

ENVIRONMENTAL CONSISTENCY ANALYSIS

Energize Eastside Project



Renton, Washington

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City of Renton
Department of Community and Economic Development

ENERGIZE EASTSIDE
ENVIRONMENTAL CONSISTENCY ANALYSIS

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EXECUTIVE SUMMARY

The ***Energize Eastside Project*** Environmental Consistency Analysis confirms that the Current Proposal is within the range of development and probable environmental impacts analyzed in the past SEPA environmental review for the Renton segment of the project, and that there are no significant unavoidable adverse impacts that cannot be mitigated. Minor additions/clarifications to the mitigation measures identified in the 2018 FEIS and in the CUP and Shoreline Exemption application materials are recommended based on the Environmental Consistency Analysis. Below is further discussion of the analysis.

The Applicant, Puget Sound Energy, Inc. (PSE) is proposing to upgrade approximately four miles of two existing 115 kV transmission lines with two new 230 kV transmission lines in the city of Renton. The Renton PSE upgrade is part of the larger ***Energize Eastside Project*** that would also occur in the cities of Bellevue, Redmond, and Newcastle, and in unincorporated King County. The proposed project would require the replacement of approximately 144 existing wood and steel poles (H-frame design) with approximately 41 steel monopoles of either single-circuit or double-circuit design. Within the Talbot Hill substation, additional breakers and associated controls would be added to accommodate the new line. The upgrade would be entirely within the existing 100-foot wide transmission line corridor.

To date, three environmental review documents under the State Environmental Policy Act (SEPA) have been published by the Partner Cities (the Cities of Bellevue, Kirkland, Newcastle, Redmond, and Renton) on the ***Energize Eastside Project***:

- *Energize Eastside Project Phase 1 Draft EIS* (January 28, 2016),
- *Energize Eastside Project Phase 2 Draft EIS* (May 6, 2017), and
- *Energize Eastside Project Final EIS* (March 1, 2018).

The following permits will be required from the City of Renton for the proposed PSE electrical utility upgrade:

- Zoning Conditional Use Permit (CUP),
- Shoreline Exemption,
- Utility Construction Permit, and
- Building Permits.

On March 14, 2018, PSE submitted complete CUP and Shoreline Exemption applications to the City of Renton (the “Current Proposal”). The following report contains an Environmental Consistency Analysis of the Current Proposal.

Goal of this Analysis

The goal of the **Energize Eastside Project** Consistency Analysis is to confirm that proposed development and associated environmental impacts under the Current Proposal are within the range of development and environmental impacts analyzed in the past SEPA review for the project, particularly the Phase 2 DEIS and FEIS, which contained project-specific analysis of the proposed utility upgrade. A further goal of the Consistency Analysis is to recommend additional mitigation measures for the Current Proposal, as necessary.

Development Types, Levels, and Features

Chapter 1 of this Environmental Consistency Analysis compares the types, levels, and features of development under the Current Proposal to those under the proposals in the Phase 2 DEIS and FEIS. The proposed type of use (electrical utility) under the Current Proposal would be identical to the type of use assumed in the Phase 2 DEIS and FEIS for the Renton segment of the **Energize Eastside Project**. The level of development under the Current Proposal would be similar to or less than the levels of development assumed under the proposals in the past SEPA review. The Current Proposal would upgrade approximately four miles of two existing 115 kV transmission lines with two new 230 kV transmission lines, requiring the replacement of approximately 144 existing wood and steel poles (H-frame design) with approximately 41 steel monopoles of either single-circuit or double-circuit design. Within the Talbot Hill substation, additional breakers and associated controls would be added to accommodate the new lines. The upgrade would be entirely within the existing 100-foot wide transmission line corridor.

Key similarities between the Current Proposal and the Phase 2 DEIS and FEIS proposals include:

- The upgrade would follow the same general route and would be entirely located within PSE's existing 100-foot wide corridor;
- Proposed pole replacement would generally be in the same locations as the existing pole locations;
- There would be fewer replacement poles than existing poles;
- Replacement poles would be taller and larger in diameter than existing poles; and,
- Proposed pole replacement would be outside the 200-foot Cedar River shoreline jurisdiction.

Key differences between the Current Proposal and the Phase 2 DEIS and FEIS proposals include:

- Fewer poles would be removed under the Current Proposal than in the Phase 2 DEIS, but the same number as in the FEIS;
- Fewer poles would be replaced under the Current Proposal than in the Phase 2 DEIS, but the same number as in the FEIS;
- The lowest wires in the shoreline jurisdiction would be 20 to 30 feet higher than the existing wires, and,
- Additional information on construction and pole design is available in the applications.

Therefore, the Current Proposal would be within the range, or would represent less intensive development than, analyzed in the past EISs for the project.

Environmental Impacts

Chapter 2 of this Environmental Consistency Analysis compares the probable significant environmental impacts under the Current Proposal to the those under the proposals analyzed in the Phase 2 DEIS and FEIS. The following elements of the environment are addressed in this Consistency Analysis: Earth, Water Resources, Plants and Animals, Greenhouse Gases, Environmental Health: Electromagnetic Fields, Environmental Health: Pipeline Safety, Land Use and Housing, Scenic Views and Aesthetics, Historic and Cultural Resources, Recreation, and Economics.

The Environmental Consistency Analysis confirms that the impacts of development under the Current Proposal are within the range of impacts analyzed under the proposals in the past SEPA review, and that there are no significant unavoidable adverse impacts that cannot be mitigated. This is because the Current Proposal is identical in most respects to the FEIS proposal. The differences between the proposals primarily relate to pole placement, tree removal, and details on mitigation provided under the Current Proposal. The impacts under the Current Proposal would generally be similar to or less than those described in the Ph. 2 DEIS and FEIS.

Mitigation Measures

Chapter 3 of this Environmental Consistency Analysis lists the mitigation measures from the FEIS; highlights additional measures from the CUP and Shoreline Exemption application materials; and, notes any further measures recommended through this Environmental Consistency analysis. The measures specified by code are listed as **“Regulatory Requirements”** and would be required. **“Potential Mitigation Measures”** are also listed based on comprehensive plan policies and existing PSE programs, and would be at the discretion of the applicant to adopt or the City of Renton to impose as a condition of project approval.

Minor additions/clarifications to the mitigation measures identified in the FEIS and application materials are recommended based on the Environmental Consistency Analysis.

Conclusion

The Environmental Consistency Analysis confirms that the Current Proposal is within the range of development and probable environmental impacts analyzed in the past SEPA environmental review of the Renton segment of the project, and that there are no significant unavoidable adverse impacts that cannot be mitigated. Minor additions/clarifications to the mitigation measures identified in the 2018 FEIS and in the CUP and Shoreline Exemption application materials are recommended based on the Environmental Consistency Analysis.

Chapter 1

PROJECT FEATURES UNDER
THE PHASE 2 DEIS, FEIS, &
CURRENT PROPOSALS

CHAPTER 1

PROJECT FEATURES UNDER THE PHASE 2 DEIS, FEIS & CURRENT PROPOSALS

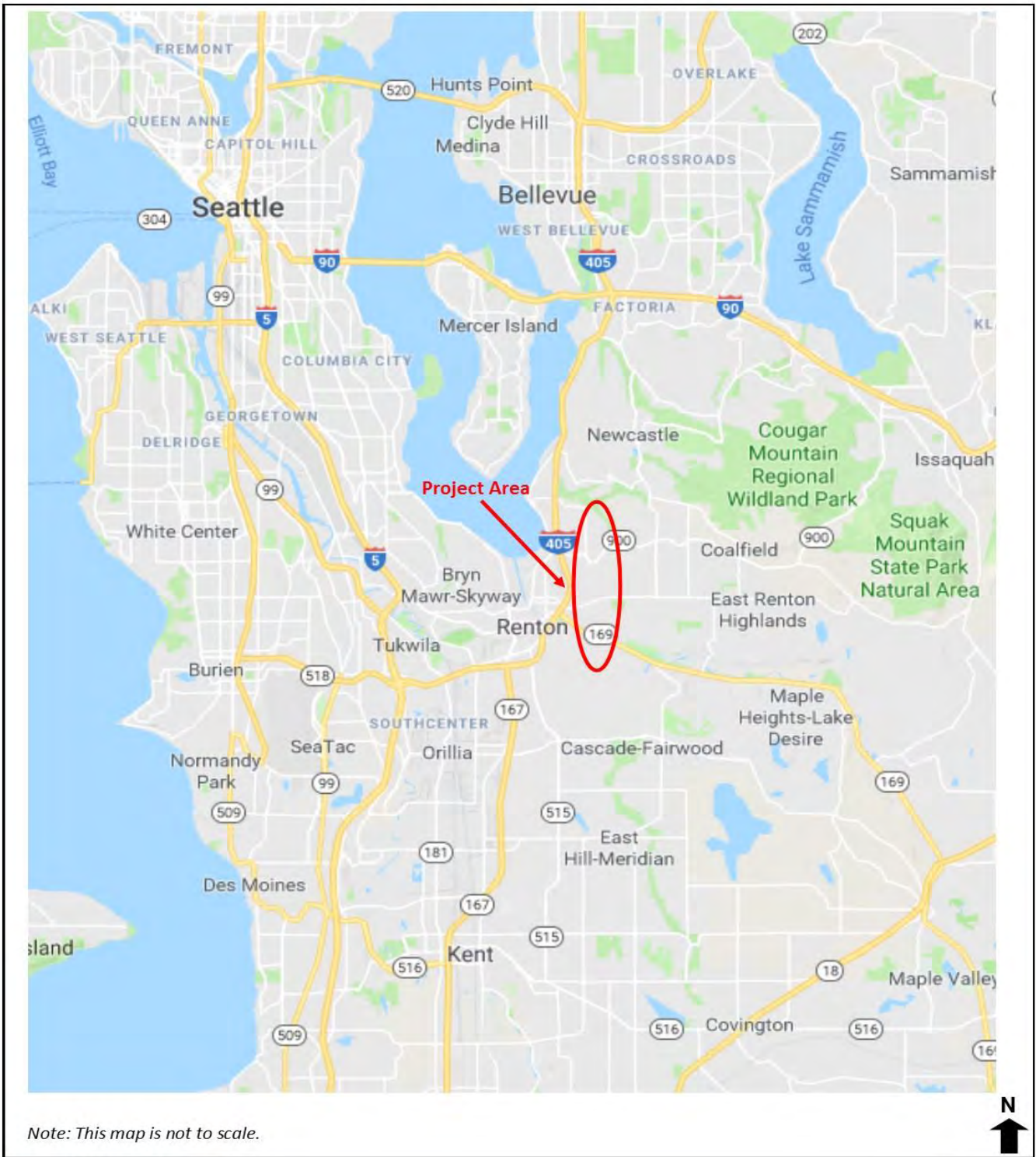
1.1 INTRODUCTION

The Applicant, Puget Sound Energy, Inc. (PSE) is proposing to upgrade approximately four miles of two existing 115 kV transmission lines with two new 230 kV transmission lines in the city of Renton. The Renton PSE upgrade is part of the larger **Energize Eastside Project** that would also occur in the cities of Bellevue, Redmond, and Newcastle, and in unincorporated King County (see **Figure 1-1**, Regional Map, and **Figure 1-2**, Entire Energize Eastside Project). The Renton segment would extend from the city's boundary with Newcastle to the north to PSE's Talbot Hill Substation to the south (see **Figure 1-3**, Renton Segment of Energize Eastside Project). The proposed project would require the replacement of approximately 144 existing wood and steel poles (H-frame design) with approximately 41 steel monopoles of either single-circuit or double-circuit design. Within the Talbot Hill substation, additional breakers and associated controls would be added to accommodate the new line. The upgrade would be entirely within the existing 100-foot wide transmission line corridor.

The existing PSE Eastside transmission lines were installed in the 1960s. Electricity demands in the region have increased over the last 60 years. Based on federally-mandated planning studies, PSE has determined that upgraded transmission lines and a new substation are needed to address deficiencies in electrical transmission capacity in peak periods. These deficiencies are expected because of existing population and employment, and anticipated population/employment growth on the Eastside. During the environmental review process for the project, several commenters questioned the need for the upgrades. Five separate studies performed by four separate parties confirmed the need to address Eastside transmission capacity. Combined with aggressive conservation, the **Energize Eastside Project** is intended to significantly improve reliability for Eastside communities, including the City of Renton, and would supply the additional electrical capacity needed for current and anticipated growth.

The proposed upgrade is located within multiple City of Renton zoning designations, including: Commercial Arterial (CA), Commercial Office Residential (COR), Center Village (CV), Light Industrial (IL), Residential-1 (R-1), Residential-4 (R-4), Residential-6 (R-6), Residential-8 (R-8), Residential-10 (R-10), Residential-14 (R-14), Resource Conservation (RC), and Residential Multi-Family (RM-F). Multiple critical areas are mapped along the project corridor, including: wetlands, streams, steep slopes, landslide hazards, coal mine hazards, seismic, and wellhead protection areas. The Cedar River, a Shoreline of the State, flows across the corridor. The existing transmission lines are co-located with Olympic Pipeline petroleum pipelines for about 0.2 mile at the north end of the corridor, as well as 0.6 mile at the south end of the corridor near the Talbot Hill substation.

**Energize Eastside Project
Environmental Consistency Analysis**

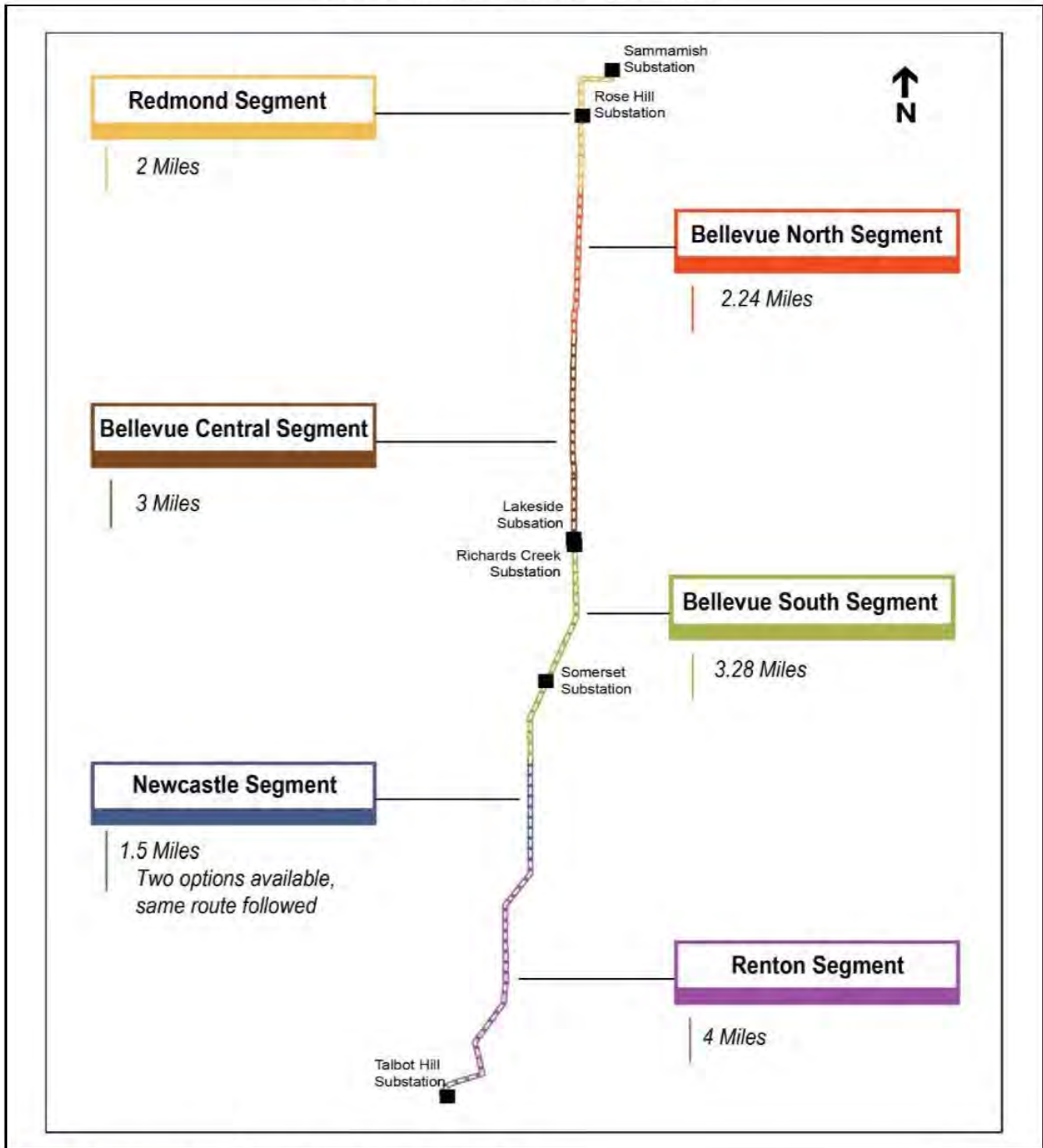


Source: EA Engineering, 2019.



Figure 1
Regional Map

**Energize Eastside Project
Environmental Consistency Analysis**



Source: King County 2015; Ecology 2014; Open Street Map 2016.



Figure 2
Entire Energize Eastside Project

1.2 EIS PROCESS & PERMIT APPLICATIONS

The City of Bellevue and four partner Eastside Cities (Kirkland, Newcastle, Redmond, and Renton) through which the upgraded transmission lines would pass, together with PSE, concluded that the ***Energize Eastside Project*** is likely to have significant adverse environmental impacts on the environment. The Partner Cities jointly conducted environmental review for the project under the State Environmental Policy Act (SEPA). Pursuant to SEPA, a Threshold Determination of Significance was issued on the project on April 30, 2015, in compliance with WAC 197-11-360. Environmental Impact Statements (EISs) were prepared to address the potential for significant environmental impacts from the project. The City of Bellevue assumed the role of lead agency on the EIS, consistent with WAC 197-11-944. Phased environmental review, consistent with WAC 197-11-060 (5) (c), was conducted. Three documents were published, and are described in greater detail below:

- *Energize Eastside Project Phase 1 Draft EIS* (January 28, 2016);
- *Energize Eastside Project Phase 2 Draft EIS* (May 6, 2017); and,
- *Energize Eastside Project Final EIS* (March 1, 2018).

These documents are available for review at Renton City Hall and via download on the City of Renton website – www.rentonwa.gov. Public/agency commenting was invited at each of the EIS scoping stages and for each of the Draft EISs.

Phase 1 DEIS

The ***Energize Eastside Project*** Phase 1 Draft EIS (DEIS) was a programmatic-level evaluation of the potential impacts on the environment of four alternatives, including:

- **No Action Alternative;**
- **Alternative 1 - New Substation and 230 kV Transmission Line** (four options for this alternative were analyzed);
- **Alternative 2 - Integrated Resource Approach;** and,
- **Alternative 3 - New 115 kV Lines and Transformers.**

Impacts on the following environmental elements were analyzed in the Phase 1 DEIS: Earth, Greenhouse Gas (GHG) Emissions, Environmental Health, Plants and Animals, Noise, Land Use and Housing, Views and Visual Resources, Historic and Cultural Resources, Transportation, Recreation, Energy and Natural Resources, and Utilities.

Phase 2 DEIS

The analysis of alternatives in the ***Energize Eastside Project*** Phase 1 DEIS resulted in a narrowing of reasonable alternatives to an overhead transmission line solution. The Phase 2 DEIS contained a project-level review of an overhead transmission line route action alternative and the No Action Alternative:

- **No Action Alternative;** and,
- **Alternative 1 - New Substation and 230 kV Transmission Lines.**

Alternative 1 in the Phase 2 DEIS included three route options in the Bellevue Central Segment and four route options in the Bellevue South Segment. Only one route option was provided for the Redmond, Newcastle, and Renton segments.

The Phase 2 DEIS evaluated the impacts of these alternatives on the following environmental elements: Water Resources, Plants and Animals, GHG Emissions, Environmental Health: Pipeline Safety, Environmental Health: Electromagnetic Fields (EMFs), Land Use and Housing, Scenic Views and Aesthetics, Historic and Cultural Resources, Recreation, and Economics. The following elements of the environment evaluated in the Phase 1 DEIS would not be significantly impacted by the project, and were, therefore, not analyzed in the Phase 2 DEIS: Earth Resources, Public Services, Utilities, Transportation, and Energy and Natural Resources.

FEIS

The ***Energize Eastside Project*** FEIS provided additional project-level evaluation of the impacts of two alternatives:

- **No Action Alternative;** and,
- **PSE's Proposed Alignment: New Substation and 230 kV Transmission Lines.**

The analysis in the FEIS was based on the most recent design details provided by PSE at the time the FEIS was being prepared. In several areas, the design had been refined since publication of the Phase 2 DEIS. For example, new information on pole types and locations was provided throughout the corridor, and more detailed information was provided in some areas where the design was more advanced.

The FEIS evaluated the impacts of these alternatives on the same elements of the environment studied in the Phase 2 DEIS (Water Resources, Plants and Animals, GHG Emissions, Environmental Health: Pipeline Safety, Environmental Health: Electromagnetic Fields, Land Use and Housing, Scenic Views and Aesthetics, Historic and Cultural Resources, Recreation, and Economics). In response to comments on the Phase 2 DEIS, additional information was provided in the FEIS on Earth Resources related to seismic risks.

The FEIS included responses to public and agency comments on both the Phase 1 and Phase 2 DEIS, and will be used by the Partner Cities to support any permit decisions that are required.

Permit Applications

On March 14, 2018, PSE submitted a complete application to the City of Renton (the "**Current Proposal**") for a zoning Conditional Use Permit (CUP) and a Shoreline Exemption. The project will also require utility construction and building permits from the City. If approvals are granted, construction of the Renton segment of the ***Energize Eastside Project*** may begin as early as Summer 2019. It is expected that construction would take between six to nine months

Environmental Consistency Analysis

This Environmental Consistency Analysis has been prepared to confirm that the utility improvements and associated environmental impacts under the Current Proposal represented in the CUP and Shoreline Exemption applications submitted to City of Renton are within the range of alternatives and impacts analyzed in the Phase 2 DEIS and FEIS. The Consistency Analysis also lists the mitigation measures from the FEIS, and any additional measures under the Current Proposal, and recommends further measures to address impacts, as necessary.

EA Engineering Science, and Technology, Inc., PBC (EA) and their sub-consultants prepared this analysis. Below is a list of the EA team and the elements of the environment for which they were responsible:

- **EA** – Overall Consistency Analysis author, Water Resources, Environmental Health: EMF, Environmental Health: Pipeline Safety, Land Use, Aesthetics, Recreation
- **Landau Associates** – Earth, Air Quality
- **Grette Associates** – Plants and Animals
- **Cultural Resource Consultants** – Historic and Cultural Resources
- **ECONorthwest** – Economics

1.3 COMPARISON OF PROJECT FEATURES

The ***Energize Eastside Project*** Environmental Consistency Analysis shows that the Current Proposal would be within the range, or would represent less intensive development, than analyzed in the past EISs for the project, as described below.

The following section of the Environmental Consistency Analysis describes the type and extent of utility construction and other features under the Phase 2 DEIS, FEIS, and Current proposals. The site plan for the Current Proposal is contained in **Appendix A. Table 1-1** summarizes the project features of the previous proposals and compares them to the Current Proposal. Text that is highlighted in red under the Current Proposal represents additions or changes from the 2018 FEIS Proposal. The last column in **Table 1-1** summarizes if there are changes between the Current Proposal and the FEIS Proposal.

