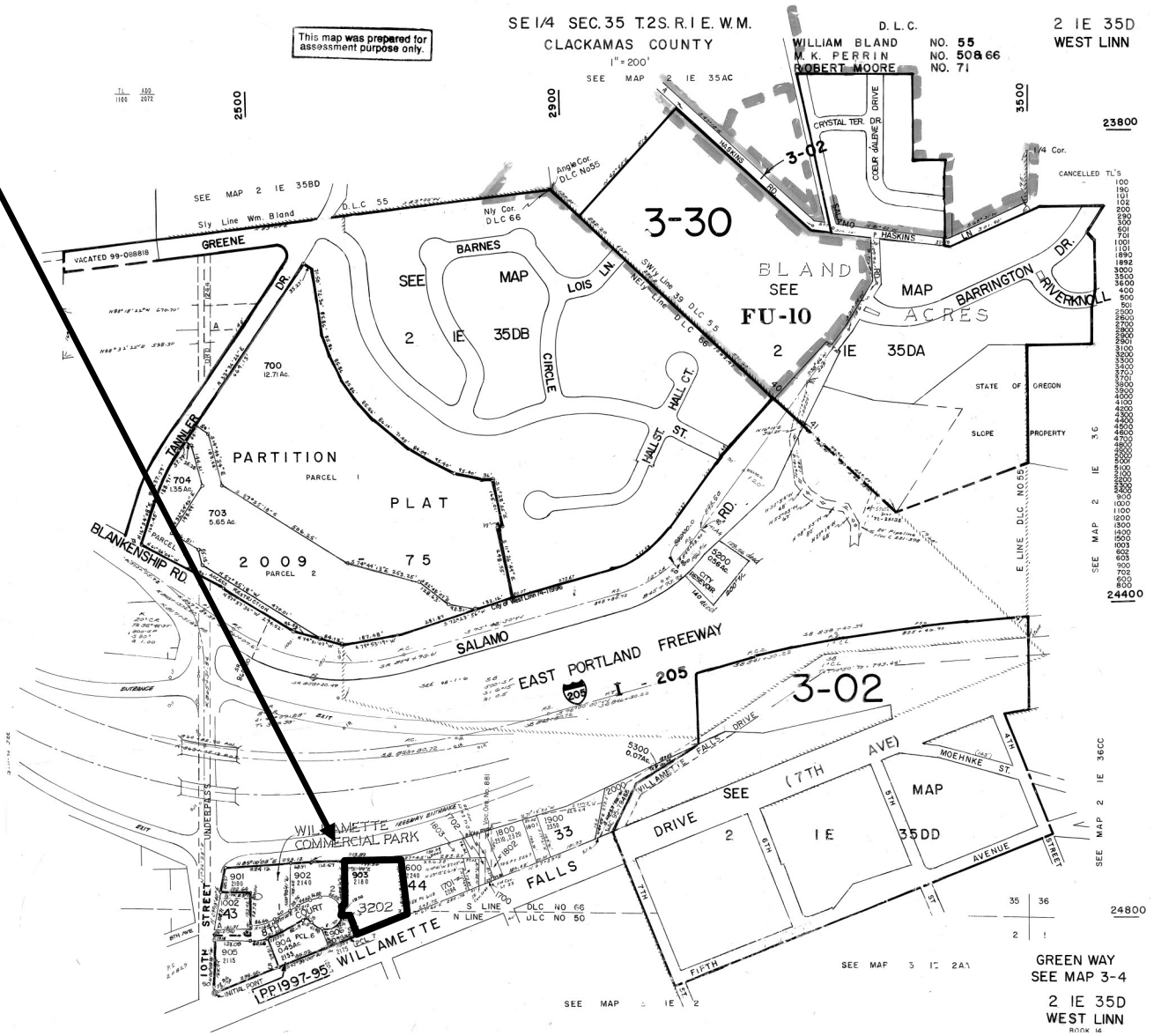
This map was prepared for
assessment purpose only.

SE 1/4 SEC. 35 T.2S. R.1E. W.M.
CLACKAMAS COUNTY

D. L. C.
WILLIAM BLAND NO. 55
M. K. PERRIN NO. 50 & 66
ROBERT MOORE NO. 71

2 IE 35D
WEST LINN

Study Area



#6415
5/18/2018



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Tax Lot Map
8th Ct - West Linn, Oregon
The Oregon Map (ormap.net)

