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PSE.com

November 5, 2018

Heidi Bedwell, Environmental Planning Manager  
City of Bellevue  
450 110th Avenue NE  
Bellevue, WA 98004

**RE: South Bellevue Segment Energize Eastside – Response to Technical Review Letter, Part #4  
Conditional Use Permit (File #17-120556-LB)  
Critical Areas Land Use Permit (File #17-120557-LO)**

Dear Ms. Bedwell:

Puget Sound Energy, Inc. (PSE) provides the following information regarding routing and substation location review in response to the City of Bellevue’s (City’s) request for additional information on the above referenced permit applications.

### **Routing and Substation Options – Summary**

In order to develop route options, PSE identified potential route segments between Renton and Redmond. To help identify these route segments, PSE took into account not only electrical feasibility, but dozens of non-electrical factors, like geographic barriers, land uses and impacts on the environment.

In 2014, PSE engaged the community in a public routing discussion for Energize Eastside. Through the Community Advisory Group process, open houses, neighborhood meetings, briefings and comments, we learned about community values and concerns about the project.

Through the public route discussion process, the Community Advisory Group selected the *Oak* and *Willow* routes as their final recommendation for PSE's consideration. The final route selected (subject of the CUP application) is one of the two routes recommended by the Community Advisory Group.

#### **Sycamore and Willow Routes**

The Community Advisory Group reviewed the 18 potential route options for the Project. Two of the routes, *Sycamore* and *Willow*, included new substation options: the Vernell Substation site (located along the *Sycamore* route), and the Richards Creek and Westminster substation sites (located along the *Willow* route).

The Community Advisory Group completed their work on Dec. 10, 2014 and selected the *Oak* (not analyzed in this document) and *Willow* routes as their final recommendation for PSE's consideration.

More information related to the *Sycamore* (shown as Segment B on Figure 1) and *Willow* routes are provided below.



Figure 1: Final Route Recommendation (*Willow*) and Potential Route Segments

## Substations

Three substation sites were identified and evaluated by both PSE and the Community Advisory Group: Richards Creek, Westminster, and Vernell. These sites were chosen because they are all owned by PSE with the intent of using them for future substations sites (as shown on Bellevue Comprehensive Plan Map UT-7). As part of the 2014 evaluation, critical areas on each site were reviewed, specifically wetlands, stream crossings, and steep slopes. Both the Richards Creek and Westminster sites are located along the existing SAM-LAK-TAL corridor (the *Willow* route); however, the Vernell site would require the new 230 kV transmission lines to follow a different corridor (the *Sycamore* route) between the existing PSE Sammamish (Redmond) and Lakeside (Bellevue) substations, as well as the installation of additional 115 kV lines to the existing Clyde Hill and Ardmore substations. As the Vernell Substation site was removed from further consideration in 2014, specific critical areas information related to the Vernell site was not collected; however, a summary of critical areas on this site are provided in this document.

## Critical Areas Review

The City of Bellevue’s Land Use Code (LUC) Section 20.25H.055.A provides the following hierarchy of alterations:

*“Where a use or development is proposed on a site with more than one type of critical area, preference shall be given to disturbing those critical areas with the least sensitivity to human disturbance, based on a consideration of both existing functions and values, and future functions and values if left undisturbed.”*

Critical areas associated with the Richards Creek Substation site are included in the CUP and LO permit applications. The Westminster and Vernell substation sites are summarized in this memorandum, as well as responses to the General Performance Standards associated with new and expanded uses or development in LUC 20.25H.055.C.2.

## Sycamore and Willow Routes

As part of the 2014 Community Advisory Group, GIS data was reviewed for each of the routes under consideration. The GIS data reviewed can be used to make a relative comparison between the *Sycamore* and *Willow* routes, see Table 1 for a summary of information for each route associated with critical areas and other sensitive uses.

**Table 1: Critical Areas Summary for *Sycamore* and *Willow* Routes**

Data (2014)	<i>Sycamore</i> Route (Vernell)	<i>Willow</i> Route (Richards Creek and Westminster)
Wetlands identified within 50’ of both sides of the corridor centerline <sup>1</sup>	34 wetlands	25 wetlands
Potential stream crossings <sup>1</sup>	18 stream crossings	22 stream crossings
State-documented wildlife species present <sup>2</sup>	22 species	21 species