**Table 1-1
COMPARISON OF PROJECT FEATURES -
PHASE 2 DEIS, FEIS, & CURRENT PROPOSAL**

Description of Features	May 2017 Ph. 2 DEIS Proposal	Mar. 2018 FEIS Proposal	Current Proposal	Change from FEIS Proposal
1. Start/End	<ul style="list-style-type: none"> Newcastle-Renton Boundary/Talbot Hill Substation 	<ul style="list-style-type: none"> Newcastle-Renton Boundary/Talbot Hill Substation (same as Ph. 2 DEIS) 	<ul style="list-style-type: none"> Newcastle-Renton Boundary/Talbot Hill Substation (same as Ph. 2 DEIS & FEIS) 	No
2. Jurisdiction	<ul style="list-style-type: none"> Renton and a small portion of unincorporated King County 	<ul style="list-style-type: none"> Renton 	<ul style="list-style-type: none"> Renton (same as FEIS) 	No
3. Length of Renton Segment	<ul style="list-style-type: none"> 4.5 miles 	<ul style="list-style-type: none"> 4 miles 	<ul style="list-style-type: none"> 4 miles (same as FEIS) 	No
4. Number of Transmission Line Circuits	<ul style="list-style-type: none"> 2 circuits 	<ul style="list-style-type: none"> 2 circuits (same as Ph. 2 DEIS) 	<ul style="list-style-type: none"> 2 circuits (same as Ph. 2 DEIS & FEIS) 	No
5. Voltage of Circuit Lines	<ul style="list-style-type: none"> 230 kV and high capacity 115kV 	<ul style="list-style-type: none"> 230 kV 	<ul style="list-style-type: none"> 230 kV (same as FEIS) 	No
6. Easement/Property Acquisition	<ul style="list-style-type: none"> Entirely within PSE's existing 100-ft. kV corridor; no easements or property acquisitions necessary 	<ul style="list-style-type: none"> Entirely within PSE's existing 100-ft. kV corridor; no easements or property acquisitions necessary (same Ph. 2 DEIS) 	<ul style="list-style-type: none"> Entirely within PSE's existing 100-ft. kV corridor; no easements or property acquisitions necessary (same as Ph. 2 DEIS & FEIS) 	No
7. Shoreline Jurisdiction	<ul style="list-style-type: none"> Upgrades would be outside 200-ft. Cedar River shoreline jurisdiction The height of the new wires in the shoreline jurisdiction would not change. 	<ul style="list-style-type: none"> Upgrades would be outside 200-ft. Cedar River shoreline jurisdiction (same as Ph. 2 DEIS) The height of the new wires in the shoreline jurisdiction would not change (same as Ph. 2 DEIS) 	<ul style="list-style-type: none"> Upgrades would be outside 200-ft. Cedar River shoreline jurisdiction (same as Ph. 2 DEIS & FEIS) The lowest wires in the shoreline jurisdiction would be 20-30 feet higher than the existing wires. 	Yes
8. Olympic Pipeline	<ul style="list-style-type: none"> Co-located in existing corridor for 0.2 mile. Pipelines leave corridor where it crosses SCL line near Honey Creek Open Space. Pipelines buried on one side (east or west) of corridor 	<ul style="list-style-type: none"> Co-located in northern portion of existing corridor; pipelines buried in the center of corridor. 	<ul style="list-style-type: none"> Co-located in northern portion of existing corridor; pipelines buried in the center of corridor (same as FEIS) 	No

Description of Features	May 2017 Ph. 2 DEIS Proposal	Mar. 2018 FEIS Proposal	Current Proposal	Change from FEIS Proposal
	<ul style="list-style-type: none"> • Poles would be placed in the center of the corridor south of Honey Creek Open Space 	<ul style="list-style-type: none"> • Poles would be placed with one on either side of the pipelines. 	<ul style="list-style-type: none"> • Poles would be placed with one on either side of the pipelines (same as FEIS) 	
<p>9. Single-Circuit Steel Pairs</p> <ul style="list-style-type: none"> • <i>Location</i> • <i>Pole Replacement</i> • <i>Typical Height</i> • <i>Maximum Height</i> • <i>Clearing for Vegetation over 15' in Height</i> • <i>SCL Crossing May Require Wires and Structures to be Raised, and Lattice Towers Replaced with Monopoles</i> 	<ul style="list-style-type: none"> • Existing corridor north of Honey Creek Open Space • Approx. 12 existing wooden H-frames replaced with approx. 6 pairs of single-circuit 230 kV/115kV steel monopoles • 85' (existing 55') • 125' (existing 93') • 16' from outside transmission wire • Yes 	<ul style="list-style-type: none"> • Existing corridor north of Honey Creek Open Space (same as Ph. 2 DEIS) • Approx. 22 existing wooden H-frames replaced w/ approx. 11 pairs of single-circuit 230kV steel monopoles • 50-84' • 50-94' • 16' from outside transmission wire (Same as in Ph. 2 DEIS) • Yes (Same as in Ph. 2 DEIS) 	<ul style="list-style-type: none"> • Existing corridor north of Honey Creek Open Space (same as Ph. 2 DEIS & FEIS) • Approx. 22 existing wooden H-frames replaced w/ approx. 11 pairs of single-circuit 230kV steel monopoles (same as FEIS) • 50-84' (same as FEIS) • 50-94' (same as FEIS) • 16' from outside transmission wire (same as Ph. 2 DEIS & FEIS) • Yes (same as in Ph. 2 DEIS & FEIS) 	No
<p>10. Double-Circuit Steel Monopoles</p> <ul style="list-style-type: none"> • <i>Location</i> • <i>Pole Replacement</i> • <i>Typical Height</i> • <i>Maximum Height</i> • <i>Clearing for Vegetation over 15' in Height</i> 	<ul style="list-style-type: none"> • Existing corridor south of Honey Creek Open Space. • Approx. 69 wooden H-frames replaced with approx. 46 double-circuit 230kV/115 kV steel monopoles. • 90' (existing: 55') • 125' (existing: 93') • 16' from outside transmission wire 	<ul style="list-style-type: none"> • Existing corridor south of Honey Creek Open Space (Same as Ph. 2 DEIS) • Approx. 48 wooden H-frames replaced w/ approx. 27 double-circuit 230 kV steel monopoles. • 94' • 118' • 16' from outside transmission wire (Same as Ph. 2 DEIS) 	<ul style="list-style-type: none"> • Existing corridor south of Honey Creek Open Space (same as Ph. 2 DEIS & FEIS) • Approx. 48 wooden H-frames replaced w/ approx. 27 double-circuit 230 kV steel monopoles (same as FEIS). • 94' (same as FEIS) • 118' (same as FEIS) • 16' from outside transmission wire (same as Ph. 2 DEIS & FEIS) 	No

Description of Features	May 2017 Ph. 2 DEIS Proposal	Mar. 2018 FEIS Proposal	Current Proposal	Change from FEIS Proposal
<ul style="list-style-type: none"> • <i>Number of Poles Required at Talbot Hill Substation for Dead-End Structures</i> • <i>SCL Crossing May Require Wires and Structures to be Raised, and Lattice Towers Replaced with Monopoles.</i> 	<ul style="list-style-type: none"> • 2 poles • Yes 	<ul style="list-style-type: none"> • 2 (Same as Ph. 2 DEIS) • Yes (Same as Ph. 2 DEIS) 	<ul style="list-style-type: none"> • 2 (same as Ph. 2 DEIS & FEIS) • Yes (same as Ph. 2 DEIS & FEIS) 	

Source: 2017 Ph. 2 DEIS, 2018 FEIS, and PSE, 2019.

SCL = Seattle City Light

1.4 CONCLUSION

In conclusion, the type of use (electrical utility upgrade) under the Current Proposal would be identical to the type of use assumed in the Phase 2 DEIS and FEIS for the Renton segment of the ***Energize Eastside Project***. The level of development under the Current Proposal would be similar to or less than the levels of development assumed under the proposals in the past SEPA review, and would be almost identical to the FEIS Proposal. The Current Proposal would upgrade approximately 4 miles of two existing 115 kV transmission lines with two 230 kV transmission lines, requiring the replacement of approximately 144 existing wood and steel poles (H-frame design) with approximately 41 steel monopoles of either single-circuit or double-circuit design. Within the Talbot Hill substation, additional breakers and associated controls would be added to accommodate the new lines.

Key similarities between the Current Proposal and the Phase 2 DEIS and FEIS proposals include:

- The upgrade would follow the same general route and would be entirely located within PSE's existing 100-foot corridor;
- Proposed pole replacement locations would generally be in the same locations as the existing pole locations;
- There would be fewer replacement poles than existing poles;
- Replacement poles would be taller and larger in diameter than existing poles; and,
- Proposed pole replacement would be outside the 200-foot Cedar River shoreline jurisdiction.

Key differences between the Current Proposal and the Phase 2 DEIS and FEIS proposals include:

- Fewer poles would be removed under the Current Proposal than in the Phase 2 DEIS, but the same number as in the FEIS;
- Fewer poles would be replaced under the Current Proposal than in the Phase 2 DEIS, but the same number as in the FEIS;
- The lowest wires in the shoreline jurisdiction would be 20-30 feet higher than the existing wires; and,
- Additional information on construction and pole design is available in the CUP permit and Shoreline exemption applications.

Therefore, the Current Proposal would be within the range, or would represent less intensive development, than analyzed in the past EISs for the project.

Chapter 2

ENVIRONMENTAL IMPACTS
UNDER THE PHASE 2 DEIS,
FEIS, & CURRENT PROPOSALS

CHAPTER 2

ENVIRONMENTAL IMPACTS UNDER THE PH. 2 DEIS, FEIS, & CURRENT PROPOSALS

2.1 COMPARISON OF IMPACTS

The *Energize Eastside* Environmental Consistency Analysis confirms that the impacts of development under the Current Proposal are within the range of impacts analyzed under the proposals in the past SEPA review, and that there are no significant unavoidable adverse impacts that cannot be mitigated, as described below.

This section of the Consistency Analysis compares the probable significant impacts under the Phase 2 DEIS, FEIS, and Current proposals. **Table 2-1** summarizes the significant impacts of the proposals documented in the 2017 Phase 2 DEIS and 2018 FEIS and compares these impacts with those under the Current Proposal described in the CUP and Shoreline Exemption application materials. The terms “less-than-significant” and “significant” are used in **Table 2-1** to describe impacts. These terms relate to less than a moderate potential and more than a moderate potential for impacts, respectively. The specific meaning of “less-than-significant” and “significant” varies for each element of the environment and is described in the Phase 2 DEIS and FEIS. Text that is highlighted in grey under the Current Proposal represents additional information on the Current Proposal. Text in red indicates changes in impacts from the FEIS.

**Table 2-1
COMPARISON OF IMPACTS – PH. 2 DEIS, FEIS & CURRENT PROPOSAL**

	May 2017 Ph. 2 DEIS Proposal	Mar. 2018 FEIS Proposal	Current Proposal	Less-Than-Significant/ Significant Impact
3.1 EARTH				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> • Construction would require vegetation clearing and excavation, which could temporarily increase erosion.¹ Approx. 81 H-frames would be replaced with 6 single circuit pairs and 46 double circuit monopoles • Construction could involve grading and installation of infrastructure in geotechnical hazard areas (e.g., steep slopes, landslide, coal mine, and seismic hazards).¹ • An earthquake could occur during construction, resulting in slope failures, liquefaction, ground settlement, or equipment destabilization.¹ • Vibration from construction equipment could damage nearby structures.¹ • Construction could result in impacts to Olympic Pipelines from contact, vibration, or erosion.¹ 	<ul style="list-style-type: none"> • Less than Ph. 2 DEIS because less clearing/ excavation for fewer poles removed and replaced (approx. 70 H-frames would be replaced with 11 single circuit pairs and 27 double circuit monopoles). • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as FEIS. Approx. 177,500 sq. ft of land disturbance and 450 to 650 CY of excavation would be required. • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • With implementation of BMPs, impacts would be less-than-significant. Additional information on construction mitigation measures is provided for the Current Proposal. • With geotechnical evaluation and appropriate construction specifications, impacts would be less-than-significant. • The likelihood of an earthquake coinciding with construction would be low; therefore, less-than-significant impacts are expected. • Less-than-significant impacts expected. • With existing regulations and PSE practices, impacts would be less-than-significant.
<i>Operational Impacts</i>	<ul style="list-style-type: none"> • Seismic activity and associated shaking and liquefaction are likely during life of project and could cause damage, power outages, and life safety concerns.¹ 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • With implementation of NESC standards, geotechnical recommendations, and regulatory requirements, impacts would be less-than-significant.

	<ul style="list-style-type: none"> Reuse of unstable or unsuitable soils could cause damage or corrosion of new facilities.¹ 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> With geotechnical investigations and recommendations, impacts would be less-than-significant.
<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> The entire region is seismically active and could be at risk from shaking and liquefaction.¹ 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> With implementation of NESC standards, geotechnical recommendations, and regulatory requirements, impacts would be less-than-significant.
3.2 WATER RESOURCES				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> Construction would require vegetation clearing and excavation, which could temporarily increase erosion and sedimentation of nearby water resources (e.g., four stream reaches including the Cedar River, and one wetland). Pole installation could encounter shallow groundwater requiring dewatering. Groundwater contamination could occur. Contamination of water resources could occur from accidental spills and leaks. Portions of the segment are within Zone 2 of Renton's Wellhead Protection Area. Installation of poles and increases in impervious surfaces could impact groundwater. 	<ul style="list-style-type: none"> Less impacts on water resources than Ph. 2 DEIS because less clearing/ excavation for fewer poles removed and replaced. (see Section 3.1, Earth, for details on pole replacement) Less than Ph. 2 DEIS, as fewer poles would be installed. Same as Ph. 2 DEIS Less than Ph. 2 DEIS, as fewer poles would be installed. 	<ul style="list-style-type: none"> Six wetlands were identified. However, impacts on water resources would be the same as FEIS. Same as FEIS Same as Ph. 2 DEIS and FEIS Same as FEIS. Approx. 969 sq. ft. of new impervious surfaces would be installed. 	<ul style="list-style-type: none"> With implementation of BMPs, impacts would be less-than-significant. Additional information on construction mitigation measures is provided for the Current Proposal. Excavated areas would be small, so dewatering would be minimal, and impacts would be less-than-significant. With implementation of a spill prevention plan, impacts would be less-than-significant. Through compliance with the City's construction standards, impacts would be less-than-significant.
<i>Operational Impacts</i>	<ul style="list-style-type: none"> The transmission line would cross three creeks and the Cedar River in the existing 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Through compliance with applicable critical area regulations, impacts would be

	<p>corridor. No poles would be placed in the streams or their buffers. The crossings would not cause long-term impacts to streams and no impacts to buffers.</p> <ul style="list-style-type: none"> No poles would be placed in wetlands. One new pole would be placed in a Category III wetland buffer. Impacts would be minor. New poles and access roads would result in minor increases in stormwater runoff and erosion. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Similar to the Ph. 2 DEIS and FEIS. One new pole would be located in the outer buffer of Wetland NR02 and there would be larger footprints from the Lake Tradition Line replacement poles in the Talbot wetland buffer. Two existing poles would be removed from the overlapping buffers of Wetlands NRO1 and NRO5. Same as Ph. 2 DEIS and FEIS 	<p>less-than-significant. A critical areas mitigation plan is provided for the Current Proposal.</p> <ul style="list-style-type: none"> Through compliance with applicable critical area, impacts would be less-than-significant. Through compliance with applicable stormwater regulations, impacts would be less-than-significant.
<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> The project is not expected to contribute to indirect or direct impacts to water resources resulting from other projects; therefore, no cumulative impacts are expected. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.
3.3 PLANTS & ANIMALS				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> Loss or disturbance of plants and habitat would occur during construction activities. Impact levels would depend largely on pole placement. <ul style="list-style-type: none"> Total trees removed: 350 Significant trees removed: 250 Trees removed from critical areas: 3 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Fewer trees would be removed than Ph. 2 DEIS and FEIS. Total trees removed: 339 Significant trees removed: 238 confirmed (significance of 4 trees could not be determined) 	<ul style="list-style-type: none"> Less-than-significant because the segment would be located in the existing corridor, construction BMPs would be implemented, and disturbed areas would be replanted with native vegetation. A critical areas mitigation plan is provided for the Current Proposal.

	<ul style="list-style-type: none"> - Trees removed from critical area buffers: 38 (see 3.2, Water Resources, regarding pole placement in critical areas). <ul style="list-style-type: none"> • No impacts to terrestrial protected species are expected because none are known to inhabit the study area. Protected fish species occur in Cedar River; however, stream habitat would not be affected by the project. • Wildlife could be temporarily disturbed by noise from ground-clearing activities. • Discriminating use of growth regulators and herbicides for vegetation management would be used in accordance with existing permits and associated BMPs. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> - Trees removed from critical areas: 0 - Trees removed from critical area buffers: 47 (22 trees in stream buffers and 25 trees in wetland buffers (trimming of trees could also be required)). <ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected. • Less-than-significant impacts expected. • Less-than-significant impacts expected.
<i>Operational Impacts</i>	<ul style="list-style-type: none"> • Minor disturbance or loss of habitat would result through routine vegetation maintenance activities and facility maintenance. • Loss of wildlife habitat would occur due to tree removal, trimming and management activities. • Fish habitat would be lost or degraded due to removal of trees in critical areas and their buffers. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts because the basic character and functions of the habitat in the corridor would be maintained. • Less-than-significant impacts because few protected wildlife species regularly occur in the study area. • Less-than-significant impacts expected.

<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> Development increases the likelihood of impacts to fish and wildlife habitat. The project would contribute to urbanization through the removal of trees and a reduction of fish and wildlife habitat. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.
3.4 GREENHOUSE GASES				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> Construction truck trips, off-road equipment, and worker trips would temporarily generate GHG emissions. There is also a potential for lifecycle emissions from manufacturing and transport of material resources for the project. 	<ul style="list-style-type: none"> Similar to Ph. 2 DEIS 	<ul style="list-style-type: none"> Similar to Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts because GHG emissions would be temporary, would not represent a continuing burden on the statewide inventory, and would likely be below state reporting thresholds.
<i>Operational Impacts</i>	<ul style="list-style-type: none"> Removal of trees and vegetation would result in 7.1 metric tons of CO_{2e} per year in sequestration losses. Employee vehicle trips to maintain the new facilities would increase GHG emissions. 	<ul style="list-style-type: none"> Tree removal would result in 7.5 metric tons of CO_{2e} per year in sequestration losses. Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Less CO_{2e} sequestration losses expected than Ph. 2 DEIS and FEIS, because fewer trees would be removed (see Section 3.3, Plants and Animals, for details on tree removal). Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> GHG emissions would be substantially below the State of Washington reporting threshold of 10,000 metric tons, and, therefore, less-than-significant. Less-than-significant impacts expected.
<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> GHGs are a component of cumulative climate change impacts; both the construction and operational impacts reflect cumulative impacts. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.
3.5 ENVIRONMENTAL HEALTH: EMF				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> Magnetic fields from construction equipment would be indistinguishable from background levels for 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.

	the public outside of the construction sites.			
<i>Operational Impacts</i>	<ul style="list-style-type: none"> • All parts of the project would have associated magnetic fields during operation and would vary depending on the pole type and electrical load. • Operation of the proposed transmission line would result in a decrease in magnetic field levels compared to existing conditions. • There are no known health effects from pole frequency EMF. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected. • Less-than-significant impacts expected. • The calculated magnetic fields levels would be well below industry guidelines, and, therefore, less-than-significant.
<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> • The project would reduce magnetic fields along existing corridors; therefore, there would be no cumulative effects. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected.
3.6 ENVIRONMENTAL HEALTH: PIPELINE SAFETY				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> • During construction, the Olympic Pipelines would be exposed to an increased risk of damage from outside force/excavation. • The possibility of pipeline damage could occur from excavation activities and/or surcharge loading from construction equipment. In this unlikely event, a damaged pipeline could result in an immediate or subsequent release or fire that could place the public, workers, natural resources, and other elements of the environment at risk. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant because the change in risk would not be substantial. • Less-than-significant because the change in risk would not be substantial and mitigation would reduce the potential for impacts further.

	Potential impacts could be significant if such an unlikely event were to occur.			
<i>Operational Impacts</i>	<ul style="list-style-type: none"> • The probability of a pipeline incident -- such as damage to a pipe wall -- due to electrical interference could be slightly higher in some locations. The likelihood of pipeline rupture and fire would remain low, and no substantial change in risk was identified. • Impacts to natural resources and other elements of the environment could be significant in the unlikely event that an accidental release or fire were to occur. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • In locations where pipeline incidents could occur, testing, monitoring, engineering analysis, and implementation of mitigation measures would lower these risks, and impacts would be less-than-significant. • The likelihood of pipeline rupture and release would be low, and mitigation would reduce the risk further. Therefore, the potential risk to natural resources and other elements of the environment would be less-than-significant.
<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> • Activities by other parties unrelated to the projects may occur in the corridor on occasion. While these activities remain a source of potential pipeline safety risk in the corridor, the project would not contribute to adverse impacts from these activities; therefore, no cumulative impact to environmental health from pipeline safety would occur. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected.
3.7 LAND USE & HOUSING				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> • Construction impacts, due to their temporary nature, would be less-than-significant. No significant excavation would be required, access to 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impact expected.

	adjacent land uses would be maintained, and installation would not create significant noise.			
<i>Operational Impacts</i>	<ul style="list-style-type: none"> • The project would be consistent with applicable City of Renton land use-related policies. • The project would not impact existing or future land use patterns in the Renton segment (primarily in single-family uses). It would use the existing corridor and not require new easements from adjoining properties. • The project would cross shorelines of the state associated with the Cedar River. Replacement of poles would be outside the 200-ft. shoreline jurisdiction, and the aerial wire crossing 200 ft. above the river would not require any disturbance within the shoreline jurisdiction. The project would be allowable through the approval of a Shoreline Conditional Use Permit. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS. • Similar to Ph. 2 DEIS. However, because the project qualifies as repair/maintenance, a Shoreline Exemption is being sought. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as FEIS. 	<ul style="list-style-type: none"> • Less-than-significant impacts expected. • Less-than-significant impacts expected. • Less-than-significant impacts expected.
<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> • The project is not expected to alter land use or the supply of housing. It would not affect the scale of additional development. However, if the project were not constructed, it could slow the rate of additional development on the Eastside. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected.

3.8 SCENIC VIEWS & AESTHETICS

<p><i>Construction Impacts</i></p>	<ul style="list-style-type: none"> • Construction impacts, due to their temporary nature, would be less-than-significant. Areas cleared for construction activities would be replanted post-construction; the presence of construction vehicles, equipment, materials, and personnel would end; and increased light and glare would be reduced. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected.
<p><i>Operational Impacts</i></p>	<ul style="list-style-type: none"> • Visual quality could change due to contrast of structures with the natural and built environment from vegetation removal, incompatibility with surrounding environment, and visual clutter. • Scenic views could be obstructed by increased pole height or placing poles in new locations. Groups with the highest viewer sensitivity are residential viewers and users of recreation areas. Proposed poles would be taller than (up to 125' vs. 93') and greater in diameter than existing poles. 	<ul style="list-style-type: none"> • Less than Ph. 2 DEIS, because fewer existing poles would be removed and replaced (see Section 3.1, Earth, for details on pole removal/ replacement). • Less than Ph. 2 DEIS, because poles would be shorter (up to 118' proposed vs up to 93' existing). 	<ul style="list-style-type: none"> • Same as FEIS • Same as FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected. Additional information on pole design/mitigation (e.g., surface treatments) is provided for the Current Proposal. • Less-than-significant impacts expected.
<p><i>Cumulative Impacts</i></p>	<ul style="list-style-type: none"> • Development would increase the likelihood of impacts to scenic views and the aesthetic environment. The project would not affect the overall scale of development but if the project were not constructed, it could slow the rate of development on the Eastside. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected.

3.9 HISTORIC & CULTURAL RESOURCES

<p><i>Construction Impacts</i></p>	<ul style="list-style-type: none"> Construction impacts on historic and cultural resources, due to their temporary nature, would be less-than-significant. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.
<p><i>Operational Impacts</i></p>	<ul style="list-style-type: none"> Potential impacts to significant historic resources and protected archaeological resources could result from pole replacement, ground disturbance, demolition, relocation, or alterations to the visual setting of resources. Potential impacts to unevaluated historic resources will be determined when the historic property inventory is conducted. Significant impacts to these resources could occur, although not all are likely to be eligible for listing. 	<ul style="list-style-type: none"> Less than Ph. 2 DEIS, because fewer existing poles would be replaced and poles would be shorter. Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as FEIS. An historic property inventory has been prepared and an archaeological survey has been conducted. 118 historic properties were identified, 6 of which were recommended eligible for historic registers; one historic district is present; and, one archaeological resource was found that could be impacted by the proposed project. Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Through consultation with DAHP, USACOE, King County Historic Preservation Program, City of Renton, affected Tribes, and other stakeholders, less-than-significant impacts are expected. Through consultation with DAHP, USACOE, King County Historic Preservation Program, City of Renton, affected Tribes, and other stakeholders, less-than-significant impacts are expected.
<p><i>Cumulative Impacts</i></p>	<ul style="list-style-type: none"> Development increases the potential for impacts to historic and cultural resources, if present where development could occur. Impacts to below-ground archaeological resources could occur during ground disturbance. Impacts to historic resources could occur from demolition or alterations to the setting. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.

3.10 RECREATION

<p><i>Construction Impacts</i></p>	<ul style="list-style-type: none"> • Construction activities may result in the temporary loss of the use of a recreation site (e.g., Sierra Heights Park, Honey Creek Open Space, and Cedar River Natural Zone). • Construction activities may decrease the enjoyment of a recreation site. • Trees and vegetation may be temporarily removed within the managed right-of-way adjacent to recreation sites. • Construction workers may use parking space or adjacent streets for parking. Recreation site or facilities may be used for temporary construction staging. 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected. • Less-than-significant impacts expected. • With restoration of vegetation, less-than-significant impacts are expected. • Less-than-significant impacts expected.
<p><i>Operational Impacts</i></p>	<ul style="list-style-type: none"> • Park user experience may change with replacement poles that are taller and/or in different location than existing poles. However, there would be fewer replacement poles than existing poles. • Park user experience could be negatively impacted by tree removal in some recreation areas. • The magnitude of impacts would vary depending on location of poles and number of trees removed. Impacts on park uses would not be significant in any location. 	<ul style="list-style-type: none"> • Less than Ph. 2 DEIS, because poles would be shorter, but still taller than existing poles (e.g., in Sierra Heights Park, Honey Creek Open Space, and Cedar River Natural Zone). • Same as Ph. 2 DEIS. • Similar to Ph. 2 DEIS. 	<ul style="list-style-type: none"> • Same as FEIS, except that poles in the Honey Creek Opens Space would be 5 ft. shorter than in FEIS. • Same as Ph. 2 DEIS and FEIS • Less than Ph. 2 DEIS and FEIS, because fewer trees would be removed (see Section 3.3, Plants and Animals, for details on tree removal). 	<ul style="list-style-type: none"> • Less-than-significant impacts expected. • Less-than-significant impacts expected. • Less-than-significant impacts expected.
<p><i>Cumulative Impacts</i></p>	<ul style="list-style-type: none"> • In general, there is pressure on recreation areas from development and increased 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> • Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> • Less-than-significant impacts expected.

	use. The significant impacts to recreation sites could contribute to the degradation of existing recreation resources and limit the ability for municipalities to provide additional recreation opportunities, unless mitigation is provided.			
3.11 ECONOMICS				
<i>Construction Impacts</i>	<ul style="list-style-type: none"> No impacts are expected; the economic aspects of the project would not relate to construction impacts. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.
<i>Operational Impacts</i>	<ul style="list-style-type: none"> Undergrounding transmission lines would potentially cost the community. The burden on a very small number of payees would be considerable, while the cost when shared would be less. With loss of tree cover, and associated ecosystem services, the natural environment would be less able to reduce air pollutants and stormwater runoff and sequester carbon dioxide 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS Similar to Ph. 2 DEIS. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS Less than Ph. 2 DEIS and FEIS, because fewer trees would be removed (see Section 3.3, Plants and Animals, for details on tree removal). 	<ul style="list-style-type: none"> Less-than-significant impacts are expected if the cost of undergrounding transmission lines is shared. Less-than-significant impacts expected.
<i>Cumulative Impacts</i>	<ul style="list-style-type: none"> Property values would likely rise with growth and development; the project could also contribute to the combined loss of ecosystem services, in combination with other development projects in the area. 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS 	<ul style="list-style-type: none"> Same as Ph. 2 DEIS and FEIS 	<ul style="list-style-type: none"> Less-than-significant impacts expected.