FIGURE
2



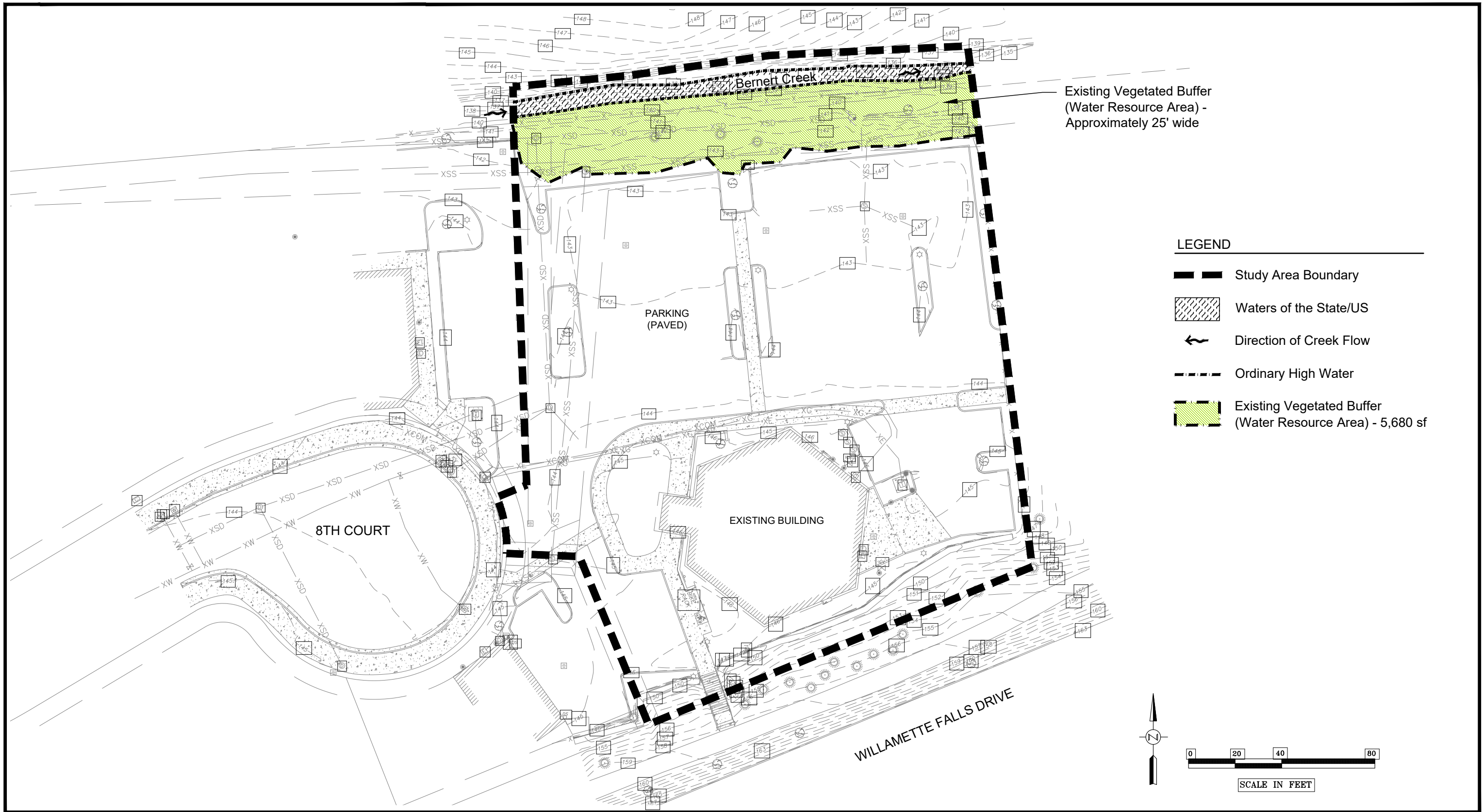
#6415
5/18/2018



Pacific Habitat Services, Inc.
9450 SW Commerce Circle, Suite 180
Wilsonville, OR 97070