<b>Data (2014)</b>	<b><i>Sycamore Route (Vernell)</i></b>	<b><i>Willow Route (Richards Creek and Westminster)</i></b>
High Slope Instability within 25' of the corridor <sup>3</sup>	4.05% of the corridor	4.94% of the corridor
Medium Slope Instability within 25' of the corridor <sup>3</sup>	4.90% of the corridor	6.67% of the corridor
Low Slope Instability within 25' of the corridor <sup>3</sup>	1.68% of the corridor	2.89% of the corridor
Steep slopes within 25' of the corridor (>40% slopes) <sup>4</sup>	10.13% of the corridor	9.91% of the corridor
Moderately steep slopes within 25' of the corridor (>20% and less than 40% slopes) <sup>4</sup>	18.26% of the corridor	21.25% of the corridor
Fault lines within 25' of the corridor <sup>5</sup>	11 faults	7 faults
Tree removal (total number of trees >4" DBH requiring removal or trimming) <sup>6</sup>	9,175 trees	7,879 trees
Residential use within 600' of the corridor <sup>7</sup>	4,114 parcels	3,970 parcels
(Residential use within 600' of the corridor that has not existing transmission lines) <sup>7</sup>	(405 parcels)	(7 parcels)
Park uses within 25' of the corridor <sup>7</sup>	14 parcels in park use	13 parcels in park use
Recreational uses within 25' of the corridor <sup>7</sup>	8 parcels in recreational use	7 parcels in recreational use
School use within 600' of the corridor <sup>7</sup>	13 schools	7 schools
Registered Historic Sites within 0.5-mile of the corridor	5 sites	6 sites
Percent of route on existing corridor	50%	100%
Cost (total cost, in USD millions)	\$277	\$154

- 1: Based on GIS data or field reconnaissance.
- 2: Based on State Priority Habitat and Species Data (includes known salmonids species).
- 3: Based on Washington State Department of Natural Resources (DNR) Slope Stability Rating Area.
- 4: Derived from King County LiDAR elevation.
- 5: Derived from Washington State DNR fault data.
- 6: Developed using LiDAR, Google Earth, and/or field reconnaissance.
- 7: Based on King County Assessor Data.

In general, the *Sycamore* route would cross approximately nine more wetlands, four fewer streams, and four more geologic faults than the *Willow* route. It was estimated that approximately 1,300 more trees would be subject to removal with the *Sycamore* route; most of these trees would be along the western extent of Bridle Trails State Park and 116th Avenue NE, where a number of streams (including known salmonids locations) and wetlands have been identified on Kirkland's Sensitive Areas map (2018).

### Richards Creek Substation Site

The Richards Creek Substation site is described in detail in the CUP and LO permit applications submitted to the City of Bellevue.

### Westminster Substation Site

*Site Summary:* The Westminster Substation site is located at 13649 NE 24th Street in Bellevue, WA on Parcel 2725059116, and is bounded by NE 24th Street on the north, 136th Place NE on the east, State Route (SR) 520 on the south, and Viewpoint Park on the west. The site is owned by PSE and is zoned O Office and PO Professional Office. It is approximately 267,820 square feet, or 6.15 acres and is undeveloped and forested.

*Critical Areas:* Critical areas on the Westminster Substation site include:

- An erosion hazard area mapped by King County in the northwest portion of the site;
- Known wetlands along the eastern portion of the site (estimated at 0.69 acre);
- A stream near the southern portion of the site mapped by the Washington State Department of Natural Resources (DNR) as fish-bearing; and
- Areas of steep slopes >40% as mapped by the City of Bellevue Critical Hazards Maps.

A proposed site plan of the Westminster Substation has been prepared (see attached Figure 2), and development of a 3.44 acre (or 149,718 square foot) substation would result in impacts to approximately 0.69 acres (or 30,037 square feet) of wetlands - all of the approximated wetlands on the site. The smaller size of the site and configuration of the property would not allow for the same enhancement and/or mitigation activities as on the Richards Creek Substation site. Critical areas mitigation would likely need to be off-site.

### Vernell Substation Site

*Site Summary:* The Vernell Substation site is located at 2380 116th Avenue NE in Bellevue, WA on Parcels 2825059141 and 2825059101, and is bounded by 116th Avenue NE on the west, SR 520 on the north, the Cross Kirkland Corridor on the east, and NE 22nd Place on the south. Both parcels are owned by PSE and are zoned as BR-MO Bel-Red Medical Office. Together, the parcels are 124,951 square feet, or 2.87 acres, and are developed with light industrial and commercial uses.

*Critical Areas:* Critical areas on the Vernell Substation site include:

- An erosion hazard area mapped by King County in the southeast portion of the site;
- A stream along the east side of the site mapped by Washington Department of Natural Resources (DNR) as fish-bearing; and
- Low to moderate liquefaction hazard, steep slopes >40%, and very severe soil erosion hazards in the south/southeast portion of the site as mapped by the City of Bellevue Critical Hazards Maps.

As the Vernell Substation site was removed from consideration by the Community Advisory Group, more detailed information (such as a preliminary site plan) has not been prepared.