Source: 2017 Ph. 2 DEIS, 2018 FEIS, and PSE, 2019.

¹The Ph. 2 DEIS did not include an Earth section because impacts were expected to be less-than-significant. The impacts listed here are from the Phase 1 DEIS.

2.2 SUMMARY OF IMPACTS

Due to the nature of the impact, level of impact, and/or through compliance with federal, state and local regulations, policies or programs, impacts of the Current Proposal on the environment are expected to be similar to or less than the impacts described for the FEIS Proposal. As described in the previous EISs, the impacts of the project are expected to be less-than-significant for all the elements of the environment that were studied. Probable impacts are compared in **Table 2-1** and are briefly discussed for each element of the environment below.

Earth

The Renton segment crosses multiple geological hazard areas (including landslide hazard, steep slope, and erosion hazard areas). Seismic hazard areas (including ground shaking and earthquake induced soil liquefaction) are also present along the segment.

Similar to the Phase 2 DEIS and FEIS Proposals, construction and operation of the Current Proposal would not completely avoid impacts to geologic hazard areas due to the prevalence of these features in the project area. Furthermore, pole replacement activities associated with the transmission line upgrade must occur in specific locations for proper functioning of the electrical system, and pole placement in some geological hazard areas would be unavoidable. Like the FEIS Proposal, fewer poles would be removed and replaced under the Current Proposal than under the Phase 2 DEIS Proposal, which would reduce the potential for impacts on earth resources. Through proper engineering (including geotechnical engineering); compliance with applicable local critical area regulations and relevant state and local codes, including National Electric Safety Code (NESC) standards; and, implementation of BMPs during construction, impacts on earth resources would be less-than-significant.

Water Resources

The Renton segment crosses four stream reaches: Cedar River, Honey Creek, Ginger Creek, and an unnamed tributary of the Cedar River. Six wetlands and Zone 2 Wellhead Protection Areas are also present in the project area.

Similar to the Phase 2 DEIS and FEIS Proposals, construction and operation of the Current Proposal could impact the quantity and quality of surface water and groundwater resources (e.g., from contaminants generated during construction and an increase in impervious surfaces and associated stormwater runoff with development). In terms of direct impacts on water resources, no poles would be placed in wetlands, streams, or stream buffers; one pole would be placed in a wetland buffer; there would be larger pole-base footprints in a wetland buffer; and, two existing poles would be removed from overlapping wetland buffers. Like the FEIS Proposal, fewer poles would be removed and replaced under the Current Proposal than under the Phase 2 DEIS Proposal which would reduce the potential for impacts on water resources. Through compliance with applicable

critical area and stormwater regulations, and implementation of BMPs during construction, impacts on water resources would be less-than-significant.

Plants and Animals

The Renton segment follows PSE's existing corridor which largely consists of landscaped or maintained areas. Much of the existing corridor includes substantially modified fish and wildlife habitat. No protected plant or terrestrial wildlife species are present in the Renton segment; four protected fish species (Chinook salmon, steelhead, bull trout, and lamprey) occur in the Cedar River which crosses the segment. A total of 574 trees were assessed for the tree inventory of the study area; 367 of these trees are considered "significant" and seven trees are considered "landmark" by the City of Renton.

Under the Current Proposal, a maximum of 339 trees would be removed, 238 of which are considered significant trees. No landmark trees and no trees in critical areas would be removed. Fewer trees overall and fewer significant trees would be removed under the Current Proposal than under the Phase 2 DEIS and FEIS Proposals. More trees in critical area buffers would be removed than under the previous proposals. No poles would be placed in streams or stream buffers and only one pole in the Renton segment would be installed in a wetland buffer. Similar to the Phase 2 DEIS and FEIS Proposals, there are no significant unavoidable impacts to plants and animals that cannot be mitigated under the Current Proposal. Impacts would be minimized by using the existing transmission line corridor, limiting disturbance, implementing BMPs, and installing transmission lines between poles with minimal site disturbance. The project would meet or exceed City of Renton regulations on tree removal and replacement, as well as federal transmission line operational standards. Most of the trees in the existing corridor are ornamental and associated with existing property usage; therefore, their removal would not represent a significant impact on native plant and animal habitat. The Current Proposal's impacts on plants and animals are expected to be less-than-significant and would generally be less than described in the Phase 2 DEIS and FEIS, as fewer trees/significant trees/trees in critical areas would be removed.

GHG Emissions

Existing GHG emissions in the Renton segment are associated with vegetation maintenance/removal, fuel use by construction-related trucks and equipment, fuel use by maintenance vehicles, and fugitive emissions from substation equipment using sulfur hexafluoride (SF6, a GHG) as an insulating gas.

Like the Phase 2 DEIS and FEIS Proposals, GHG impacts were determined to be less-than-significant under the Current Proposal. Carbon dioxide equivalent (CO_{2e}) emissions would be lower under the Current Proposal than under the previous proposals because fewer trees would be removed and more GHGs would remain sequestered. Based on the information provided for the Current Proposal, the GHG impacts associated with short-term/construction and long-term/operation would be roughly equivalent to or slightly less than evaluated in the Phase 2 DEIS or the FEIS.

Environmental Health – EMF

Existing magnetic fields in the study area for the Renton segment are associated with PSE transmission lines and substations. Maximum magnetic fields were calculated along the existing Renton segment. These levels were well below industry standards.

Like the Phase 2 DEIS and FEIS Proposals, impacts from magnetic fields generated by the Current Proposal are expected to be less-than-significant. All parts of the project would have associated magnetic fields during operation. However, operation of the Current Proposal would result in a decrease in magnetic field levels compared to existing conditions. There are no known health effects from pole frequency EMF.

Environmental Health – Pipeline Safety

The Olympic Pipeline is located within the existing PSE corridor and surrounding area. Two petroleum pipelines are currently co-located with PSE facilities in the northern portion of the Renton segment.

As described for the DEIS and FEIS Proposals, construction of the Current Proposal would expose the Olympic Pipeline to an increased potential for risk of damage. A damaged pipeline could possibly result in a petroleum release or fire that could place the public, workers, natural resources and other elements of the environment at significant risk. During operation of the Current Proposal, electrical interference could possibly cause pipeline rupture and the associated significant risks of petroleum release or fire, depending on the nature of the soils. Similar to the Phase 2 DEIS and FEIS Proposals, this interference and associated risks could be slightly higher during operation of the Current Proposal than under existing conditions. However, given that the likelihood of these incidents is considered low, and with implementation of regulatory requirements and mitigation measures, impacts on pipeline safety would be less-than-significant.

Land Use & Housing

Existing land uses in the Renton segment include single family residential, vacant land, and transportation facilities. Future uses in the segment are expected to be single and multi-family residential, mixed-use, and industrial. There are 11 zoning districts and several neighborhoods through which the segment passes. Shoreline High Intensity and Urban Conservancy Environments are present in the segment (e.g., associated with the Cedar River).

New land uses and development along the Renton segment are regulated by the City of Renton's development regulations and Shoreline Master Program. Like the Phase 2 DEIS and FEIS Proposals, the Current Proposal's impacts on land use and housing along the segment are expected to be less-than-significant. Specifically, the zoning districts in the study area allow electrical utility facilities as a conditional use and the Current Proposal is consistent with City of Renton land use-related plans; the Current Proposal would not impact existing or future land use patterns; and, the proposal

would not remove or impact existing housing. Like the Phase 2 DEIS and FEIS Proposals, the Current Proposal would occur within the existing PSE corridor and would not require new easements from adjoining properties. The project would pass through the Shoreline High Intensity and Urban Conservancy Shoreline Environments, but poles would not be placed within the shoreline zone. Because the Current Proposal is considered required maintenance and repair, a Shoreline Exemption would be required. No adverse effects to the shoreline or shorelines uses are anticipated; therefore, shoreline impacts would be less-than-significant. The Current Proposal is consistent with land use policies from the City of Renton Comprehensive Plan (2015) (e.g., Policy L-55 related to preserving features that contribute to the City’s identity and define neighborhoods, and Policy L-56 related to providing landscaping).

Scenic Views & Aesthetics

The visual character of the Renton segment is defined by rolling topography, some steeper ravines and stands of trees along Honey Creek and Cedar River, and a mix of land uses (see above under *Land Use*). Areas with generally high visual quality include residential areas, Honey Creek and Cedar River, and less disturbed natural areas in King County along the corridor. Scenic views along the corridor include views of the Olympics and Cascades, and near Talbot Hill of Mt. Rainier, Lake Washington, and Cedar River.

Impacts to scenic views and the aesthetic environment under the Current Proposal would be less-than-significant and would be similar to or less than the impacts under the Phase 2 DEIS and FEIS Proposals. Although the Current Proposal’s new poles would typically be taller and larger in diameter than existing poles, the segment would be located entirely within PSE’s existing corridor, resulting in low contrast with existing conditions. Overall viewer sensitivity is considered low because development in the areas has already occurred around the existing transmission lines. The degree of additional obstruction of scenic views would be minimal compared with existing conditions. Like the FEIS Proposal, fewer poles would be removed and replaced under the Current Proposal than the Phase 2 DEIS Proposal which would reduce the potential for scenic view and aesthetic impacts. The Current Proposal is consistent with aesthetic and view policies from the City of Renton Comprehensive Plan (2015) (e.g., Policy L-47 related to maintaining Renton’s natural beauty, and Policy L-54 related to protecting public scenic views and view corridors).

Historic & Cultural Resources

Based upon the results of the archaeological and historic resource surveys, the following historic and cultural resources are located in the Renton study area: one archaeological site, 117 individual historic inventory properties, and one historic district (the Eastside Transmission System).

No impacts to the archaeological site are anticipated because all proposed pole replacements would be well removed from the site. Five of the individual historic inventory properties are recommended eligible for listing in the National Register of Historic Places (NRHP) under Criterion C for their architectural character. However, the transmission corridor predates each of these

resources and their setting would continue to include the transmission corridor under the Current Proposal. As such, no significant impacts would occur to these resources. The Eastside Transmission System is recommended for listing in the NRHP under Criterion A for its association with broad patterns of history. The Current Proposal would allow the system to continue to fulfill its original function and would not detract from the characteristics that make it eligible for the NRHP. Impacts to historic and cultural resources in the Renton segment under the Current Proposal would be less-than-significant and would be similar to or less than the impacts under the Phase 2 DEIS and FEIS Proposals. The Current Proposal would follow the same route evaluated in the Phase 2 DEIS and FEIS. The Current Proposal includes refined design details for pole types and placement that would reduce impacts on historic and cultural resources. Poles would be located entirely within the existing transmission corridor, resulting in little change from existing conditions. This minimal change, coupled with implementation of regulatory requirements and mitigation measures, would result in less-than-significant impacts.

Recreation

The following opportunities for recreation are located in the Renton segment: Sierra Heights Park, Sierra Heights Elementary School, May Creek Greenway, Honey Creek Open Space/Greenway, Cedar River Natural Zone, and Riverview Park.

Impacts to recreation sites in the Renton segment under the Current Proposal would be less-than-significant because vegetation clearing and changes to poles and wires would not affect the use of these sites. The Current Proposal would follow the same route evaluated in the Phase 2 DEIS and FEIS. The Current Proposal includes refined design details for pole types, heights, and placement that would reduce impacts on recreation relative to the previous proposals, reducing potential impacts.

Economics

The Phase 2 DEIS and FEIS described the existing tree cover and associated value of the trees in in the Renton segment. In the FEIS, a total of 499 trees were documented in the segment (not including trees with low ecological value), with a total fixed value of \$701,189, and a total service value/year of \$1,478.

Similar to the Phase 2 DEIS and FEIS Proposals, the Current Proposal is expected to have less-than-significant economic impacts. The economics analysis evaluated two issues: 1- the cost of undergrounding utilities, and 2- ecosystem service loss resulting from tree removal. The operational impacts of undergrounding transmission lines would depend on where the lines are built relative to the cost sharing burden. If only a very small number of payees are involved, the cost would be a large burden. If the cost is shared broadly, the impacts would be less. The ecosystem service analyses in the Phase 2 DEIS and FEIS were based on the total number of trees removed, and covered the entire PSE corridor (the Renton segment was not separated out). The Current Proposal would remove fewer trees/significant trees than the previous proposals;

therefore, there should be less ecosystem service impacts. Ecosystem service is not expected to be significantly impacted by the Current Proposal.

2.3 CONCLUSION

The Environmental Consistency Analysis confirms that the impacts of development under the Current Proposal are within the range of impacts analyzed under the proposals in the past SEPA review, and that there are no significant unavoidable adverse impacts that cannot be mitigated. This is because the Current Proposal is identical in most respects to the FEIS Proposal. The differences between the proposals primarily relate to pole placement, tree removal, and details on mitigation provided under the Current Proposal. The impacts under the Current Proposal would generally be similar to or less than those described in the Phase 2 DEIS and FEIS.

Chapter 3

MITIGATION MEASURES

CHAPTER 3

MITIGATION MEASURES & SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

Mitigation measures are implemented to reduce or eliminate the adverse impacts associated with a proposed action. Mitigation can be achieved through avoidance, minimization, rectification, elimination, compensation, or monitoring of environmental impacts (WAC 197-11-768, *Mitigation*). Below are the mitigation measures identified for the ***Energize Eastside Project***. Mitigation measures specified by code are listed as “**Regulatory Requirements**” and will be required. Those listed as “**Potential Mitigation Measures**” are based on comprehensive plan policies, existing PSE programs, and the recommendations of the Environmental Consistency Analysis, and will be at the discretion of the Applicant to adopt or the City of Renton to impose as a condition of project approval to reduce impacts to non-significant levels. The following mitigation measures are organized based on the stage at which they will be applied (i.e., before construction, during construction, at project start-up, and during operation).

The process for arriving at the mitigation measures began with the measures listed in the March 1, 2018 *Energize Eastside Project* FEIS. Those measures from the 2018 FEIS that did not apply to the Renton segment or made specific reference to other segments of the Energize Eastside Project were removed. Corrections, clarifications, or new measures from the March 14, 2018 CUP and Shoreline Exemption application materials were then added. Finally, further corrections, clarifications, or new measures recommended through this Environmental Consistency Analysis and input from the City of Renton were made. In the future, if the CUP and/or Shoreline Exemption applications submitted to City of Renton are changed, these mitigation measures will need to be re-examined and possibly modified. As appropriate and for consistency, auxiliary verbs in the mitigation measures (e.g., “would” and “should”) have been updated to “will” to indicate definitive commitments.

Minor additions/clarifications to the mitigation measures identified in the 2018 FEIS and in the CUP and Shoreline Exemption application materials are recommended based on the ***Energize Eastside*** Environmental Consistency Analysis, as shown below.

3.1 EARTH

Regulatory Requirements

For PSE, national and state codes and regulations, and industry guidelines govern the design, installation, and operation of transmission lines and associated equipment. The National Electric Safety Code (NESC) 2017, as adopted by the Utilities and Transportation Commission (UTC),

provides safety guidelines that PSE follows, including provisions for worker and public safety during seismic events.

Potential Mitigation Measures

Prior to Construction

1. Avoid construction on steep slopes, known and potential landslide zones, and areas with organic or liquefiable soils, where feasible.
2. Use appropriate shoring during construction.
3. Use erosion and runoff control measures, including retention of vegetation, replanting, groundcover, etc.
4. Comply with relevant state and local critical areas codes and other applicable requirements.
5. Dispose of soils at approved disposal sites.
6. Coordinate with other utility providers, as appropriate, to determine how best to avoid or minimize any impacts. PSE will work with other utility service providers during design of the project to coordinate the placement of new facilities and ensure protection of other utilities.
7. Conduct settlement and vibration monitoring, as applicable, during construction to identify potential adverse conditions to critical structures and local facilities. PSE will identify schools, hospitals, and registered historic buildings located in the utility corridor and will assess and plan for potential impacts from vibrations, as applicable and feasible.
8. Confirm that a Washington State licensed engineer has conducted geotechnical hazard evaluations for all proposed elements addressing ground-shaking, fault rupture, liquefaction, and landslides, and that all geotechnical recommendations have been incorporated into project design. The project geotechnical engineer will review the final construction plans, including all foundation, shoring, cut, and fill designs. The project geotechnical engineer will provide geotechnical inspection during project construction, when applicable. A letter from the project geotechnical engineer stating that the plans conform to the recommendations in the geotechnical report and any addendums and supplements will be submitted to the clearing and grading section prior to issuance of the construction permit.
9. Use the 2012 International Building Code (IBC), or future adopted IBC, parameters for short-period spectral response acceleration (S_s), 1-second period spectral response acceleration (S_1), and Seismic Coefficients F_A and F_V presented in Table 2 of the geotechnical report (GeoEngineers, 2016).
10. Use site-specific soil input parameters for lateral load design that consider the effects of liquefaction through the application of p-multipliers for soil parameters that are input to LPILE or similar computer programs that are designed to analyze the behavior of laterally-loaded foundations.
11. Where areas subject to liquefaction are present, extend foundations below the loose to medium density liquefiable deposits into underlying dense, non-liquefiable soils.

12. Reevaluate the axial capacity of the pole foundations and potential downdrag loads for poles in areas subject to liquefaction once final locations are selected and consider these in the structural design.
13. Corrosion test results indicate that all the samples have a low to moderate potential for corrosion. As a result, a corrosion engineer will be involved in the design of the project. PSE will assess the safety and AC corrosion risks under steady-state operating conditions of the transmission lines.
14. The project geotechnical engineer will review the final construction plans, including all foundation, shoring, cut, and fill designs. A letter from the geotechnical engineer stating that the plans conform to the recommendations in the geotechnical report and addendums and supplements will be submitted to the plan review section prior to issuance of the construction permit.
15. Prior to construction, PSE will submit a detailed Drilled Shaft Installation Plan prepared by their construction contractor describing casing and drilled shaft construction methods. The submittal will include a narrative describing the contractor's understanding of the anticipated subsurface conditions, underground utilities, the overall construction sequence, access to the pole locations, and the proposed pole foundation installation equipment. The contractor will submit a detailed direct embedment pole installation plan describing both uncased and temporary casing methods as appropriate. If drilled shafts are used where groundwater is present, the concrete for drilled shafts will be placed using the "tremie" method and will be considered and evaluated by PSE's onsite geotechnical engineer (described in the geotechnical report). The Plan will be reviewed by the project geotechnical engineer before construction commences; the Plan will include documentation of this review, which will be provided to the City of Renton Department of Community and Economic Development.

During Construction

16. Monitor all improvements for changes in conditions such as cracking foundations, slumping slopes, or loss of vegetative cover.
17. Implement inspection and maintenance programs for all improvements to ensure consistent performance and stability. The project geotechnical engineer will provide geotechnical inspection during project construction when applicable. The project geotechnical engineer will monitor and test soil cuts and fills for pole foundations. The project geotechnical engineer also will observe, monitor, and test any unusual seepage, slope, or subgrade conditions as applicable.
18. Comply with relevant state and local critical areas codes.
19. The project geotechnical engineer will provide geotechnical inspection during project construction when applicable. The geotechnical engineer will monitor and test soil cuts and fills for pole foundations. The geotechnical engineer also will observe, monitor, and test any unusual seepage, slope, or subgrade conditions.
20. PSE will monitor for vibrations, as applicable and where feasible, during ground disturbing activities, where a school, a hospital, or a registered historic building is within the utility corridor.

During Operation

21. Develop and implement a monitoring and maintenance program that includes inspection and reporting on structural stability (e.g. cracking foundations, slumping slopes, or loss of vegetative cover). As part of PSE's regular inspection of the transmission line, monitor all improvements for changes in conditions such as cracking foundations or slumping slopes that could reduce the ability of structures to resist seismic disturbances. This could include regular reporting to permitting agencies to ensure compliance. PSE will develop a monitoring and maintenance program that includes inspection and reporting on the ability of the transmission line poles to resist seismic disturbances. As part of PSE's regular inspection of the poles, it will monitor all poles for changes in conditions that could reduce the ability of the structures to resist seismic disturbances. If changes are identified during inspection and monitoring of conditions, PSE will implement additional measures to reduce or minimize those impacts.

Significant Unavoidable Adverse Impacts

- Damage and potential injury or death from a significant seismic event are never completely avoidable. The proposed project will not increase these risks. The project will meet the most recent scientifically-based seismic design standards. Therefore, significant unavoidable adverse earth resources impacts are not expected.

3.2 Water Resources

Regulatory Requirements

The project will need to comply with applicable, federal, state, and City of Renton requirements for stormwater, streams, wetlands, and critical areas, and Shorelines of the State.

Prior to Construction

If any direct impacts to water resources are proposed, PSE will obtain federal and state authorization, and will provide:

- A. An application and report presenting impacts on jurisdictional wetlands.
- B. A mitigation plan for unavoidable wetland impacts following the standards in *Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance* (Ecology, 2006).

The project will need to comply with the following regulations of the City of Renton:

- C. Stormwater regulations of the City of Renton, which are based on the standards set by Ecology's *Stormwater Management Manual for Western Washington* (Ecology, 2014).
- D. Requirements of Shoreline Master Programs for Renton in crossing the Cedar River (see 2018 FEIS Appendix B-3).
- E. Requirements of City of Renton's critical areas ordinance. Typical mitigation measures suggested in the ordinances include:
 - Enhancement or restoration of buffers.

Potential Mitigation Measures

Prior to Construction

1. Avoid locating poles in wetlands and wetland buffers.
2. Project and site specific BMPS will be specified in the construction contract documents that the construction contractor will be required to implement. It is noted the BMPs used on construction sites change and often need to be modified during construction based on current conditions.

During Construction

3. Comply with code provisions for the protection of water resources from clearing and grading activities.
4. Comply with all necessary permits:
 - o *National Pollutant Discharge Elimination System* general permit for construction (issued by Ecology).
 - o It is the City's understanding that a Hydraulic Project Approval is not required; however, based on the project as currently proposed, it is possible that a Hydraulic Project Approval (issued by WDFW) could be necessary due to crossing of the Cedar River with the upgraded line.
 - o The applicant, PSE, will be responsible for consulting with all other local, state, federal, or regional agencies, and/or tribal entities with jurisdiction (if any) for applicable permit or other regulatory requirements that pertain to any aspect of the project addressed in this permit.
5. Implement the *Stormwater Pollution Prevention Plan* (SWPPP) and Temporary Erosion and Sediment Control Plan to mitigate potential increased sedimentation and turbidity from stormwater runoff. These plans will include BMPs to ensure that sediment originating from disturbed soils will be retained, within the limits of disturbance such as the following:
 - o Temporary covering of exposed soils and stockpiled materials.
 - o Silt fencing, catch basin filters, interceptor swales, or hay bales.
 - o Temporary sedimentation ponds or sediment traps.
 - o Installation of a rock construction entrance and street sweeping.
 - o Upon completion of work in each area, exposed soils will be permanently stabilized with seeding or gravel.
 - o Monitoring of the project by a Certified Erosion and Sediment Control Lead.
6. Implement a Spill Prevention, Control, and Countermeasures Plan to minimize the potential for spills or leaks of hazardous materials. BMPs in the Spill Prevention, Control, and Countermeasures Plan could include the following:
 - o Operating procedures to prevent spills.
 - o Control measures such as secondary containment to prevent spills from entering nearby surface waters.
 - o Countermeasures to contain, clean up, and mitigate the effects of a spill.
 - o Construction vehicle storage and maintenance and fueling of construction equipment will be located away from streams and wetlands.

7. The clearing and grading permit application will include a SWPPP. The structure and content of the SWPPP will follow the requirements of the Renton Clearing and Grading Code and the Renton Clearing and Grading Development Standards. BMPs in the plan could include:
 - Operating procedures to prevent spills.
 - Control measures such as secondary containment to prevent spills from entering nearby surface waters.
 - Countermeasures to contain, clean up, and mitigate the effects of a spill.
 - Construction vehicle storage and maintenance and fueling of construction equipment will be located away from streams and wetlands.
8. Comply with construction standards applicable to Wellhead Protection Area Zone 2 (RMC 4- 4-030.C8) in the City of Renton. These standards include requirements for the following:
 - Secondary containment for hazardous materials.
 - Securing hazardous materials.
 - Removal of leaking vehicles and equipment.
 - Cleanup equipment and supplies.
9. Monitor soils from construction-related excavation/grading for contamination; if contaminated soils are encountered, mitigate in accordance with federal, state, and City of Renton regulations. Visually monitor soils from construction-related excavation/grading for contamination in accordance with federal, state, and City of Renton regulations. Mitigate in accordance with federal, state, and City of Renton regulations as applicable.

During Operation

10. Implement Spill Prevention Control and Countermeasures Plans during maintenance activities (for poles, the transmission corridor, and access roads) to prevent spills or leaks of hazardous materials, paving materials, or chemicals from contaminating surface or groundwater.

Significant Unavoidable Adverse Impacts

- The proposed project will comply with applicable regulations and implement appropriate BMPs. Therefore, no significant unavoidable adverse water resources impacts are expected.

3.3 Plants & Animals

Regulatory Requirements

Federal, state, and City of Renton regulations and ordinances have been established to protect natural resources (e.g., tree protection and critical area regulations) and are required to be followed.

During Construction

- A. Restore affected critical area buffers at a ratio of 1:1.
- B. Install high-visibility orange construction fencing around the extent of critical areas and their buffers (including native growth protection areas) to prevent disturbance.
- C. Trees to be retained will be protected in accordance with City of Renton tree protection standards.

Implementation of the mitigation measures described in Section 3.2, Water Resources, to minimize impacts on water resources will also minimize impacts on plants and animals

If a Hydraulic Project Approval (HPA) is required by Washington Department of Fish and Wildlife (WDFW), PSE will comply with all requirements of the HPA imposed by WDFW to protect fish and wildlife species and their habitat, these could include:

- D. Limit work during sensitive nesting and breeding seasons for protected wildlife species occurring in the area.
- E. Implement PSE's established bird protection programs and procedures.
- F. Replant and stabilize disturbed construction and staging areas with native trees, shrubs, and grasses.
- G. Implement temporary erosion control measures.
- H. Utilize a Spill Prevention and Control Plan.