Aerial Photo
8th Ct - West Linn, Oregon
GoogleEarth, 2018

FIGURE
3

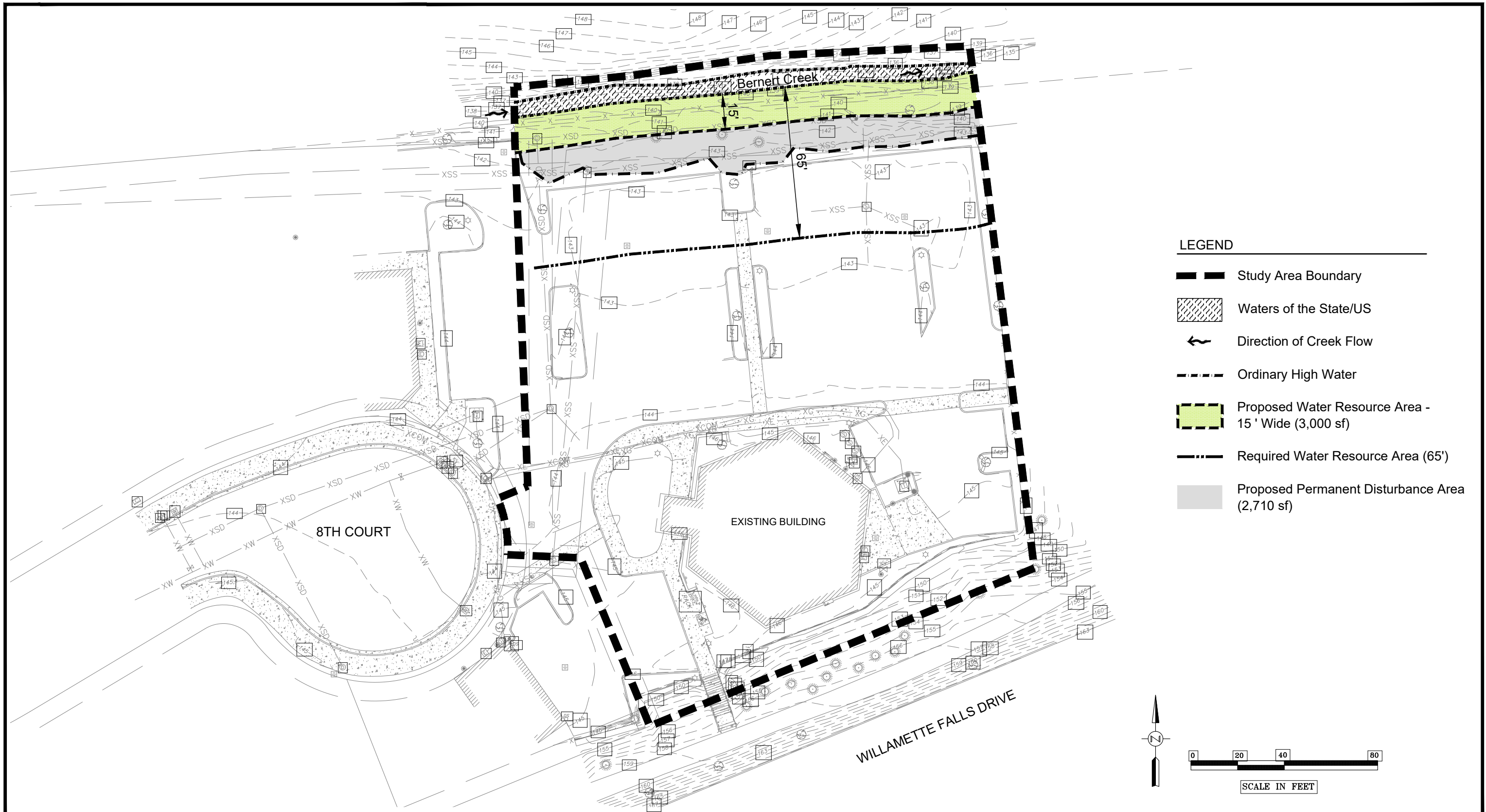


Survey provided by Centerline Concepts Land Surveying, Inc.