## Review of LUC 20.25H.055.C.2

New or expanded facilities and systems are allowed within critical areas or their buffers only where no technically feasible alternative with less impact on the critical area or buffer exists (LUC 20.25H.055.C.2).

Criteria and responses for technical feasibility of the Westminster and Vernell substation sites are presented in Table 2.

**Table 2: LUC Review for Westminster and Vernell Substation Sites**

LUC 20.25H.055.C.2.a. Code Sections	PSE Response
<p>i. The location of existing infrastructure;</p>	<p>Westminster Substation is located along the existing SAM-LAK-TAL 115 kV transmission line corridor, same as the Richards Creek Substation site. However, Westminster is undeveloped, sloped, and forested; therefore, it would require extensive clearing and grading.</p> <p>The Vernell Substation site would require a new 230 kV transmission line route (<i>Sycamore</i> route) to make the connection between the Vernell and the Sammamish substation (Redmond). Also, in order to use the Vernell site, approx. 2.3 miles of new 115 kV transmission line would be needed to connect the site with the Ardmore Substation in Redmond, and 1 mile of new 115 kV transmission line to connect the site to the Clyde Hill Substation in Bellevue.</p>
<p>ii. The function or objective of the proposed new or expanded facility or system;</p>	<p>As the Westminster Substation site is within the same 230 kV transmission line corridor as the Richards Creek Substation, it would provide the same system functions.</p> <p>The Vernell Substation site would require use of a new 230 kV transmission corridor as well as multiple additional 115 kV lines between the Clyde Hill and Ardmore Substations. The <i>Sycamore</i> route was one of the most expensive alternatives reviewed, and considered to have more difficult constructability than other routes.</p>
<p>iii. Demonstration that no alternative location or configuration outside of the critical area or critical area buffer achieves the stated function or objective, including construction of new or expanded facilities or systems outside of the critical area;</p>	<p>Both the Westminster Substation site and Richards Creek Substation site would include impacts to wetlands, streams, and vegetation; however, as the Westminster site is forested and undeveloped it would result in more tree and vegetation removals than the Richards Creek site. It is likely that the entirety of the wetland at Westminster would be affected by project construction (estimated at 0.69 acre).</p> <p>The Vernell Substation site does not have wetlands, but contains a</p>

LUC 20.25H.055.C.2.a. Code Sections	PSE Response
	small stream on the eastern edge of the site. All three sites have erosion and slope hazards present, and the Vernell site contains more extensive geologic hazards as mapped by the City of Bellevue.
iv. Whether the cost of avoiding disturbance is substantially disproportionate as compared to the environmental impact of proposed disturbance; and	<p>All three identified substation sites contain critical areas; therefore, avoidance is not feasible no matter the cost.</p> <p>The Westminster Substation preliminary site plan (attached as Figure 2) has been laid out to minimize impacts on wetlands as possible, but likely would still impact the entirety of the wetland (estimated at 0.69 acre). This would result in greater wetland impacts than at Richards Creek, which includes approximately 0.29 acre of wetland impact (permanent and conversion).</p>
v. The ability of both permanent and temporary disturbance to be mitigated.	<p>Due to the small size of the Westminster site, it does not provide the same opportunity to mitigate for temporary and permanent impacts on wetlands (and streams, if present) on-site like the Richards Creek Substation site. It would likely require off-site mitigation which is not preferred by the City of Bellevue.</p> <p>The Vernell Substation site could likely be constructed and designed to mitigate for on-site geologic hazards.</p>

This memorandum concludes that there is no technically feasible alternative substation site that has less impact than the Richards Creek substation site; therefore, the CUP and LO permit documentation submitted for the Richards Creek Substation provides information in compliance with LUC 20.25H.055.C.2.b.i through viii.

LUC 20.25H.055.C.3 Performance Standards for Specific Uses or Development does not contain provisions applicable to this Project.

Please let us know if additional information or clarifications are needed.