During Operation

- I. Trees replaced within wetlands or wetland buffers in Renton could require mitigation monitoring for a period of five years or more, consistent with RMC 4-3-050L(3).

Potential Mitigation Measures

Prior to Construction

- 1. Vegetation mitigation will be completed consistent with PSE's July 24, 2019, "Vegetation Replacement Approach" letter to the City.

During Construction

- 2. Replant disturbed areas using native vegetation, where feasible and appropriate, that will meet transmission line clearance requirements and will not need to be removed or require maintenance (i.e., trimming) in the future.
- 3. Critical area and buffer trees will be trimmed and not removed if possible, and trimmed branches and trunks at least 4 inches in diameter will be left in place to provide a greater amount of woody debris for the area streams, compared to the long-term natural recruitment process, where the underlying property owner approves the placement of woody debris and there are no safety issues related to replacement.
- 4. PSE will implement an ecologically based, integrated weed management plan to control the spread of invasive and noxious weeds at disturbed areas by planting native plants where feasible and appropriate. The Plan will be submitted to the City for approval prior to issuance of the construction permit.

5. Where pole access is through vegetated areas, maintain existing vegetation to the greatest extent possible.
6. As part of the construction permit process, PSE will coordinate with the City of Renton regarding access roads and possible use of cranes. At sites where access is difficult, a helicopter or large crane may be used to limit the extent of disturbance necessary for construction access.
7. Retain or replace trees at ratios contained in the PSE July 24, 2019 “Vegetation Replacement Approach” letter to the City.
8. PSE will submit a Final Tree Retention and Replacement Plan at the time of construction permit review. Where feasible and authorized, PSE will cluster large trees.

During Operation

9. PSE will submit for approval an ecologically based integrated weed management plan to control the spread of invasive and noxious weeds along the corridor, including the removal of existing infestations of invasive species, where feasible and appropriate.
10. PSE will implement its Avian Protection Plan, including methods and equipment to reduce collisions, electrocution, and problem nests. To reduce impacts to birds, the timing and location of construction work will consider critical time periods such as the nesting season for species of local importance present in the immediate Project area. A habitat biologist or other qualified professional will submit a plan to the City documenting recommended measures to limit impacts.
11. Critical area and buffer trees will be trimmed and not removed if possible, and trimmed branches and trunks at least 4 inches in diameter will be left in place to provide a greater amount of woody debris for the area streams, compared to the long-term natural recruitment process, where the underlying property owner approves the placement of woody debris and there are no safety issues related to placement.

Significant Unavoidable Adverse Impacts

- The major impact of the proposed project on plants and animals will be the removal of trees, including significant trees. Protected species are not known to occupy the habitat within the Renton segment, and the urbanized setting is unlikely to provide suitable habitat for these species in the future. Therefore, no significant unavoidable adverse plant or animal impacts are expected.

3.4 Greenhouse Gases

Regulatory Requirements

Although there're are no regulations specifically limiting GHG emissions, PSE will need to comply with applicable federal, state, and local regulations that apply to other resources, some of which will mitigate the potential for long-term adverse GHG impacts (e.g., regulations that protect tree

coverage in critical areas). The following measures identified in Section 3.3, Plants and Animals, will potentially offset the long-term sequestration impacts.

- A. Replace trees removed for the project based on the City of Renton tree protection and critical areas regulations; some of these trees could be planted offsite.

Potential Mitigation Measures

Prior to Construction

1. For equipment installed as part of Energize Eastside at the Talbot Hill substation, if SF6-filled equipment is used, use equipment manufactured guaranteed leakage rate of 0.1 percent. Installation of such equipment could reduce fugitive SF6 emissions by up to 80 percent over older equipment types. As appropriate, use an alternative insulation system for closely spaced equipment.

During Construction

2. If available, prudent and not likely to cause harm to equipment, use renewable diesel for diesel-powered construction equipment. The fuel can achieve a 40–80 percent reduction in GHG emissions compared to fossil diesel and is a recommended component of GHG reduction efforts in other jurisdictions such as the Drive Clean Seattle program (Seattle OSE, 2012).
3. Use non-petroleum lubricants for construction equipment.
4. Where compatible with the transmission lines, the underlying property owner agrees, and where feasible based on areas use, replant disturbed construction and staging areas with native trees, shrubs, and grasses.
5. Vegetation mitigation will be completed consistent with PSE’s July 24, 2019, “Vegetation Replacement Approach’ letter to the City.

Significant Unavoidable Adverse Impacts

- Construction-related GHG emissions will be temporary, and construction and operational GHG emissions will not create an increase that will be above the state reporting thresholds. Therefore, significant unavoidable adverse GHG emission impacts are not expected.

3.5 Environmental Health – Pipeline Safety

Regulatory Requirements

PSE is responsible for the ***Energize Eastside Project***’s design, construction, and operational parameters within the shared corridor with the Olympic Pipeline system. For PSE, national and state standards, codes, and regulations, and industry guidelines govern the design, installation, and operation of transmission lines and associated equipment. The National Electric Safety Code (NESC) 2017, as adopted by the UTC, provides the safety guidelines that PSE follows. The NESC contains the basic provisions necessary for worker and public safety under specific conditions, including

electrical grounding, protection from lightning strikes, extreme weather, and seismic hazards. PSE will use these in developing the final design.

To address concerns about potential interaction between the ***Energize Eastside Project*** transmission lines and Olympic Pipeline system, PSE and Olympic have coordinated regarding the project since 2012, and both have indicated that they will continue their coordination through final design and construction.

For construction activities within all segments, the appropriate party will need to comply with applicable federal, state, and local damage preventions laws, regulations, and requirements, and Olympic's general construction requirement for work near its pipelines, including:

- A. Develop construction and access plans in coordination with Olympic's Damage Prevention Team and mutually agreed upon by both parties. These plans will outline the specific actions that PSE will take to protect the pipelines from vehicle and equipment surcharge loads, excavation, and other activities in consideration of Olympic's general construction requirements and in consultation with Olympic on the Energize Eastside project design specifically. Consistent with regulatory requirements, the following general measures could be included in the construction and access plans:
 - Notify "one-call" 811 utility locator service at least 48 hours prior to PSE or PSE designated contractors conducting excavation work. (Olympic's line marking personnel will then mark the location of the pipelines near the construction areas. These procedures are designed to ensure that excavation will not damage any underground utilities and to decrease potential safety hazards.)
 - Field verify the distance between the pipelines and transmission line pole grounds.
 - Add the pipeline location and depth to project plans and drawings and submit to Olympic for evaluation.
 - Arrange for Olympic representatives to be on-site to monitor construction activities near the pipelines.
 - Install temporary fencing or other markers around the pipeline area.
 - Provide all necessary information for Olympic to perform pipe stress calculations for equipment crossings and surface loads (surcharge loads). Based on pipe stress calculations, and in coordination with Olympic, provide additional cover that may include installing timber mats, steel plating, or temporary air bridging; utilize a combination of these; or avoid crossing in certain identified areas in order to avoid impacts on Olympic pipelines. Ensure that mitigation to address potential surcharge load impacts is implemented in accordance with applicable requirements and recommended practices, including the following:
 - 49 CFR 195, Transportation of Hazardous Liquid by Pipeline.
 - American Petroleum Institute Recommended Practice 1102, Steel Pipelines Crossing Railroads and Highways.
 - American Lifelines Alliance, Guidelines for the Design of Buried Steel Pipe.
 - Comply with additional measures related to minimizing surcharge loads included in Olympic's general construction requirements (see 2018 FEIS Appendix I-2).

- B. As part of Olympic's general construction requirements for all work proposed near the pipelines (see 2018 FEIS Appendix I-2), comply with other applicable requirements, including the following:
- No excavation or construction activity will be permitted in the vicinity of a pipeline until appropriate communications have been made with Olympic's field operations and its Right-of-Way Department. A formal engineering assessment (conducted by Olympic) may be required.
 - No excavation or backfilling within the pipeline right-of-way will be permitted for any reason without a representative of Olympic on-site giving permission.
 - In some instances, excavation and other construction activities around certain pipelines can be conducted safely only when the pipeline operating pressure has been reduced. PSE will inform its designated contractors that excavation that exposes or significantly reduces the cover over a pipeline may have to be delayed until the reduced operating pressures are achieved.
 - For a project within 100 feet of the pipelines, Olympic's Damage Prevention Team will meet the construction crew on-site at the beginning of the project and weekly thereafter. If excavation has the potential to be within 10 feet of the pipelines, the Damage Prevention Team will be onsite at all times to monitor excavation.

Potential Mitigation Measures

Prior to Construction

1. PSE will continue to coordinate with Olympic and include safeguards in the project design. PSE will optimize conductor geometry to the extent feasible and consistent with engineer recommendations, where the Olympic pipelines are collocated with the upgraded transmission line.
2. PSE will perform an AC interference Study incorporating the final transmission route, configuration, and operating parameters to confirm that current densities will remain within acceptable levels. PSE will provide Olympic with the Study and if requested, provide the City with documentation establishing that the Study was performed and submitted to Olympic.
3. PSE will fully assess the safety and coating stress risks for phase-to-ground faults at transmission line poles along the entire area of co-location, including both inductive and resistive coupling.
4. PSE will assess the safety and AC corrosion risks under steady-state operating conditions on the powerline.
5. PSE will reassess the safe separation distance between the transmission line and Olympic's pipeline at each pole location to minimize arcing risk based on NACE SP0177-2014 and considering the findings in CEA 239T817.
6. Specify appropriate distances for pole grounds from the pipeline to reduce, to the maximum extent feasible, electrical arcing as recommended by the engineer. Field verify the distance between the pipelines and transmission line pole grounds.
7. Consistent with the approved Construction Management and Access Plan, PSE will document all mitigation measures implemented, monitored, and conducted.

If requested by the City of Renton, PSE will file a mitigation and monitoring report with the City of Renton that documents consultations with Olympic and mitigation measures to address safety-related issues.

The mitigation and monitoring report will demonstrate that sufficient pipeline safety measures have been implemented, and document all consultations with Olympic, including the sharing of modeling, engineering, and as-built information with Olympic to assist Olympic in its ongoing monitoring and mitigation responsibilities. The report will identify any additional field surveys and data collection necessary for verifying mitigation measures following project start-up, and any proposed monitoring to ensure that mitigation measures related to operational issues are followed.

8. Install Optical Ground Wire (OPGW) shield wire on the transmission line poles.
9. Where the utilities are co-located, PSE will develop a Construction Management and Access Plan in coordination with Olympic's Damage Prevention Team that is mutually agreed upon by both parties. This plan will outline the specific actions that PSE will take to protect the pipelines from vehicle and equipment surcharge loads, excavation, and other activities in consideration of Olympic's general construction and right-of-way requirements and in consultation with Olympic on the Energize Eastside project design specifically.
10. The project geotechnical engineer will certify that PSE has conducted geotechnical hazard evaluations for all proposed elements of the transmission poles, and that all geotechnical recommendations have been incorporated into project design/PSE will provide required certification and supporting documentation to the City of Renton. The geotechnical report will address all code requirements and provide a discussion of how the design meets or exceeds the following:
 - The 2012 International Building Code (IBC), or as amended, parameters for short period spectral response acceleration (SS), 1-second period spectral response acceleration (S1), and Seismic Coefficients FA and FV presented in Table 2 of the geotechnical report.
 - Consistent with the project geotechnical engineer's recommendation, use soil input parameters for lateral load design that considers the effects of liquefaction through the application of p-multipliers for LPile parameters (or equivalent computer program).
 - Where areas subject to liquefaction are present, extend foundations below the loose to medium density liquefiable deposits into underlying dense, non-liquefiable soils.
 - Reevaluate the axial capacity of the pole foundations and potential downdrag loads for poles in areas subject to liquefaction once final locations are selected and consider these in the structural design.
11. Coordinate with Olympic and include safeguards in the project construction and access plans to protect nearby pipelines from excavation activities and surcharge loads.
12. PSE will develop a Construction Management and Access Plan in coordination with Olympic's Damage Prevention Team that is mutually agreed upon by both parties. The

Plan will identify appropriately sized construction zones to protect the general public, construction timing limits, and other mitigation measures that will effectively limit the exposure of the general public to potential pipeline incidents

13. To reduce potential impacts to recreation sites as a result of project construction, PSE will coordinate construction activities with Renton Technical College.

During Construction

14. As directed by Olympic, use soft dig methods (e.g., hand excavation, vacuum excavation, etc.) whenever the pipeline(s) are within 25 feet of any proposed excavation or ground disturbance below original grade.
15. PSE will coordinate with Olympic to ensure that line marking personnel mark the entire length of any pipeline within 50 feet of any excavation or ground disturbance below original grade, and not only the location of angle points (points of intersection).
16. Coordinate with Olympic to ensure that an Olympic representative trained in the observation of excavations and pipeline locating is onsite at all times during excavation and other ground-disturbing activities that occur within 100 feet of the pipelines where the pipelines are co-located with the proposed transmission lines.

If requested by the City of Renton, PSE will file mitigation and monitoring reports with the City quarterly during construction. The reports will identify any additional mitigation measures and monitoring that may be required as a result of PSE's coordination with Olympic.

The mitigation and monitoring report will demonstrate that sufficient pipeline safety measures under PSE's authority and control have been implemented, and document all consultations with Olympic, including the sharing of modelling, engineering, and as-built information with Olympic to assist Olympic in its ongoing monitoring and mitigation responsibilities. The report will identify any additional field surveys and data collection necessary for verifying PSE's mitigation measures following project start-up, and any proposed monitoring to ensure that mitigation measures related to operational issues are followed.

17. Where excavations will be within 20 feet of the Olympic Pipeline system, the project geotechnical engineer in coordination with Olympic Pipeline will consider temporary casing to reduce the risk of sloughing under the pipeline.
18. As required by Olympic, steel plates or mats will be placed over the pipelines to distribute vehicle loads where construction equipment needs to cross over the pipelines.
19. Utility settlement monitoring points will be established on the Olympic Pipeline corridor at the direction of Olympic where drilled shafts will be within 15 feet (or another distance as stipulated by Olympic) to monitor settlement during installation of the drilled shafts. Settlement monitoring points will be installed so that base-line readings of the settlement monitoring points may be completed prior to the contractor mobilizing to the site. Monitoring will continue during construction on a daily basis and twice a week in the 3 weeks following construction. The monitoring readings will be reviewed by the Engineer

on a daily basis. If measured settlement exceeds 1 inch, or the amount specified by Olympic, the integrity of the utility will be tested and PSE will work with Olympic to repair any damage to the utilities as a result of construction.

At Project Start-up

20. PSE will work with Olympic to evaluate and implement appropriate mitigation measures to reduce electrical interference on the Olympic Pipeline system to safe levels.

PSE will provide information to Olympic as appropriate or when requested by Olympic for Olympic to record AC pipe-to-soil potentials during its annual cathodic protection survey.

PSE will provide Olympic with as much advance notice as practical of when outages are planned on the individual circuits (i.e., when only one circuit of the double circuit transmission lines is in operation) to allow monitoring of the AC induction effects on the pipelines.

PSE will provide Olympic with data on anticipated maximum loads under peak winter operating conditions on an annual basis, and, if requested, provide copies to the City of Renton to verify that this data has been provided to Olympic.

After the transmission line is installed and energized, Olympic is expected (due to its federal requirements to protect the pipeline from damage) to measure the actual AC interference with the pipeline in order to ensure that all AC interference risks have been fully mitigated under steady-state operation of the transmission line. PSE will cooperate with Olympic in completing post energization AC site survey to determine if any adjustments are needed to Olympic's pipeline protection systems. PSE will provide load data for the survey, along with any design or as-built information requested by Olympic.

21. A qualified licensed engineer will verify the separation distances between the transmission grounding system and the pipeline. The separation distances will meet the recommendations in the Final Pipeline Interaction Assessment and Design Report after poles are installed. If grounding distances are not consistent with the recommendations, PSE will reinstall the grounding system to comply with the recommendations.

During Operation

22. PSE will provide Olympic with data on anticipated maximum loads under peak winter operating conditions on an annual basis. If requested, copies of the data will be provided to the City of Renton to verify that this data has been provided to Olympic.
23. PSE will provide information to Olympic as appropriate or when requested by Olympic for Olympic to record AC pipe-to-soil potentials and DC pipe-to-soil potentials during its annual cathodic protection survey.
24. PSE will provide Olympic with as much advance notice as practical of when outages are planned on the individual circuits (i.e., when only one circuit of the double circuit transmission lines is in operation) to allow monitoring of the AC induction effects on the pipelines.

25. PSE will provide Olympic with data on maximum loads under peak winter operating conditions on an annual basis. If requested, copies of the data will be provided to the City of Renton to verify that this data has been provided to Olympic.

Significant Unavoidable Adverse Impacts

- Even with worst-case assumptions related to the increased risk during construction and operation of the proposed project, the likelihood of a pipeline release and fire will remain low and no substantial increase in risk compared to the existing conditions was identified. It is expected that any increase in risks within the corridor could be fully mitigated. Therefore, no significant unavoidable adverse pipeline safety impacts are expected.

3.6 Environmental Health – Electric & Magnetic Fields (**EMF'S**)

Potential Mitigation Measures

No adverse impacts from magnetic fields are expected.

At Project Start-up / During Operation

1. In the event that radio frequency interference is found by a radio operator, PSE will de-tune pole structures by installing hardware (such as arresters).

Mitigation for potential corrosion of the pipeline is discussed under Section 3.5, Environmental Health – Pipeline Safety. If that mitigation is incorporated into the project, it will further reduce magnetic field levels at the ground level from the proposed transmission lines.

Significant Unavoidable Adverse Impacts

- No adverse impacts are likely from power frequency EMF at the levels of public exposure from the proposed project. Therefore, no significant unavoidable adverse EMF impacts are expected.

3.7 Land Use & Housing

Regulatory Requirements

The Renton segment will need to meet the regulations of the zoning districts through which it traverses. In areas where the use is not allowed outright within a zoning district, a Conditional Use Permit will be required. The proposed use is not allowed outright within City of Renton zoning districts. Therefore, a Conditional Use Permit is required, and a complete application was filed with the City on March 14, 2018.

Adherence to the zoning regulations of City of Renton is generally not discretionary and will provide some mitigation for project-related impacts to land use.

Undergrounding of transmission lines is not required by City of Renton regulations. If the City of Renton does request that a portion of the transmission line be placed underground, PSE will work with the City to determine the cost of undergrounding and how a tariff may apply.

Potential Mitigation Measures

Prior to Construction

1. PSE will identify any areas where a helicopter or large crane could be used to lift foundation rebar and/or poles over adjacent properties and into place, or to facilitate stringing the new transmission lines. PSE or its contractor will provide copies of the “congested air” permit from the Federal Aviation Administration (FAA). PSE will also coordinate with the City of Renton to determine where this type of construction is allowed.

During Operation

2. To the extent allowable under state law governing pole attachments, PSE will limit the number of telecommunication facilities on the 230 kV poles to the locations currently installed in the corridor to reduce potential land use and visual impacts. Reinstalled facilities will be in approximately the same locations as they were previously. Facilities will be required to get City approval per current land use regulations before reinstalling telecommunication equipment; provided, however, PSE will not be liable for any third party’s obligation or failure to obtain such City approval.
3. Require the reinstalled telecommunications facilities to be in the same approximate locations as they were previously and to comply with the requirements of Chapter 80.54 RCW, Chapter 480-54 WAC, and City of Renton regulations.

Significant Unavoidable Adverse Impacts

- Any nuisances to land uses caused by construction activities will be short-term and less-than-significant. Long-term land use and housing impacts would be less-than-significant as well because the transmission line upgrade in the Renton segment is a land use anticipated in the City and its subarea plans and will not impact existing or future land use patterns. Therefore, no significant unavoidable adverse land use or housing impacts are expected.

3.8 Scenic Views & Aesthetics

Regulatory Requirements

Local regulations will require some mitigation of project-related impacts to the aesthetic environment. Requirements are summarized in the 2018 FEIS by jurisdiction and will be required to be incorporated into the design prior to construction.

City of Renton will require some mitigation measures for **indirect** project-related impacts to the aesthetic environment (e.g., through mitigation to address critical area and land use impacts), and these measures will be implemented during the design stage (prior to construction) and as long-term mitigation strategies (e.g., maintenance of screening vegetation), as listed below. The City does not have regulations that **directly** address mitigation of impacts to scenic views or the aesthetic environment that will be produced by the proposed project, although their general policies do address general aesthetic qualities and public views.

As mentioned previously under **Land Use**, undergrounding of transmission lines is not required by City of Renton regulations. If City of Renton does request that a portion of the transmission line be placed underground to address unavoidable significant impacts to scenic views or the aesthetic environment, PSE will work with the City to determine the cost of undergrounding and how a tariff may apply.

Potential Mitigation Measures

Prior to Construction

1. Ensure siting and location of transmission facilities is accomplished in a manner that minimizes adverse impacts on the environment and adjacent land uses (City of Renton Plan Policy U-72).
2. A non-reflective coating will be used on steel poles, unless specifically requested by the City.
3. Position poles and adjust pole height to minimize impacts to the greatest extent feasible in light of applicable regulations and technological and safety constraints.
4. PSE will continue to coordinate with property owners along the existing corridor to develop property-specific landscaping and tree replacement plans, with a focus on controlling invasive species and enhancing native species. Where individual property owners decline to have new trees planted onsite, PSE will work with the City to place additional trees offsite or will participate in the City's fee in lieu of program. Vegetation mitigation will be completed consistent with PSE's July 24, 2019, "Vegetation Replacement Approach" letter to the City of Renton.

During Construction

5. Retain or replace trees in a manner consistent with PSE's July 24, 2019, "Vegetation Replacement Approach" letter to the City of Renton.
6. PSE will incorporate art (wraps or painted) on the lower portion of the support structures, in order to mitigate the aesthetic impacts of the new larger poles within the proposed corridor.

During Operation

7. In areas where vegetation disturbance is unavoidable and to the extent authorized by the underlying property owners, replant with vegetation that will be compatible with vegetation clearance requirements, preventing future vegetation removal or maintenance in the future.

8. To the extent allowable under state law governing pole attachments, PSE shall limit the number of telecommunication facilities installed on the 230 kV poles to the locations currently installed in the corridor to reduce potential land use and visual impacts. Reinstalled facilities shall be in approximately the same locations as they were previously. Facilities shall be required to get City approval per current land use regulations before reinstalling telecommunication equipment; provided, however, PSE shall not be liable for any third party's obligation or failure to obtain such City approval.

Significant Unavoidable Adverse Impacts

- No significant unavoidable adverse scenic views or aesthetic impacts are expected.

3.9 Historic & Cultural Resources

Regulatory Requirements

Prior to Construction

- A. Develop resource-specific mitigation measures during consultation with DAHP, affected Tribes, KCHPP, and other appropriate stakeholders if a protected archaeological resource is identified during pre-construction archaeological survey or historic property inventory.
- B. Apply for an archaeological excavation permit from DAHP (WAC 25-48-060) if impacts to a protected archaeological resource cannot be avoided.
- C. Request an eligibility determination from DAHP for resources recommended as eligible for listing in the NRHP (Eastside Transmission System, Mt. Olivet Cemetery, and the Columbia & Puget Sound Railroad). If any are determined eligible, mitigation measures specific to those resources will be developed during consultation with DAHP, affected Tribes, and any other appropriate stakeholders.
- D. Obtain a *Certificate of Appropriateness (COA)* from KCHPP (KCC 20.62) if there are potential impacts to a designated KC Landmark.
- E. Avoid cemeteries in accordance with state law (Chapters 68.60 RCW and 68.50 RCW).
- F. Avoid graves outside of the dedicated boundaries of a cemetery in accordance with state law (Chapters 27.44 RCW and 68.60.050).

During Construction

- G. Develop mitigation measures during consultation with DAHP, affected Tribes, and any other appropriate stakeholders if a protected archaeological resource is identified during construction. In accordance with RWC 27.53, an archaeological resource identified during construction is protected until DAHP determines whether it is eligible for listing in the NRHP.¹
- H. Follow procedures dictated by state law (RCW 27.44) if human skeletal remains are discovered.
- I. Obtain an excavation permit from DAHP if unmarked graves will be disturbed.

¹ Isolated (single) artifacts, either precontact or historic, are not protected because they do not meet the definition of a "site" under state law (WAC 25-48-020(9)).

Potential Mitigation Measures

Prior to Construction

1. Prior to construction, PSE will conduct archaeological resource surveys for the selected route that include subsurface testing and a second pedestrian and subsurface survey to assess staging areas, laydown area, stringing sites, and access roads after more information on these locations is available.

Prior to construction, PSE will develop resource-specific mitigation measures during consultation with the Washington Department of Archaeology and Historic Preservation (DAHP), affected Tribes, King County Historic Preservation Program (KCHPP), and other appropriate stakeholders if a protected archaeological resource is identified during the pre-construction archaeological survey or historic property inventory.

PSE will prepare an Inadvertent Discovery Plan (IDP) for the project and discuss the IDP with the contractor during pre-construction meeting(s). PSE will apply for an archaeological excavation permit from DAHP (WAC 25-48-060) to the extent required under applicable law.

If any resources are determined eligible for listing in the National Register of Historic Places (NHRP) by DAHP, mitigation measures specific to those resources will be developed during consultation with DAHP, affected Tribes, and any other appropriate stakeholders. Any final determination and mitigation measures developed based on this determination will be reported to the City of Renton to the extent allowed by law.

During Construction

2. PSE will follow the procedures identified in the IDP if any cultural resources are encountered during construction. PSE will also follow procedures identified for any historic resources through consultation with DAHP.

Significant Unavoidable Adverse Impacts

- It is probable that all historic and cultural resource impacts could be mitigated through consultation with DAHP, King County Historic Preservation Program, Renton, affected Tribes, and other stakeholders. Therefore, no significant unavoidable adverse historic or cultural resource impacts are expected.