Existing Conditions
2180 8th Court - West Linn, Oregon

FIGURE 4

5-29-2018

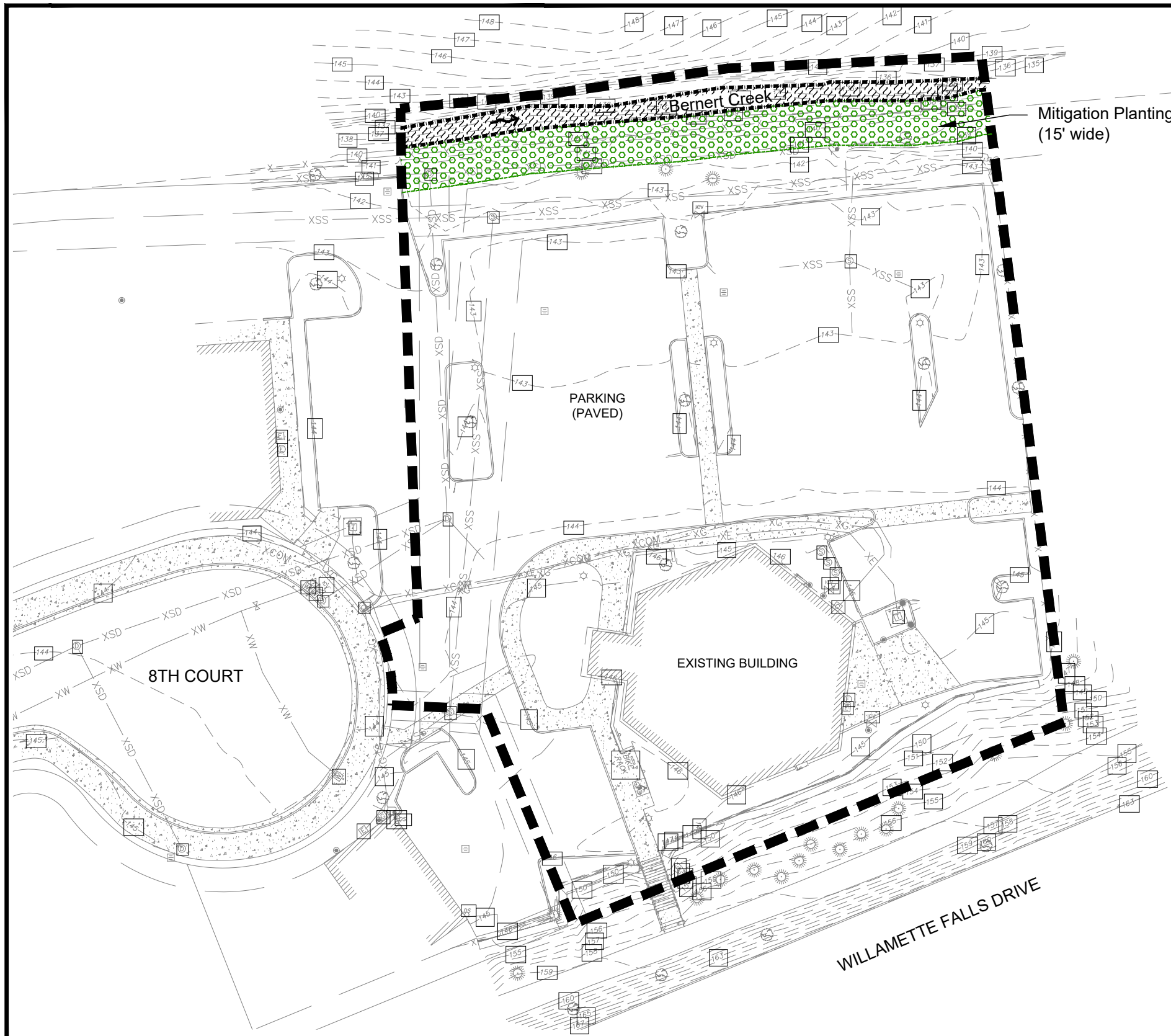


Survey provided by Centerline Concepts Land Surveying, Inc.

Required and Proposed Water Resource Areas
2180 8th Court - West Linn, Oregon

FIGURE
5

5-30-2018



Plant List for Retained WRA (3,000 square feet);

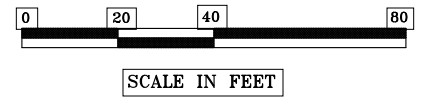
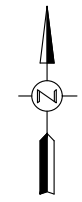
Botanical Name	Common Name	Sizes (Height or gallon)	Planting density (on center)	Quantity
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<i>Acer macrophyllum</i>	Big leaf maple	≥0.5" inch caliper	8-12'	5
<i>Pseudotsuga menziesii</i>	Douglas fir	≥0.5" inch caliper	8-12'	5
<i>Quercus garryana</i>	Oregon white oak	1 gal	8-12'	5
<i>Thuja plicata</i>	Western red cedar	≥0.5" inch caliper	8-12'	5
			Total	20
Shrubs/Groundcover				
<i>Amelanchier alnifolia</i>	serviceberry	≥1 gallon	5'	20
<i>Mahonia aquifolium</i>	Oregon grape	≥1 gallon	5'	20
<i>Polystichum munitum</i>	Sword fern	≥1 gallon	5'	20
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<i>Symphoricarpos albus</i>	Snowberry	≥1 gallon	5'	20
			Total	100

Grass seed mix to be applied at the rate of 1 pound per 1000 square feet;

- Hobbs and Hopkins 'PT 400 Native Upland mix' (or equivalent):
 - Blue Wildrye (*Elymus glaucus*)
 - Meadow Barley (*Hordeum brachyantherum*)
 - California Brome (*Bromus carinatus*)

LEGEND

- Study Area Boundary
- Waters of the State/US
- Direction of Creek Flow
- Ordinary High Water
- Mitigation Planting Area



Survey provided by Centerline Concepts Land Surveying, Inc.

Proposed Water Resource Area Mitigation Planting Plan
2180 8th Court - West Linn, Oregon

FIGURE
6

5-29-2018