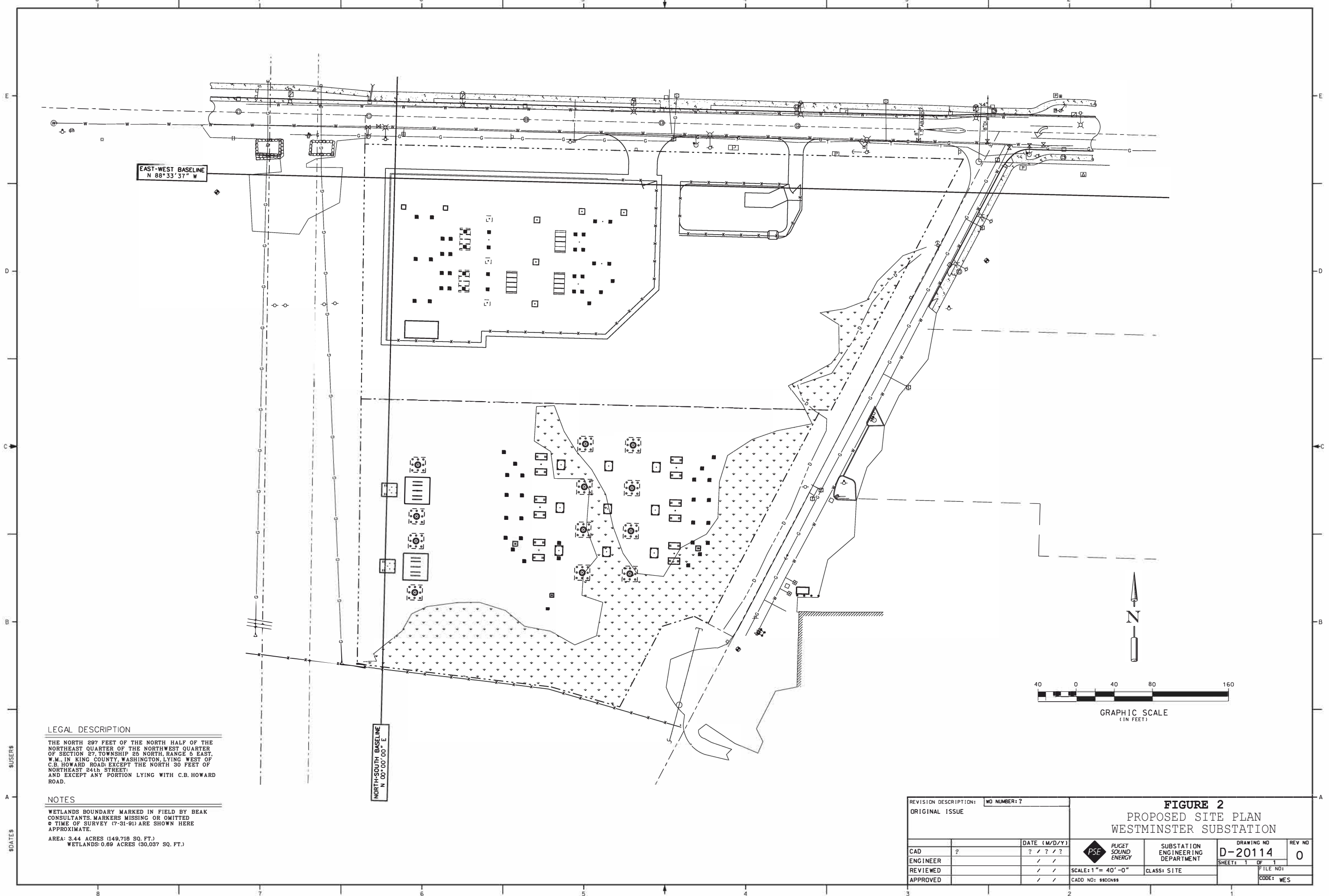
Sincerely,



Brad Strauch  
Senior Land Planner

Attachment





EAST-WEST BASELINE  
N 88°33'37" W

NORTH-SOUTH BASELINE  
N 00°00'00" E



**LEGAL DESCRIPTION**

THE NORTH 297 FEET OF THE NORTH HALF OF THE NORTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 26 NORTH, RANGE 6 EAST, W.M. IN KING COUNTY, WASHINGTON, LYING WEST OF C.B. HOWARD ROAD; EXCEPT THE NORTH 30 FEET OF NORTHEAST 24th STREET; AND EXCEPT ANY PORTION LYING WITH C.B. HOWARD ROAD.

**NOTES**

WETLANDS BOUNDARY MARKED IN FIELD BY BEAK CONSULTANTS. MARKERS MISSING OR OMITTED  
 © TIME OF SURVEY (7-31-91) ARE SHOWN HERE APPROXIMATE.  
 AREA: 3.44 ACRES (149,718 SQ. FT.)  
 WETLANDS: 0.69 ACRES (30,037 SQ. FT.)

REVISION DESCRIPTION: ORIGINAL ISSUE		WO NUMBER: ?	<b>FIGURE 2</b> PROPOSED SITE PLAN WESTMINSTER SUBSTATION		DRAWING NO D-20114	REV NO 0
CAD	?	DATE (M/D/Y) ? / ? / ?			PUGET SOUND ENERGY	SUBSTATION ENGINEERING DEPARTMENT SCALE: 1" = 40'-0" CLASS: SITE CADD NO: \$\$\$DGN\$\$
ENGINEER		/ /				
REVIEWED		/ /				
APPROVED		/ /				