3.10 Recreation

Regulatory Requirements

The City of Renton does not have regulations that will require mitigation of project-related impacts to recreational resources.

Potential Mitigation Measures

Prior To Construction

1. Use vegetation outside of any area required to be cleared to screen poles and wires where transmission infrastructure is placed within a recreation site.
2. Work with City of Renton to determine mitigation for tree removal within recreation sites in its jurisdiction. Vegetation mitigation will be completed consistent with PSE's July 24, 2019, "Vegetation Replacement Approach" letter to the City of Renton.
3. Coordinate with City of Renton Community Services Department.
4. Provide alternative access points to recreation sites and trail detours.
5. In areas where construction will impact use of recreation sites and where feasible, avoid construction during times those recreation sites have higher usage. As appropriate detour and temporary closure signs will be used.
6. Avoid vegetation clearing for construction activities where possible.
7. Notify City of Renton, Renton School District schools, or private owners 60 days in advance of work within recreation sites.
8. Notify the public of any temporary closure of trails or recreations sites 2 weeks in advance.
9. Provide signage along trails or park entrances at least 1 week prior to closures.
10. Avoid placement of infrastructure within or adjacent to recreation sites where there is none currently to the extent possible. Use BMPs to minimize noise, dust, and other disturbances to visitors to recreation sites during construction, as well as in areas used for informal recreation (e.g., along roads).

Post Construction

11. Restore recreation sites or trails to pre-construction conditions.

Significant Unavoidable Adverse Impacts

- Any nuisances to recreation activities caused by construction activities will be short-term and less-than-significant. Long-term impacts to recreation will be less-than significant as well because the project will not adversely affect recreation use or opportunities. Therefore, no significant unavoidable adverse recreation impacts are expected.

3.11 Economics

Regulatory Requirements

Mitigation for economic impacts from a project is not required under SEPA; however, PSE will need to comply with applicable federal, state, and local regulations that apply to other resources, some of which will mitigate the potential for economic impacts (e.g., regulations that protect tree coverage in critical areas).

During Construction

- A. Replace trees removed for the project based on the City of Renton tree protection ordinance and critical areas regulations; some of these trees could be planted offsite.

Potential Mitigation Measures

1. Retain or replace trees. Vegetation mitigation will be completed consistent with PSE's July 24, 2019, "Vegetation Replacement Approach" letter to the City of Renton.
2. If trees are planted offsite, larger trees could be clustered, which will contribute to increasing habitat quality and area aesthetics. Vegetation mitigation will be completed consistent with PSE's July 24, 2019, "Vegetation Replacement Approach" letter to the City of Renton.
3. To mitigate the ecosystem service impacts due to tree loss, tree species that absorb carbon at higher rates could be planted. Vegetation mitigation will be completed consistent with PSE's July 24, 2019, "Vegetation Replacement Approach" letter to the City of Renton.

Significant Unavoidable Adverse Impacts

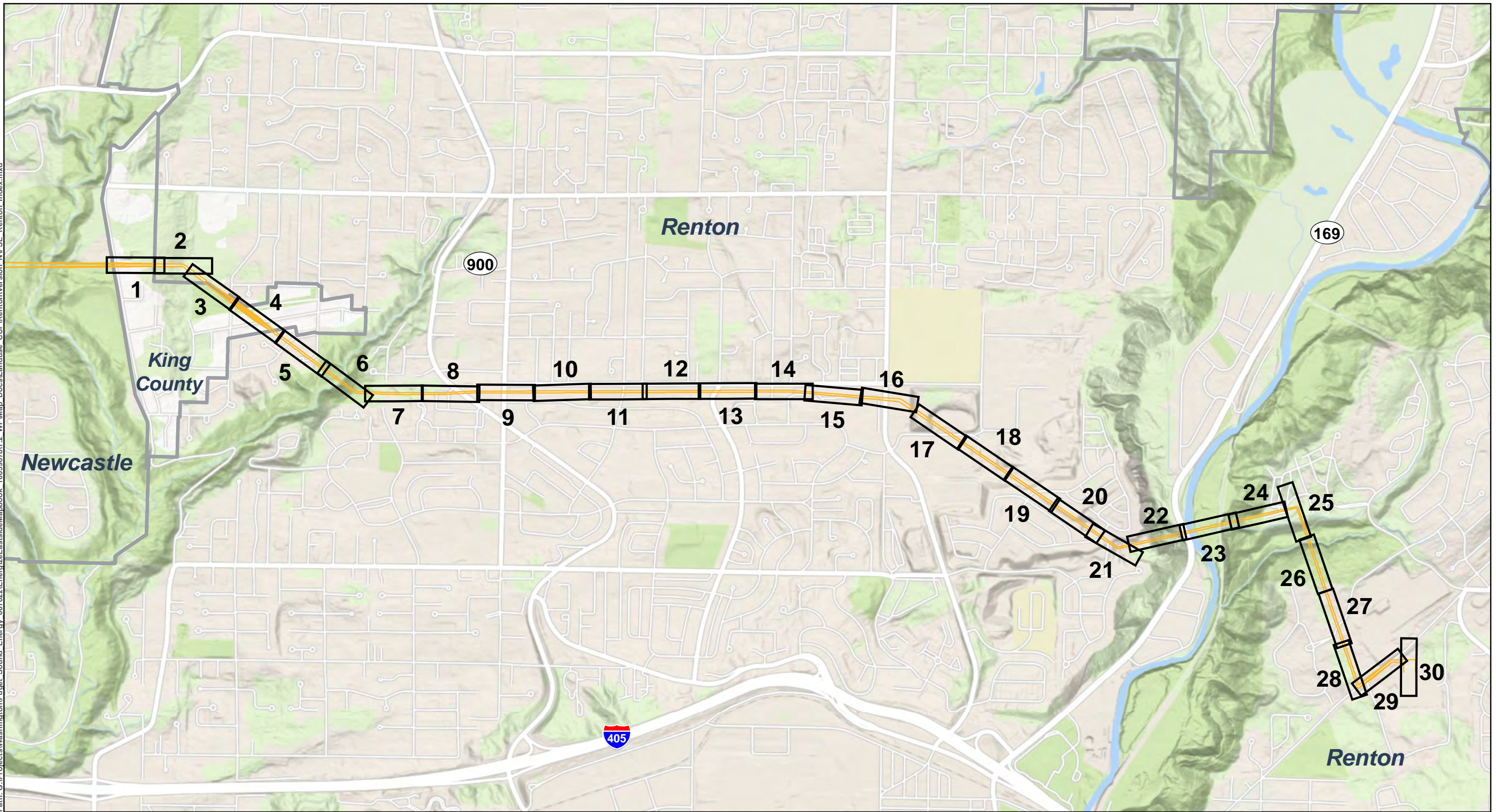
- No economic impacts are anticipated during construction. Long-term, there will be no significant impacts on assessed property values. The proposed project will require tree removal along the existing corridor; however, the value of total ecosystem services lost because of tree removal will be minimal. Therefore, no significant unavoidable adverse economic impacts are expected.

APPENDICES

APPENDIX A

CURRENT PROPOSAL
SITE PLAN

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0 0.25 0.5 Mile

APPLICANT:
Brad Strauch
Puget Sound Energy
P.O. Box 97034, Bellevue WA 98009-9734
(425) 456 - 2556

MAP CREATED BY:



SOURCES:
Topo Basemap - ESRI Online, Transmission Line - PSE

ACREAGE IN RENTON: 54.5 acres



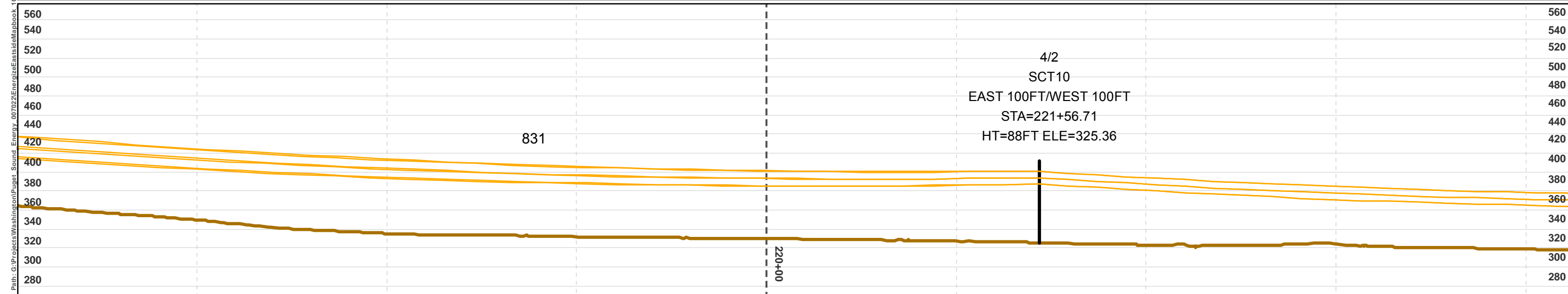
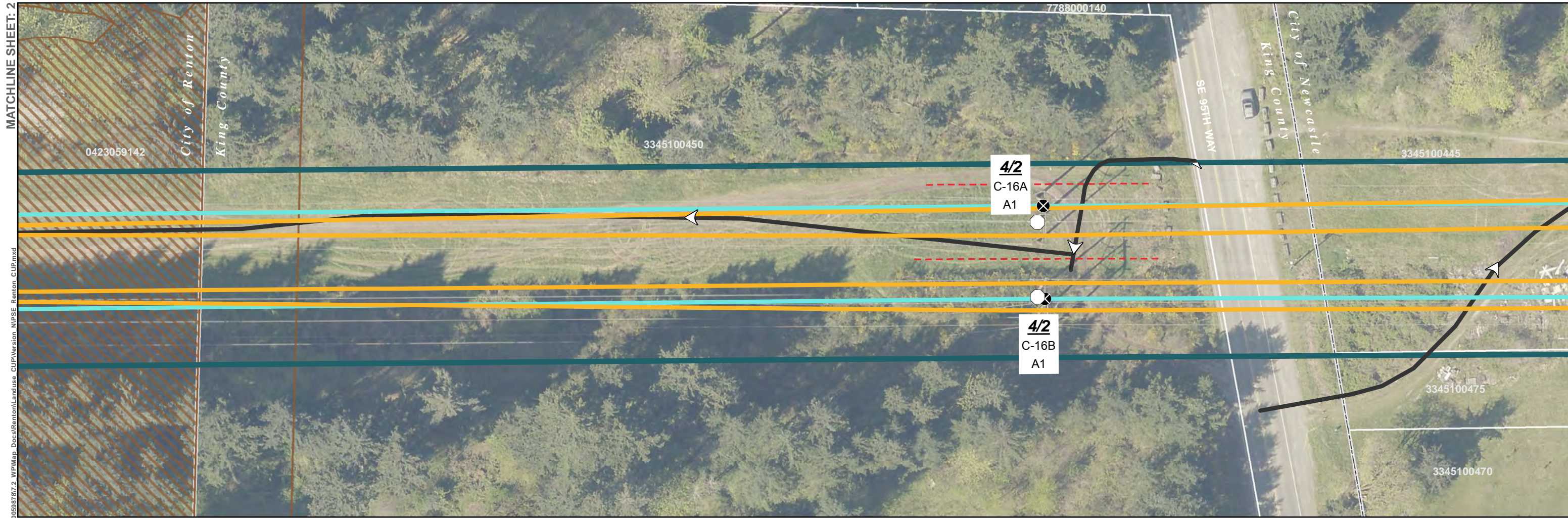
energize**EASTSIDE**

**CONDITIONAL USE PERMIT INDEX /
CRITICAL AREAS LAND USE PERMIT**

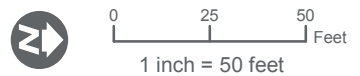
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Date: 1/18/2018

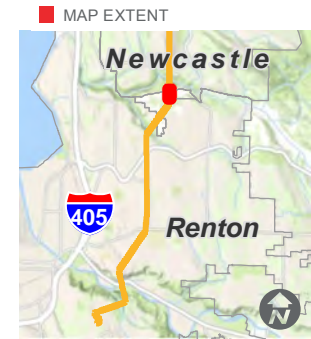
MATCHLINE SHEET: 2



- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary
- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard
- Profile View
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).
 For cartographic purposes only.
 Note: Note: Underground utility lines are surveyed in the vicinity of poles only. Existing Lake Tradition poles aren't represented by new conductors because they are an existing line, and are being represented due to the poles being replaced.



SITE PLAN

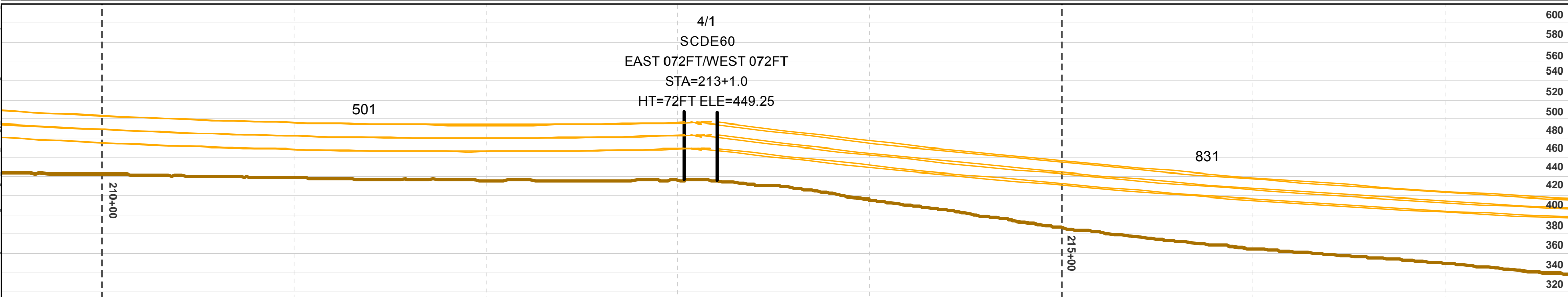
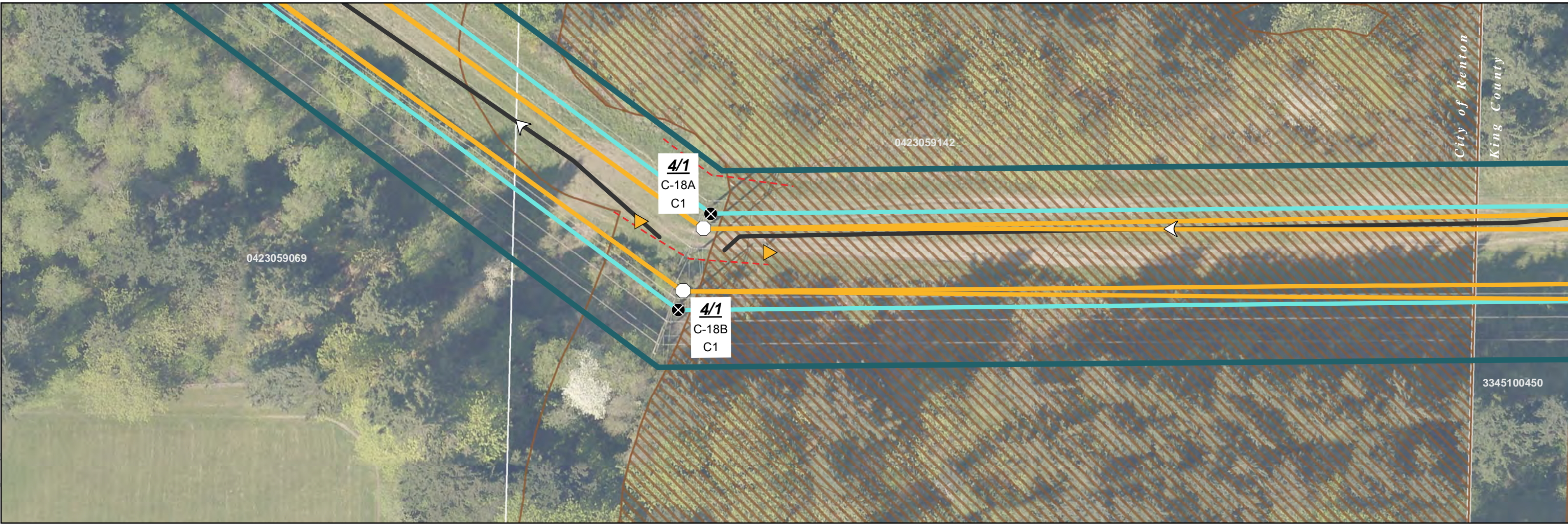
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**BASED ON PSE ENGINEERING
DESIGN REVISION N**

MATCHLINE SHEET: 3

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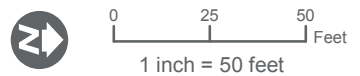
MATCHLINE SHEET: 1



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
- A1** Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

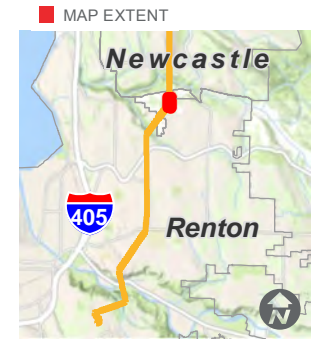
- Profile View
- Structure
 - Conductor
 - Ground Line
 - Major Elevation Grid
 - Major Station Grid
 - Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

For cartographic purposes only.

Note: Note: Underground utility lines are surveyed in the vicinity of poles only. Existing Lake Tradition poles aren't represented by new conductors because they are an existing line, and are being represented due to the poles being replaced.



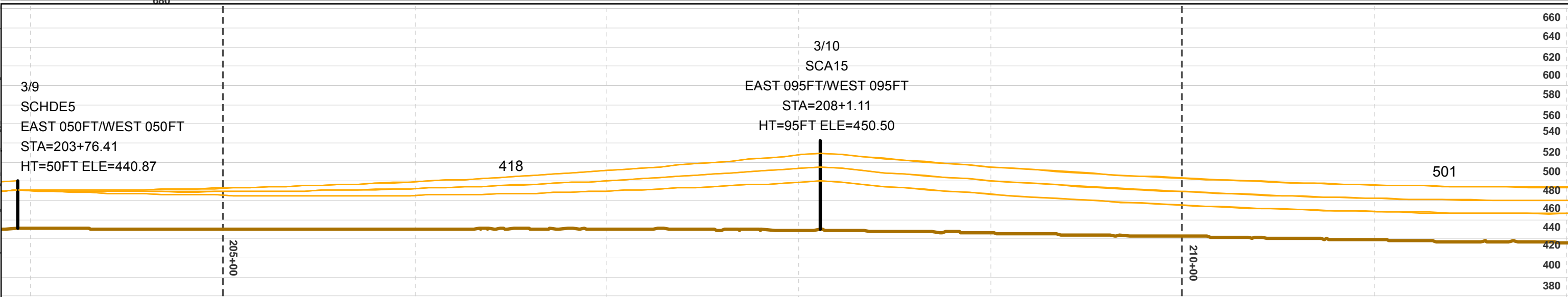
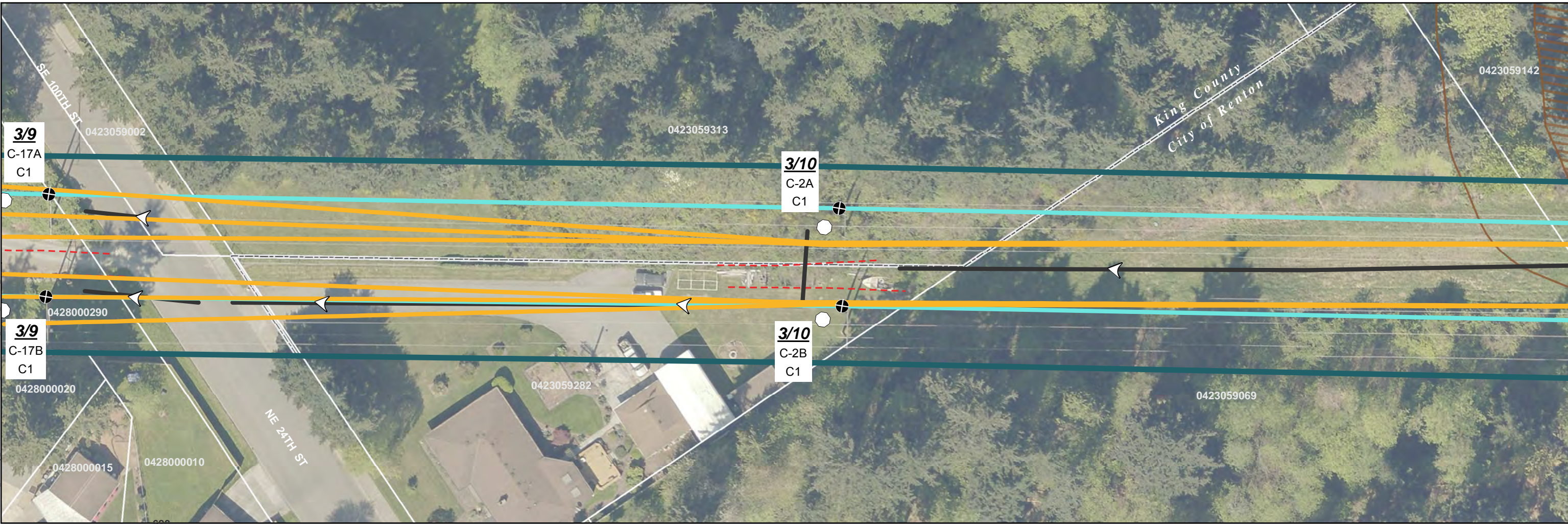
SITE PLAN

RENTON

**BASED ON PSE ENGINEERING
DESIGN REVISION N**

MATCHLINE SHEET: 4

MATCHLINE SHEET: 2

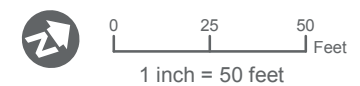


- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)

- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

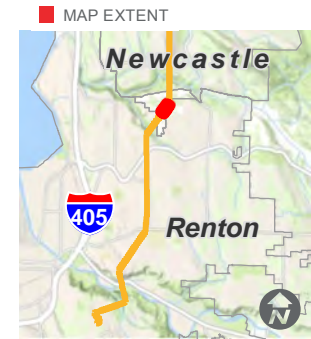
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

For cartographic purposes only.

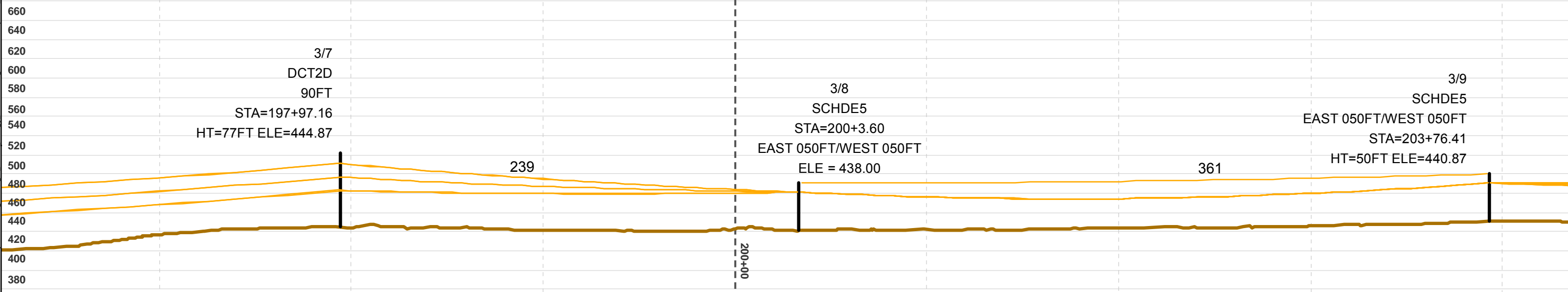
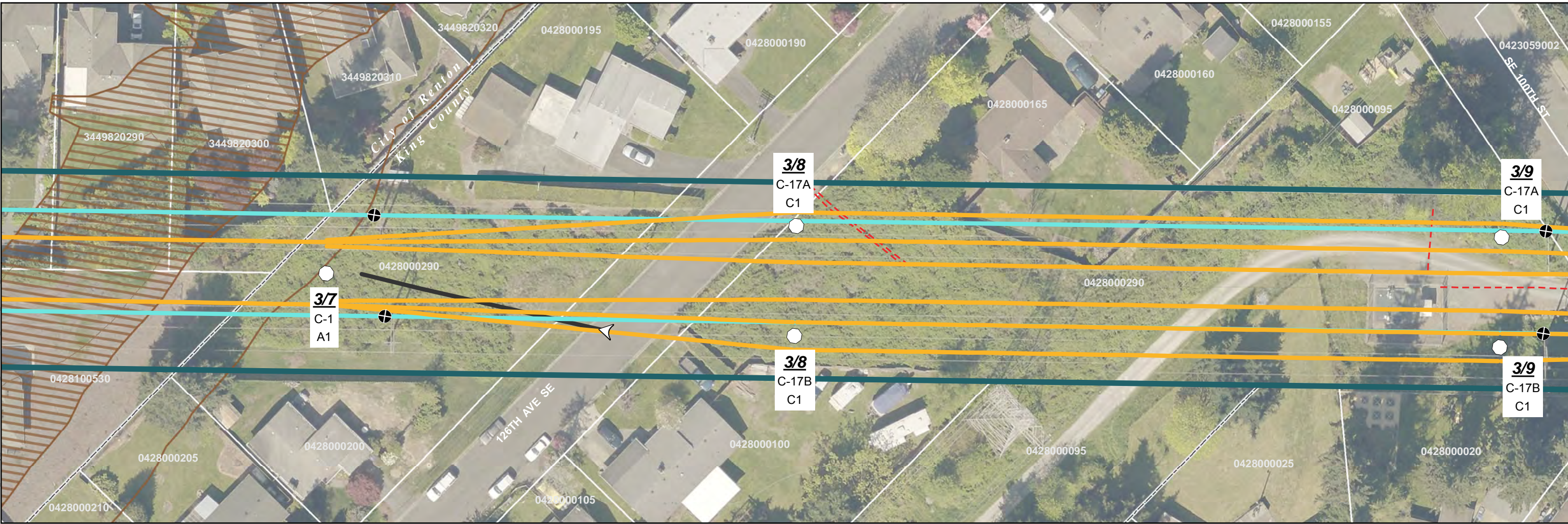
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SITE PLAN

RENTON

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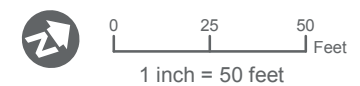


- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)

- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

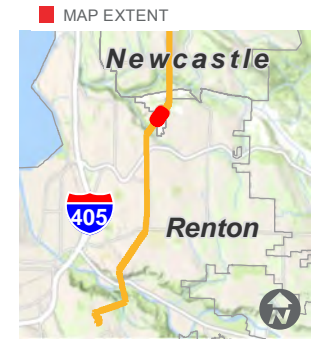
- Profile View
- Structure
 - Conductor
 - Ground Line
 - Major Elevation Grid
 - Major Station Grid
 - Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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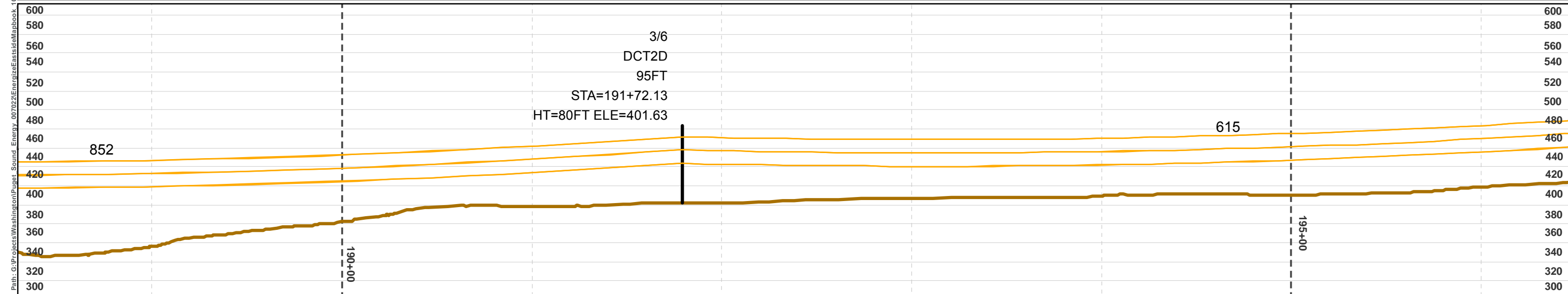
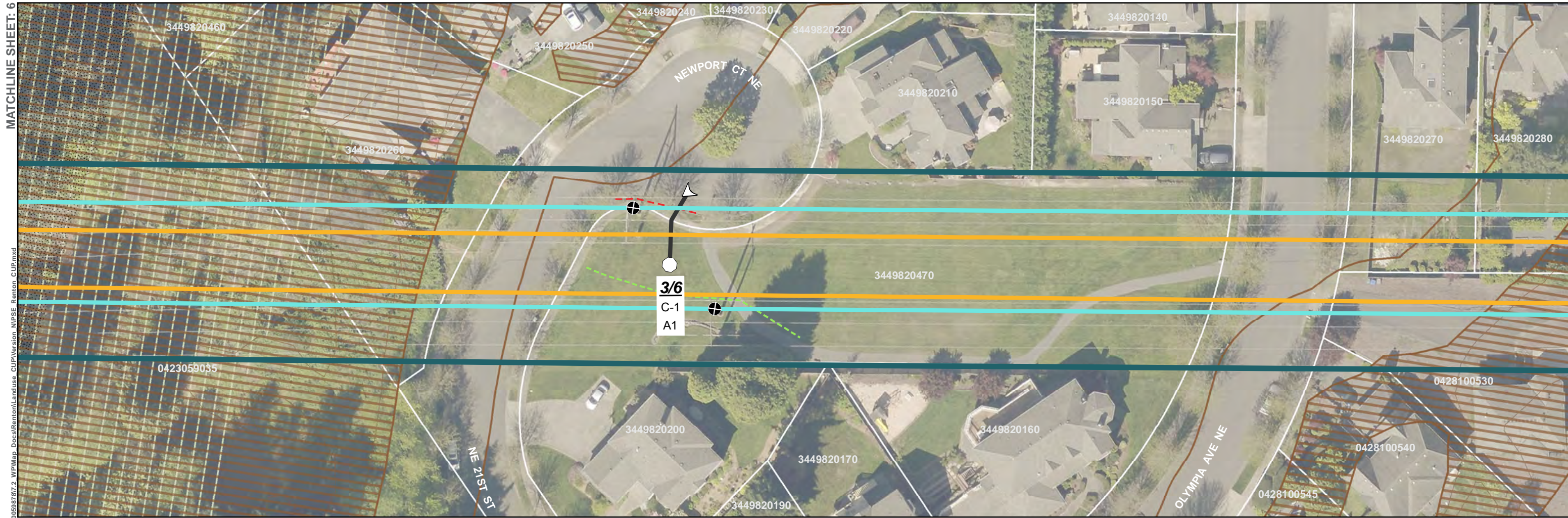
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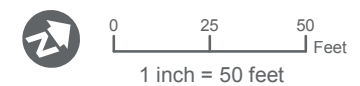
BASED ON PSE ENGINEERING DESIGN REVISION N



- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
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- Wetland
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- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

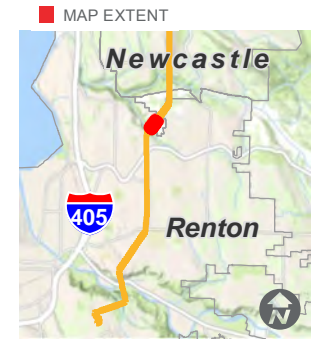
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



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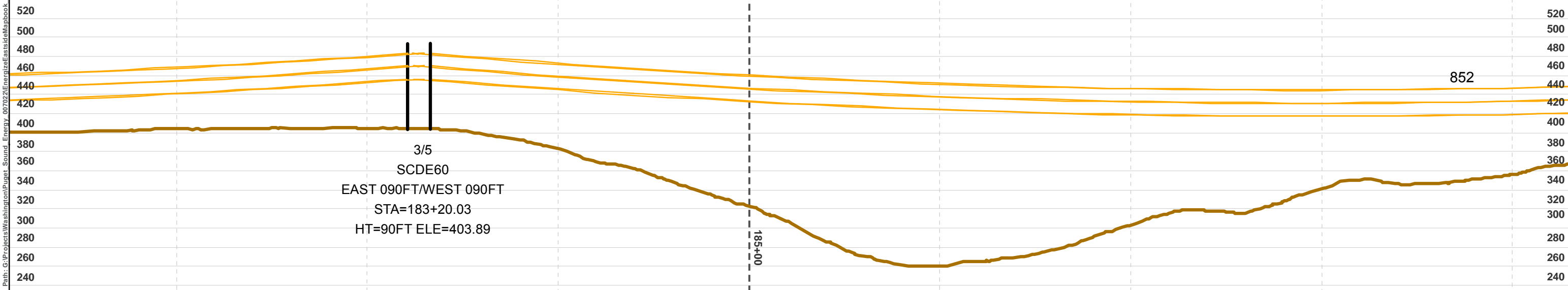
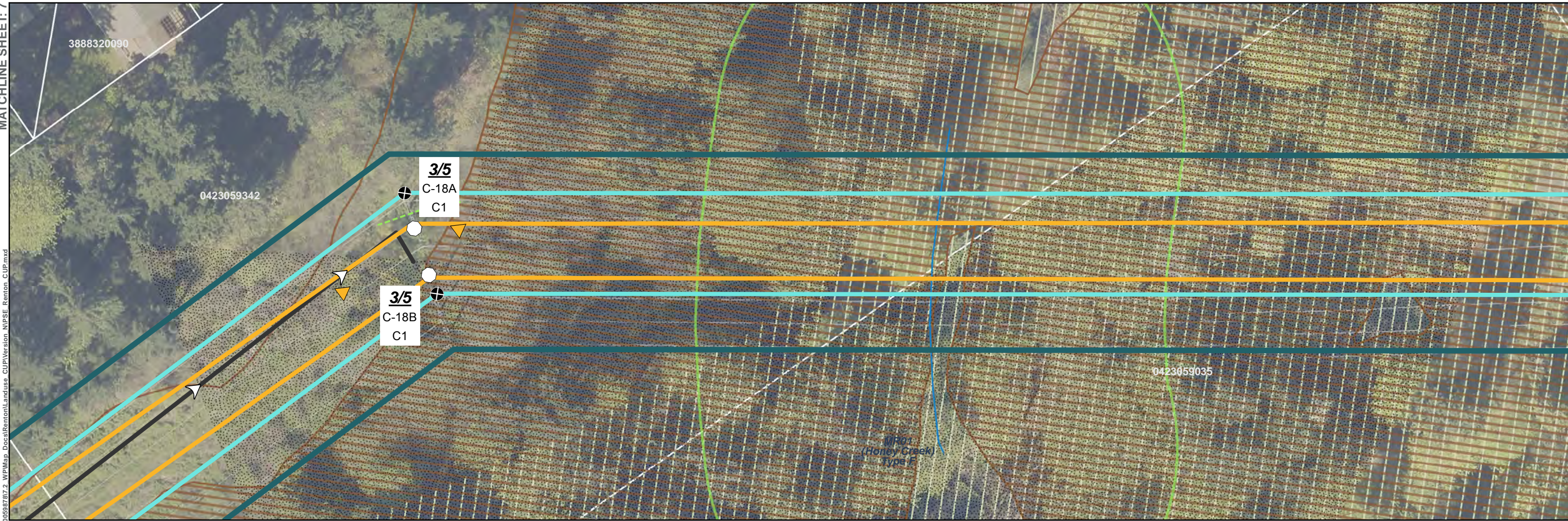
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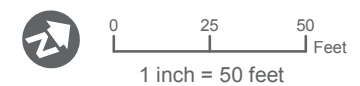
SITE PLAN

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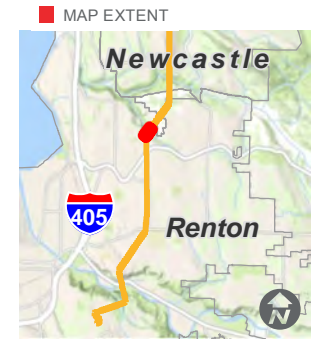
- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
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- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
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- Profile View
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- Ground Line
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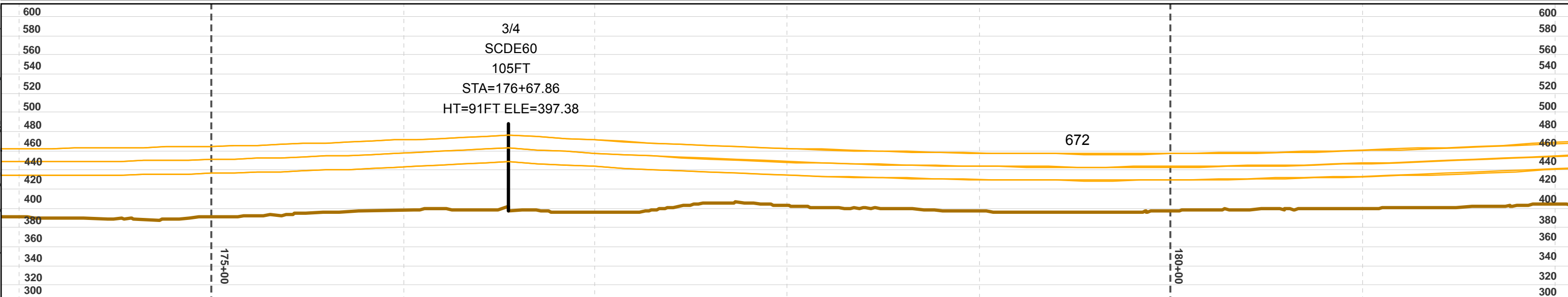
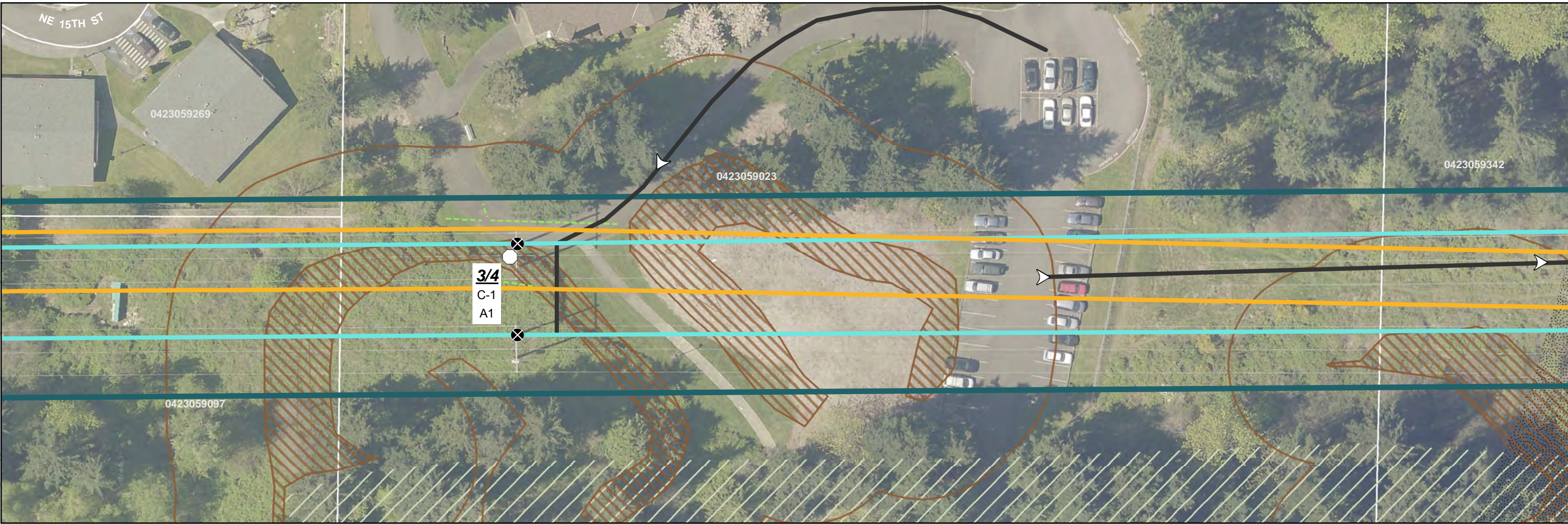
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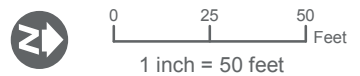


- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
- A1** Construction Scenario Key (See Appx. B)

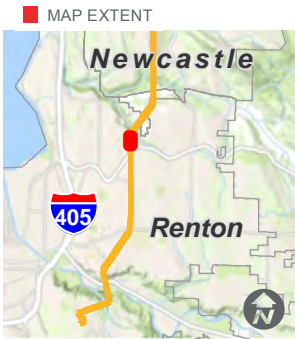
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

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- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



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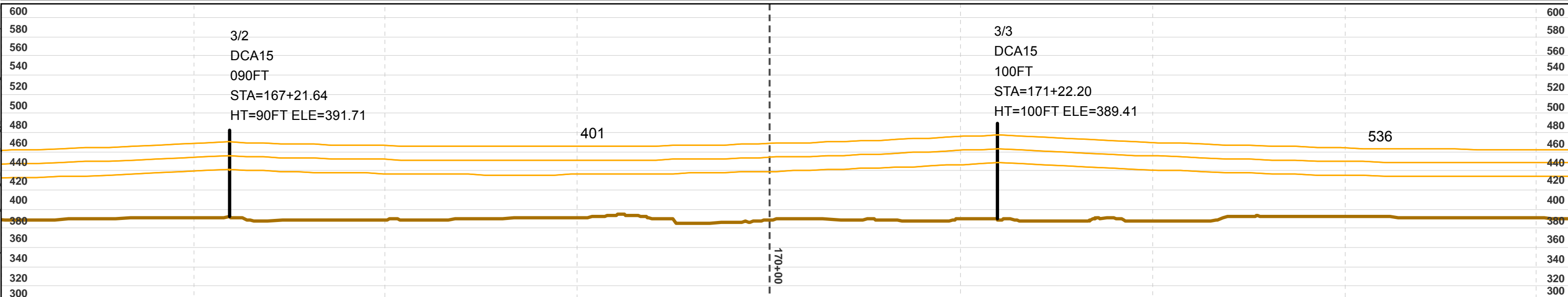
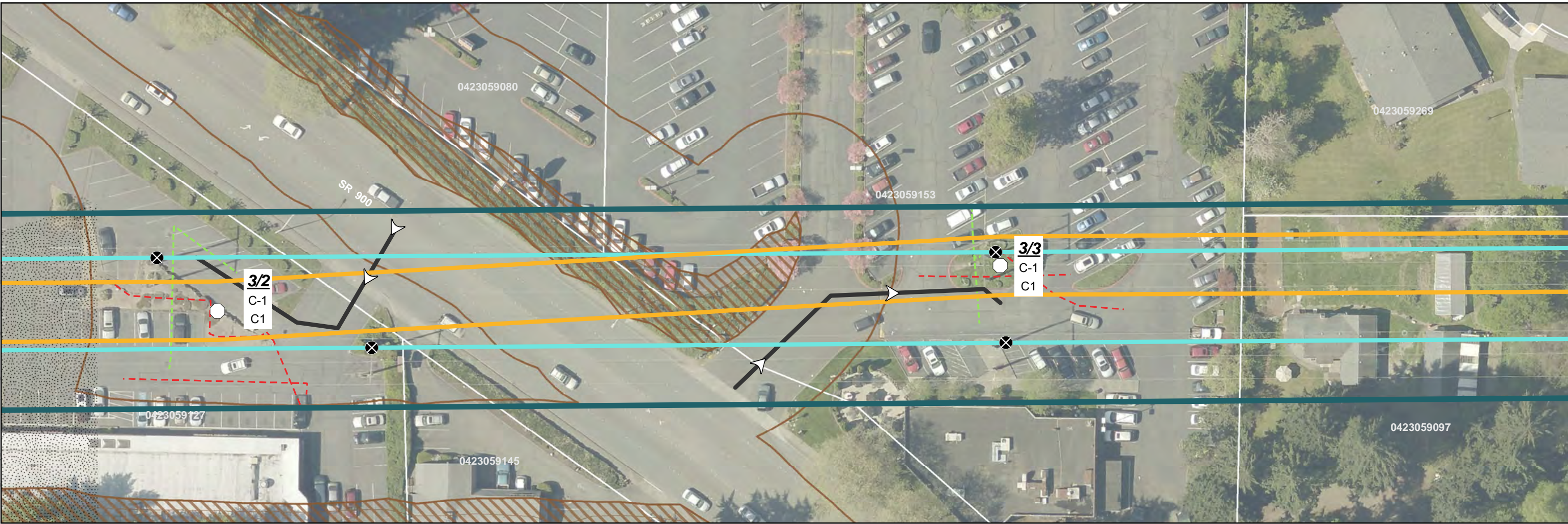
SITE PLAN

RENTON

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MATCHLINE SHEET: 9

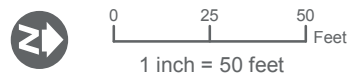
MATCHLINE SHEET: 7



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
- A1** Construction Scenario Key (See Appx. B)
- Potential Stringing Site
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- Underground Power Utility Line
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- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

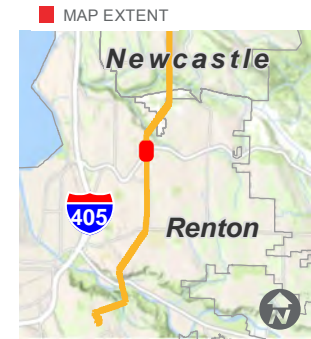
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



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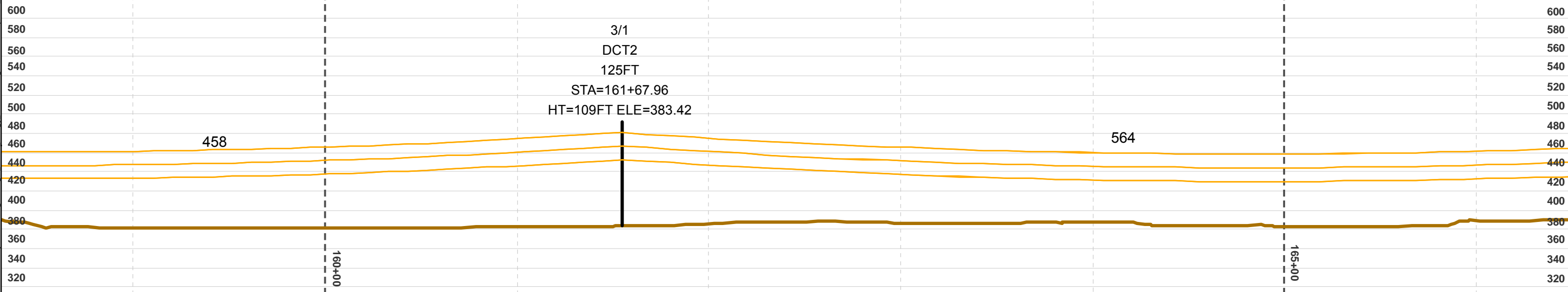
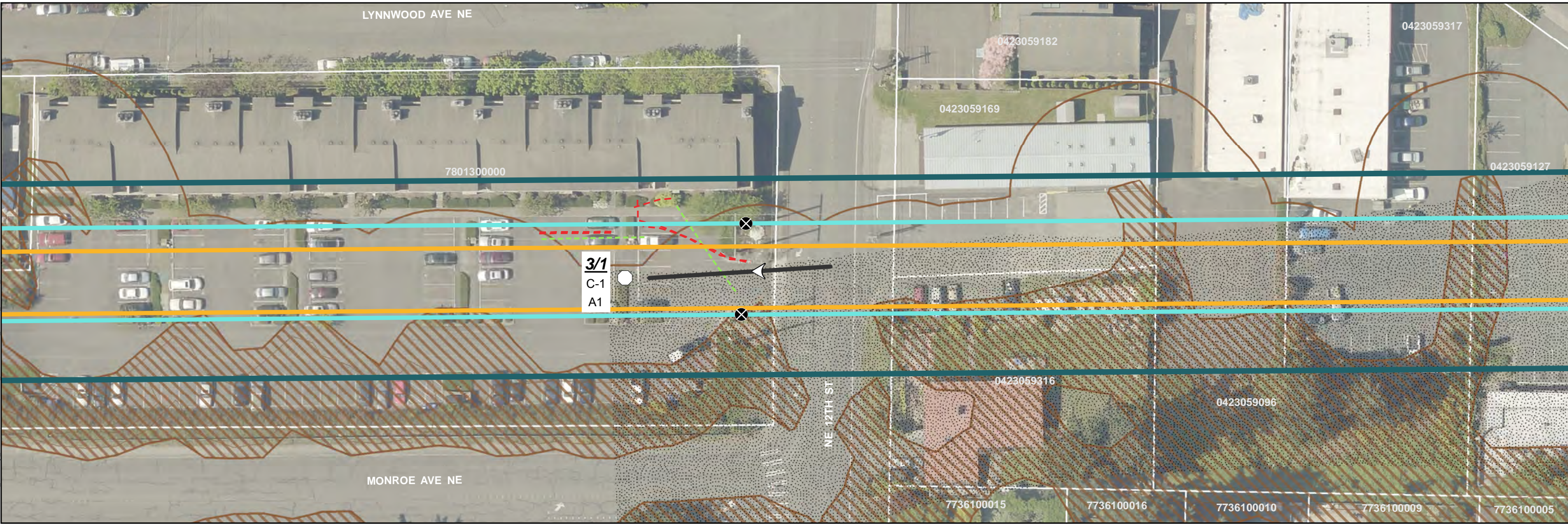
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SITE PLAN

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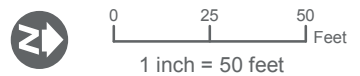
**BASED ON PSE ENGINEERING
DESIGN REVISION N**



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
- Potential Stringing Site
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- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

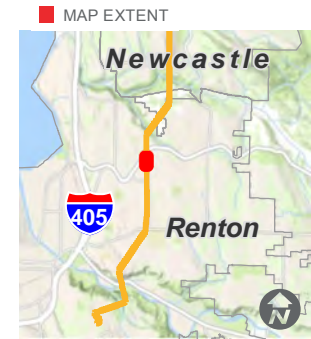
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



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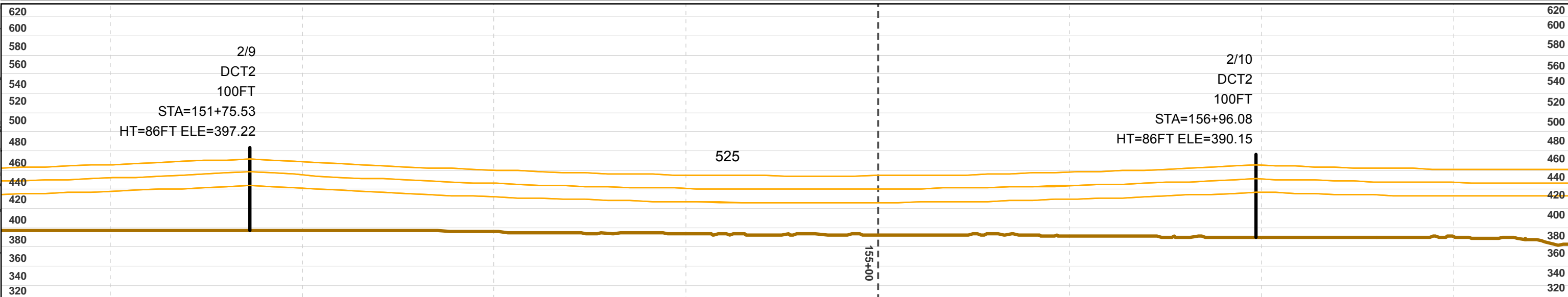
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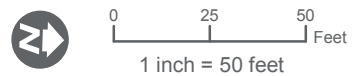
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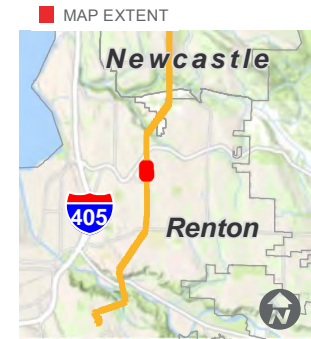
- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)
- Potential Stringing Site
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- Underground Power Utility Line
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- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

- Profile View
- Structure
 - Conductor
 - Ground Line
 - Major Elevation Grid
 - Major Station Grid
 - Minor Station Grid



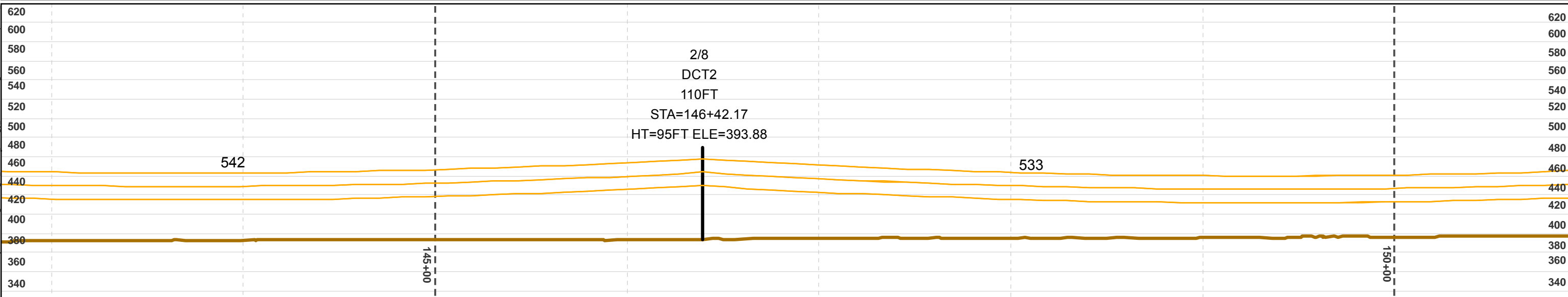
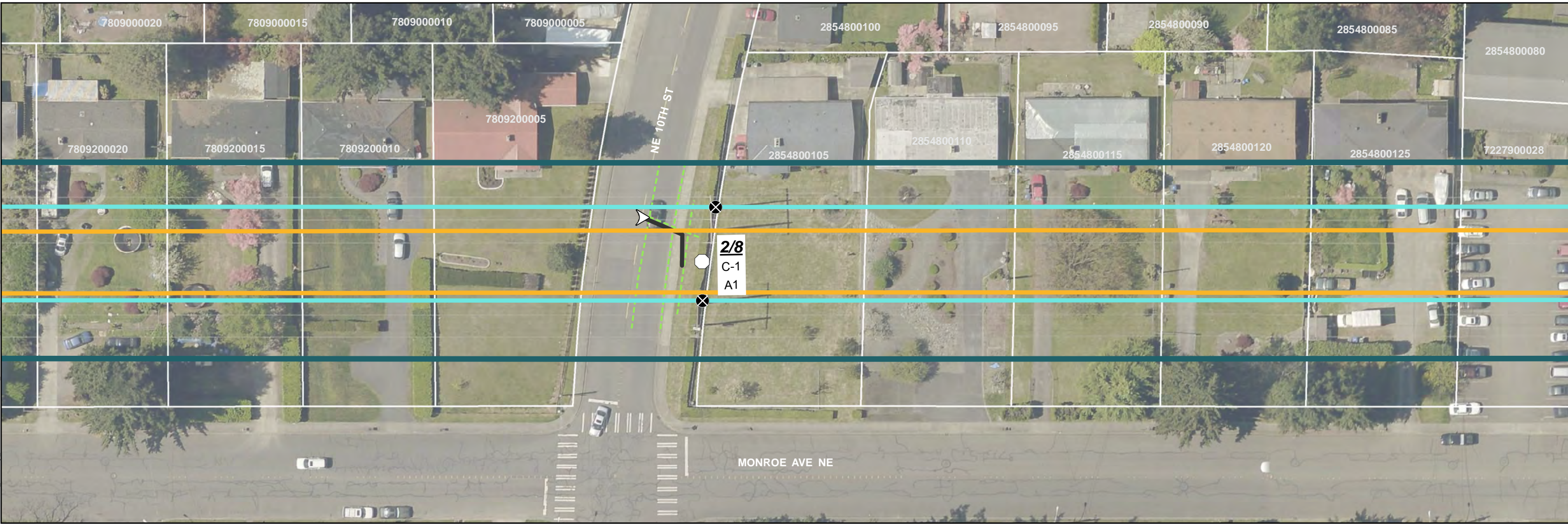
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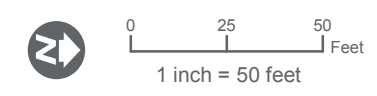
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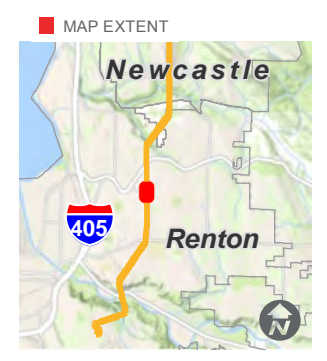
- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
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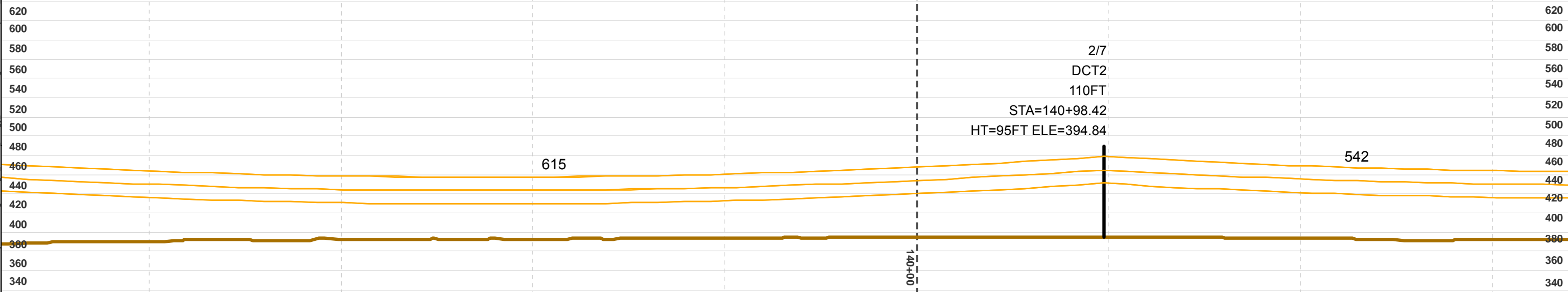
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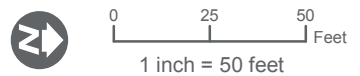


- Project Corridor
- Proposed Pole Location
- Existing Pole Location—To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
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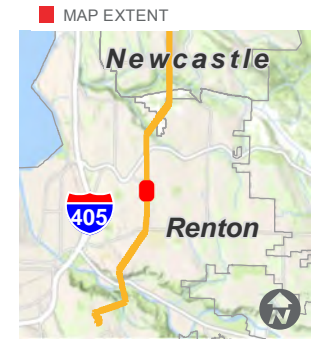
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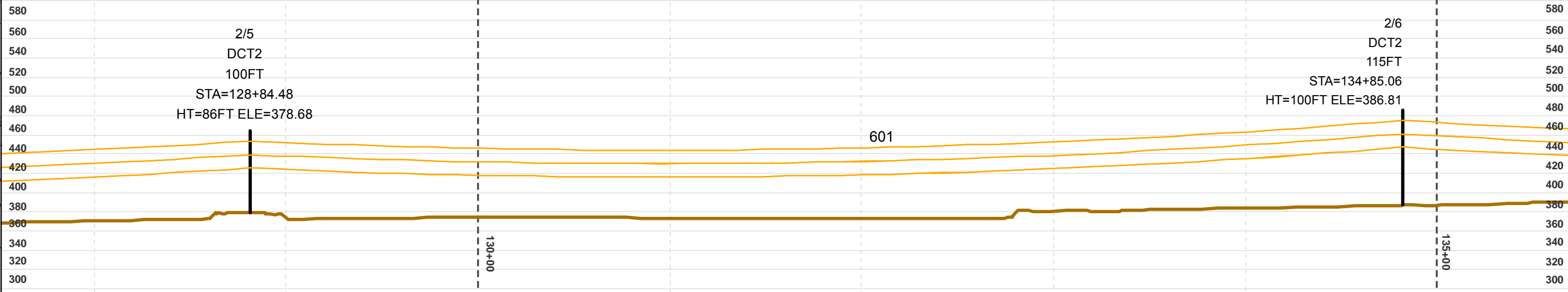
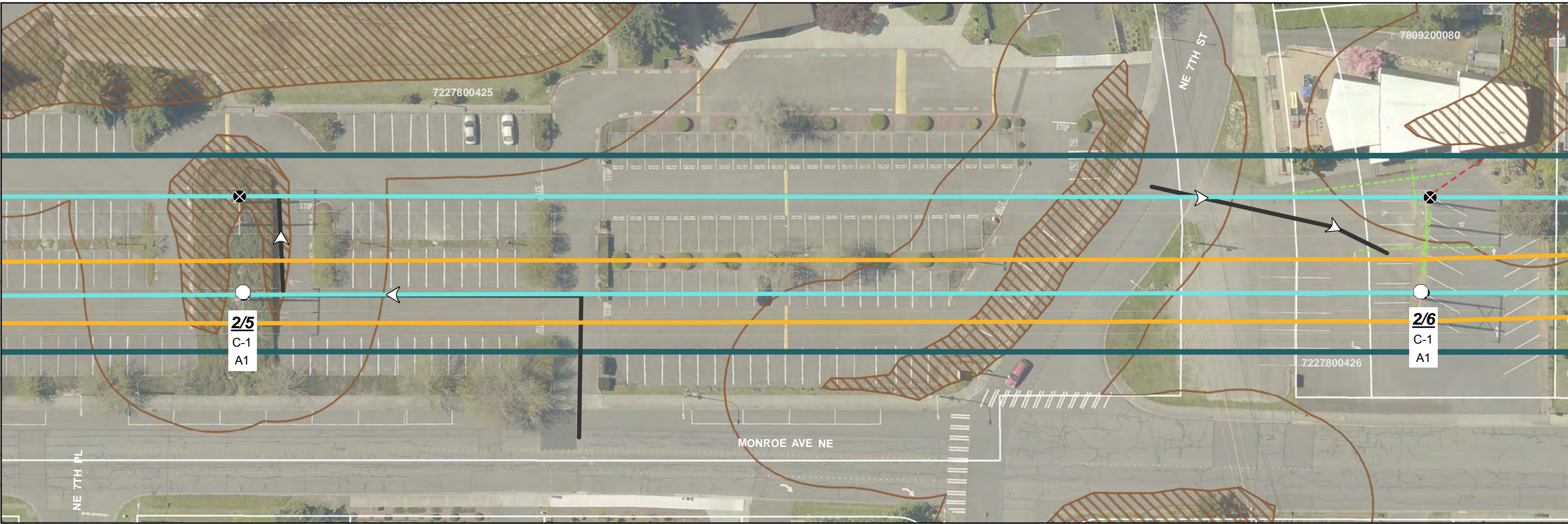
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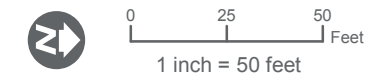
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- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
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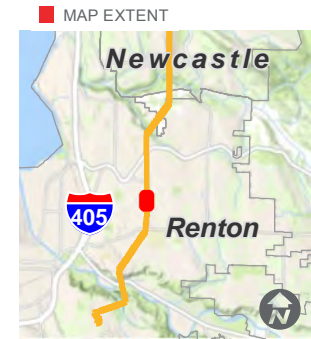
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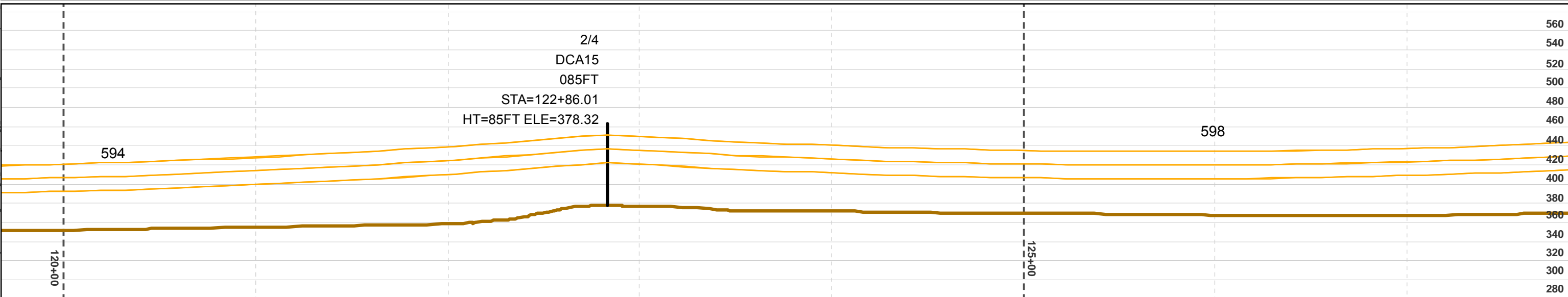
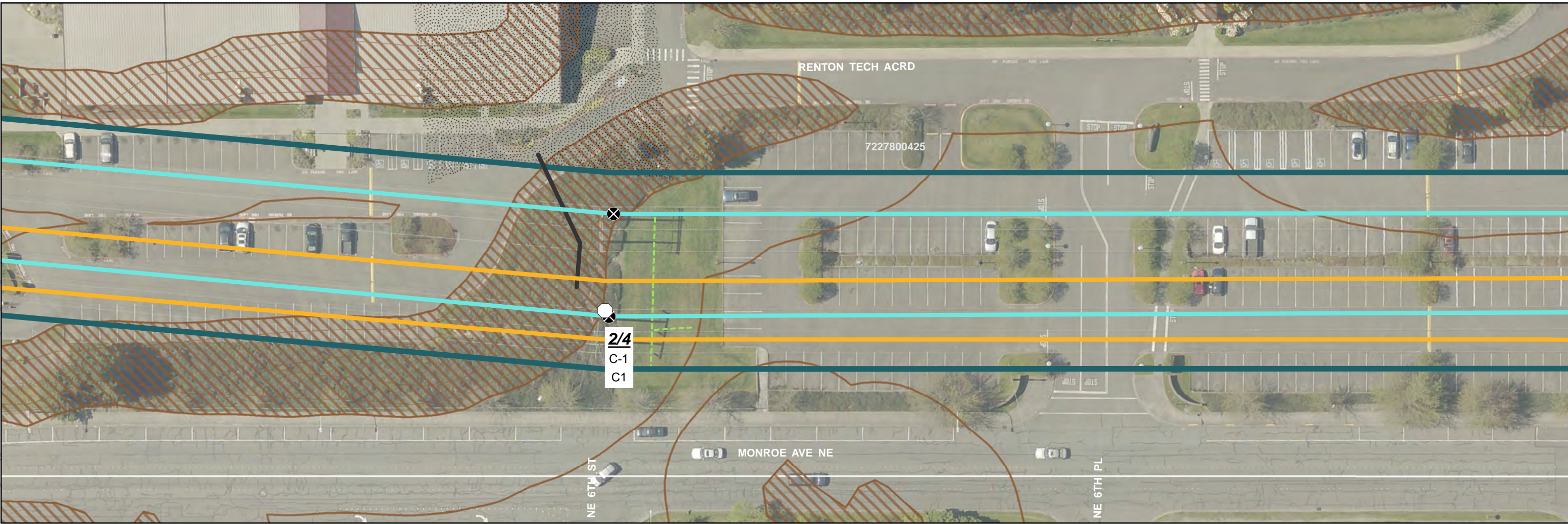
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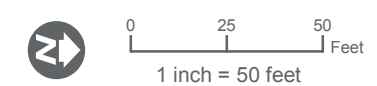


- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
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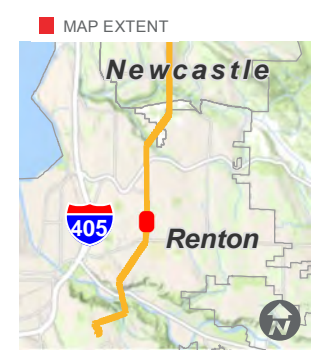
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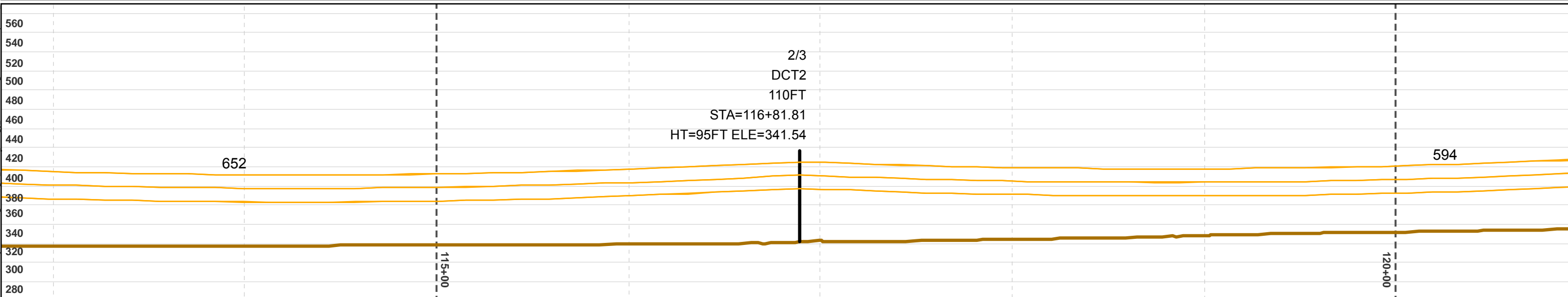
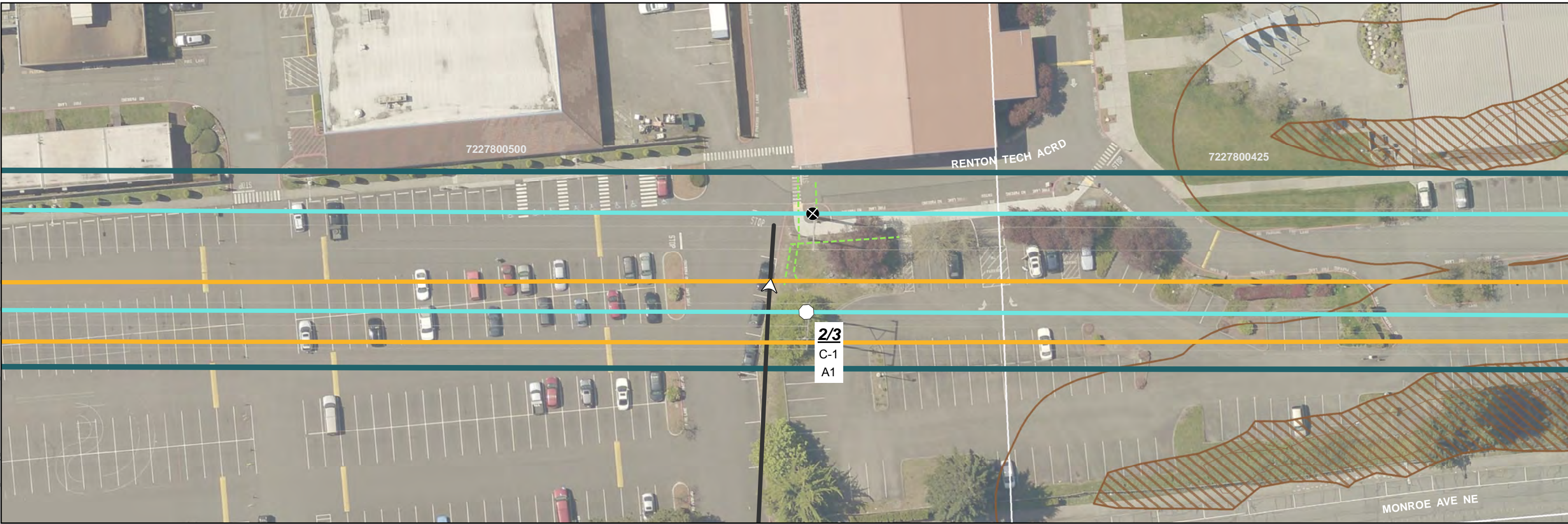
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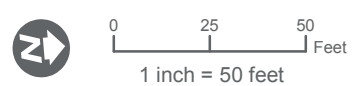
BASED ON PSE ENGINEERING DESIGN REVISION N



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
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- Steep Slope 50ft Buffer
- Erosion Hazard

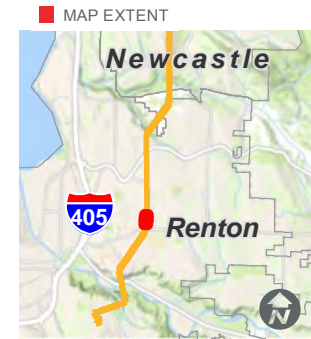
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

For cartographic purposes only.

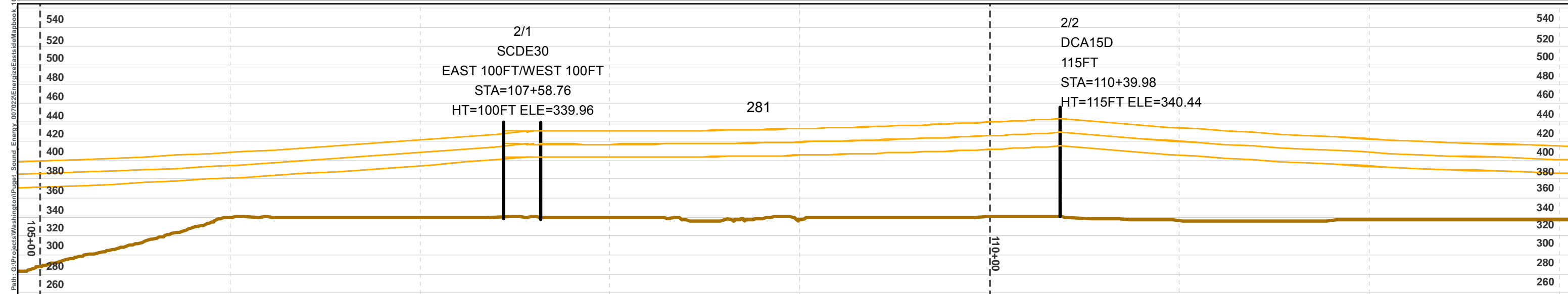
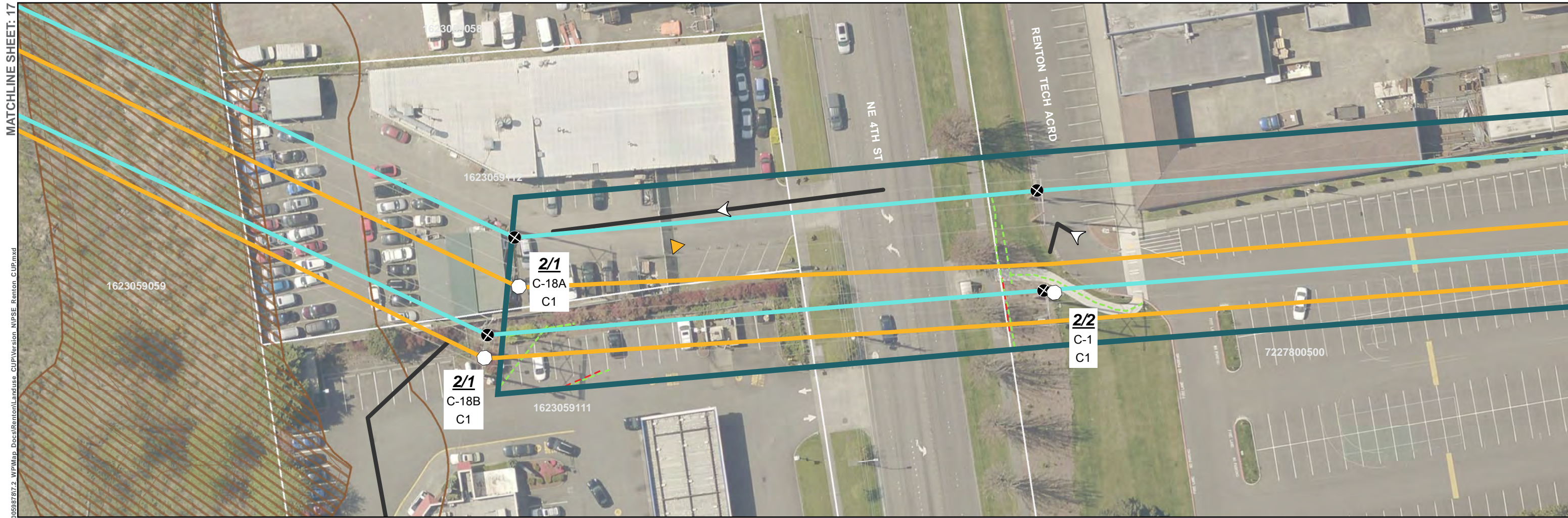
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SITE PLAN

RENTON

BASED ON PSE ENGINEERING DESIGN REVISION N

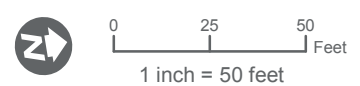


- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
- A1** Construction Scenario Key (See Appx. B)

- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

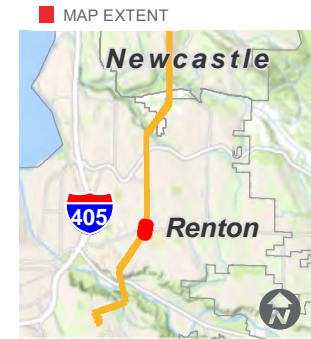
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



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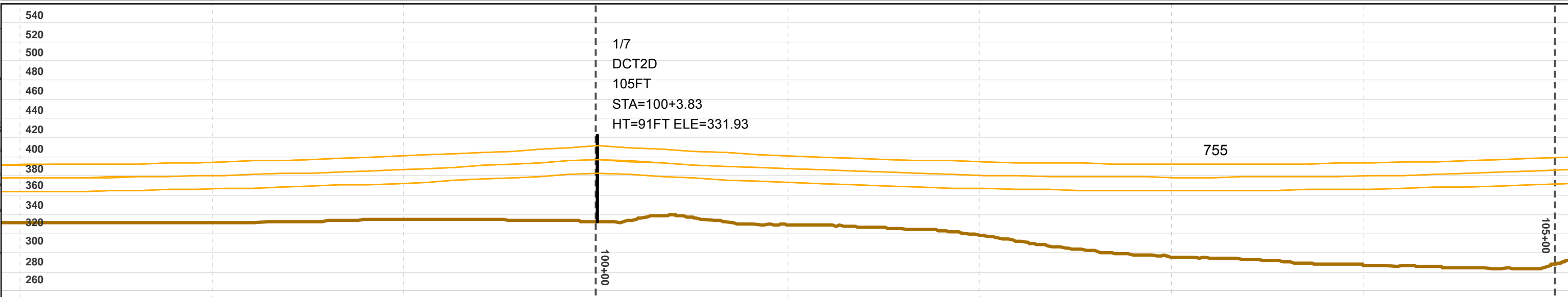
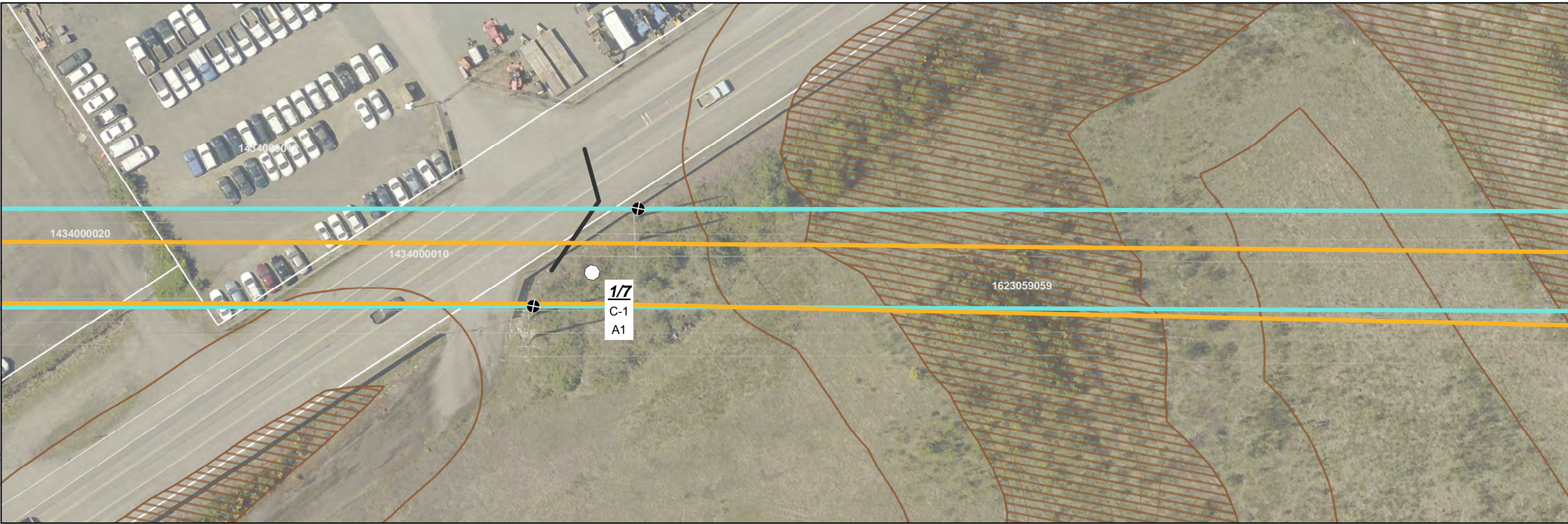
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SITE PLAN

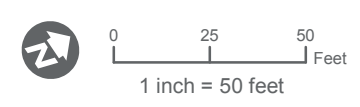
RENTON

BASED ON PSE ENGINEERING DESIGN REVISION N



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
- A1** Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

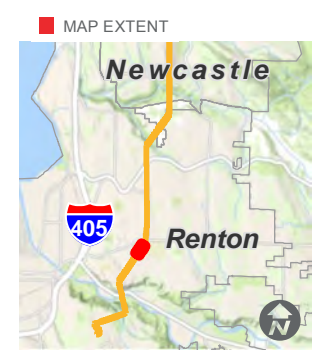
- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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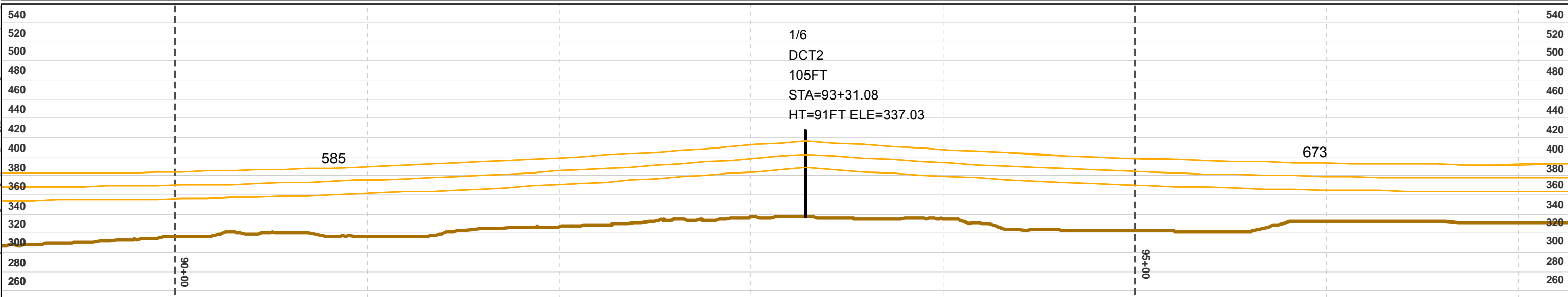
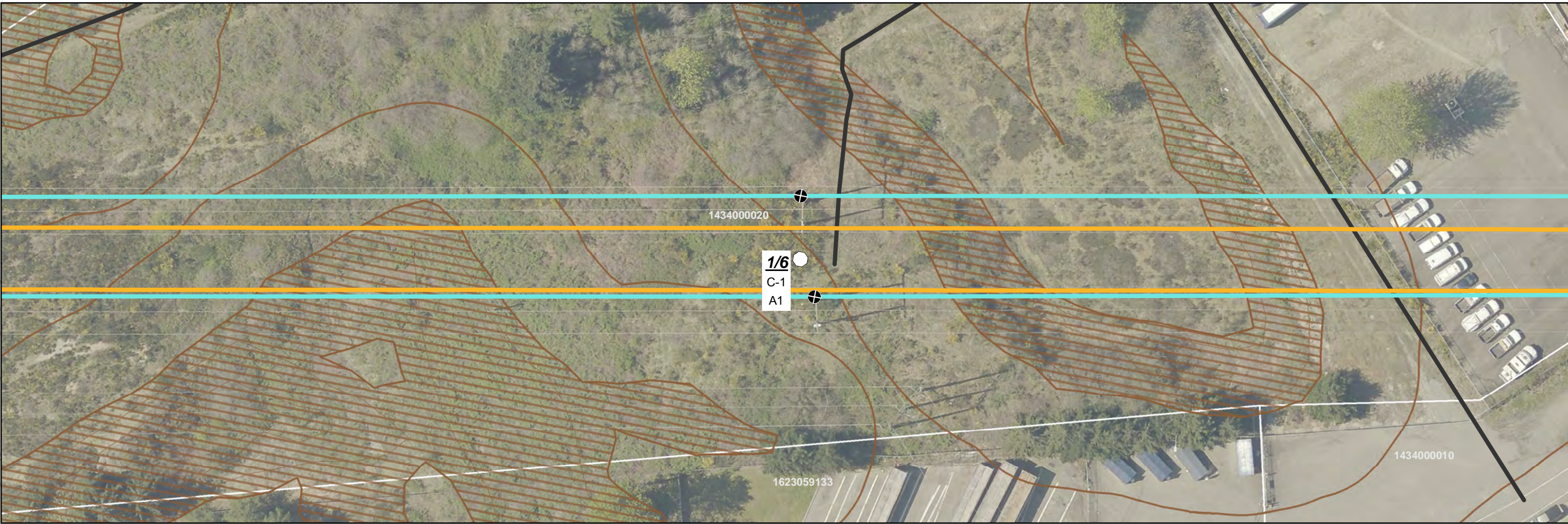


SITE PLAN

RENTON

BASED ON PSE ENGINEERING DESIGN REVISION N

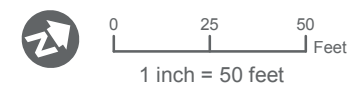
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- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
- Potential Stringing Site
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- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

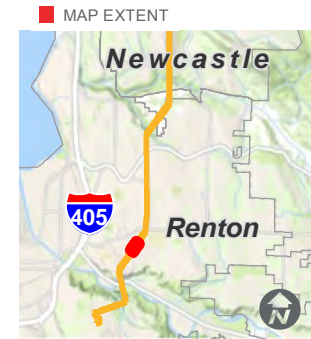
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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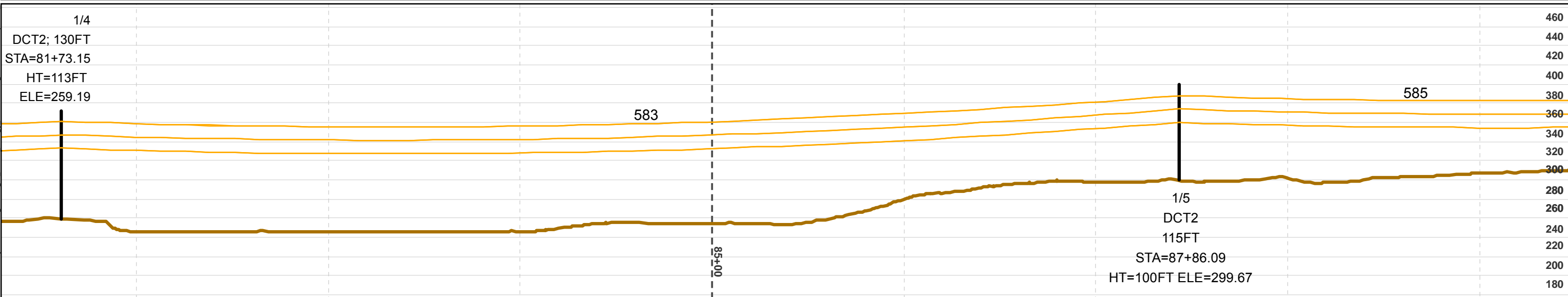
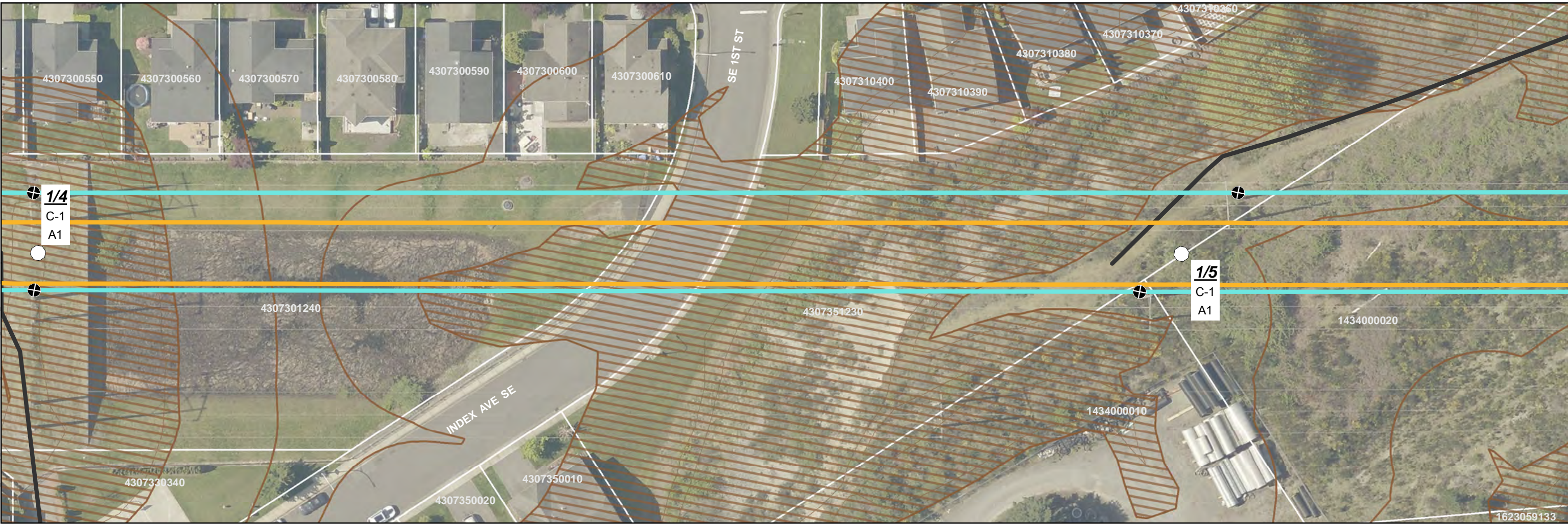
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SITE PLAN

RENTON

**BASED ON PSE ENGINEERING
DESIGN REVISION N**

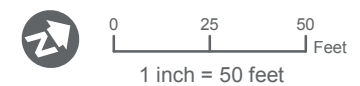


- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)

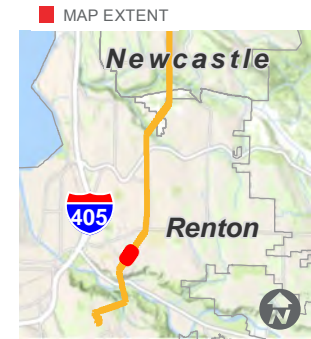
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

- Profile View
- Structure
 - Conductor
 - Ground Line
 - Major Elevation Grid
 - Major Station Grid
 - Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).
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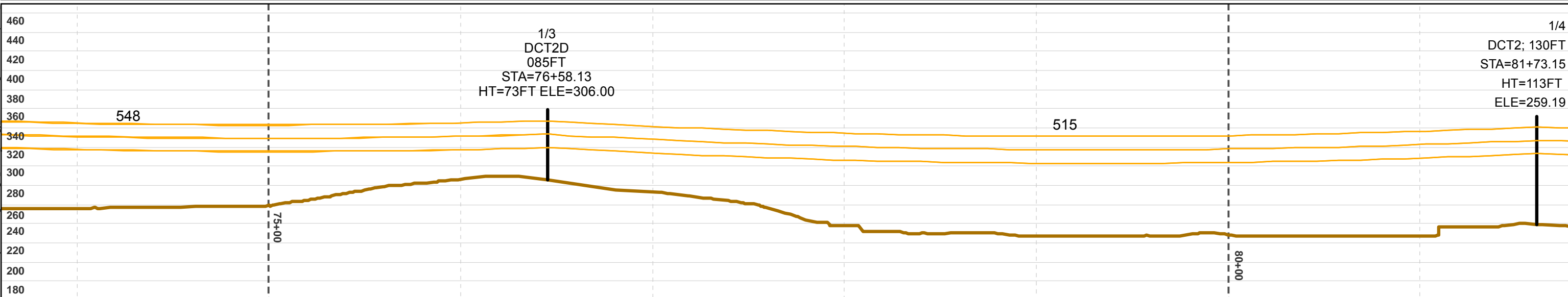
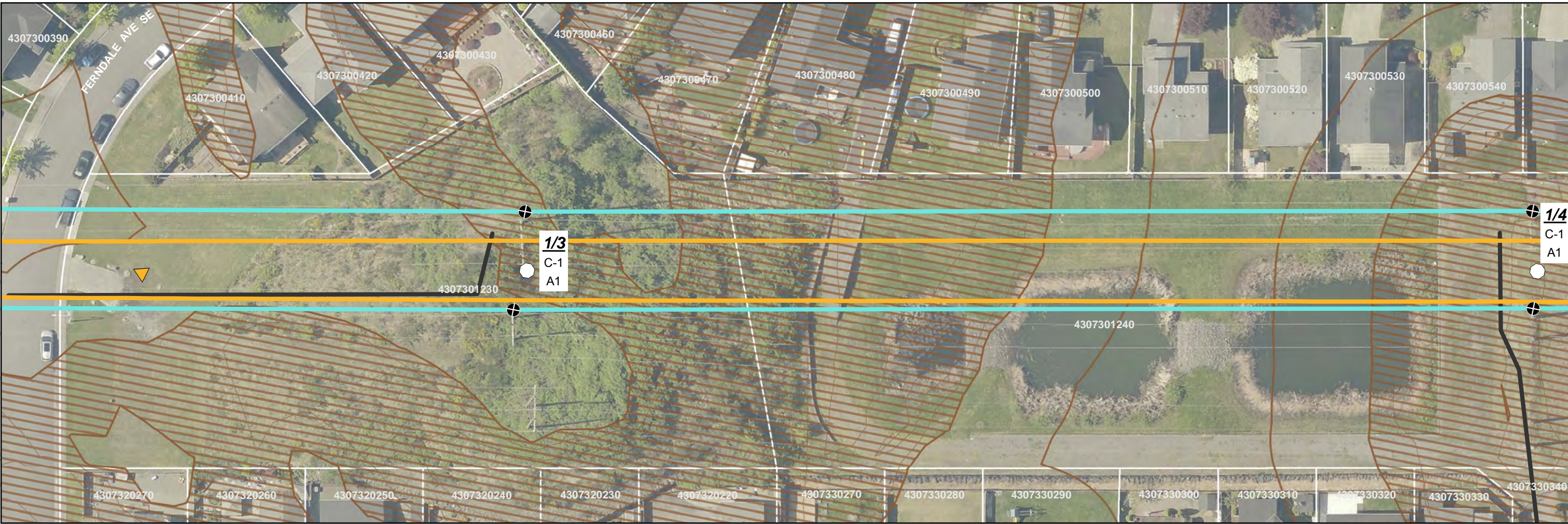
SITE PLAN

RENTON

**BASED ON PSE ENGINEERING
DESIGN REVISION N**

MATCHLINE SHEET: 21

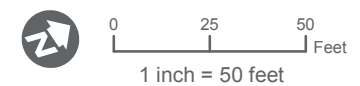
MATCHLINE SHEET: 19



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

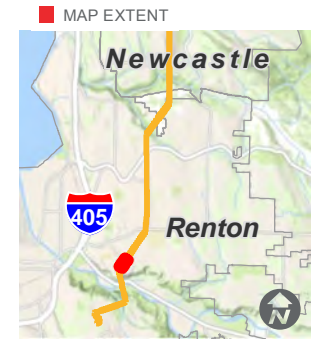
- Profile View
- Structure
 - Conductor
 - Ground Line
 - Major Elevation Grid
 - Major Station Grid
 - Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

For cartographic purposes only.

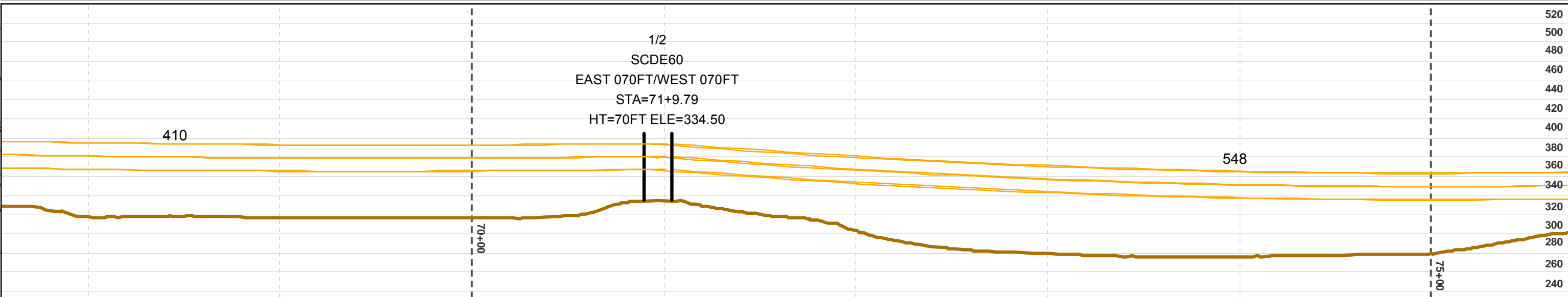
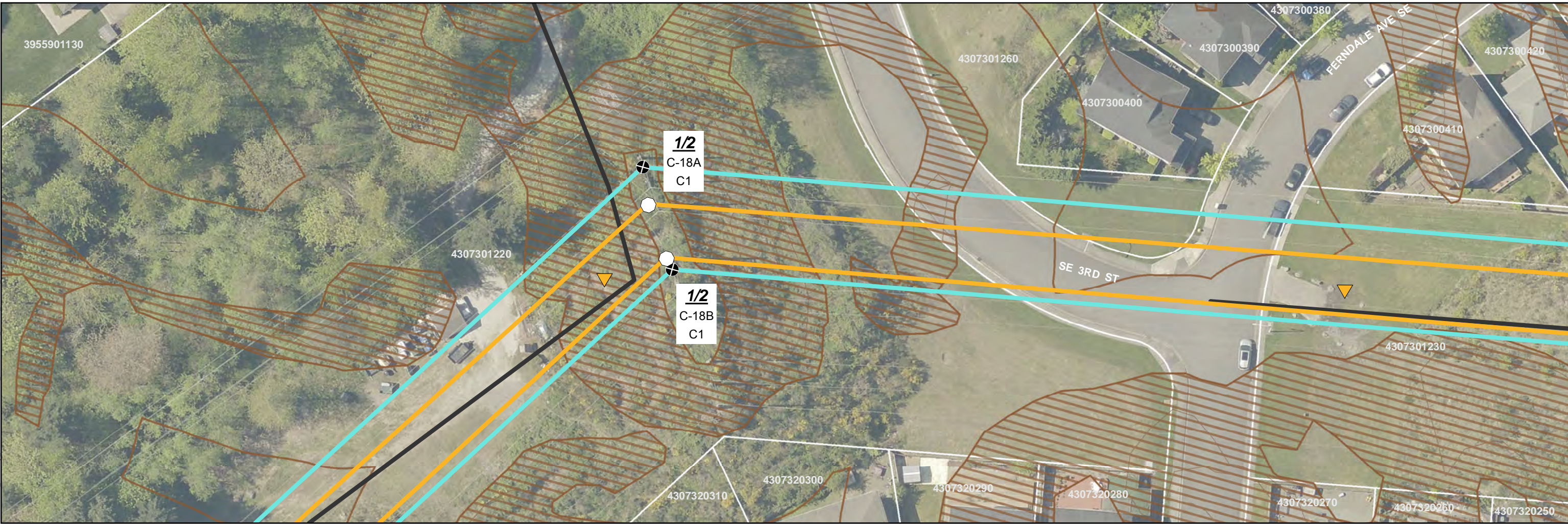
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SITE PLAN

RENTON

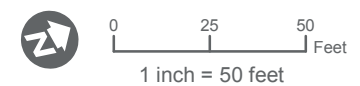
**BASED ON PSE ENGINEERING
DESIGN REVISION N**



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
- A1** Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

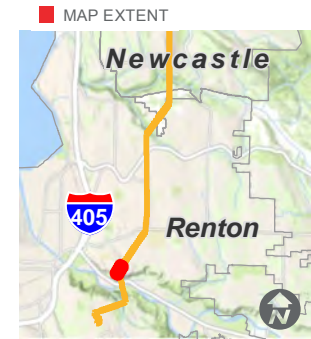
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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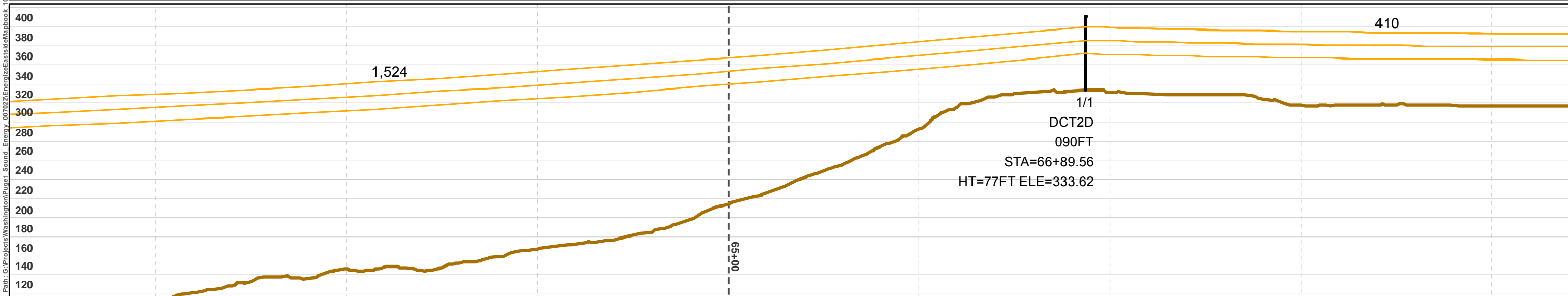
SITE PLAN

RENTON

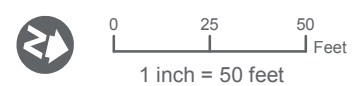
BASED ON PSE ENGINEERING DESIGN REVISION N

MATCHLINE SHEET: 23

MATCHLINE SHEET: 21



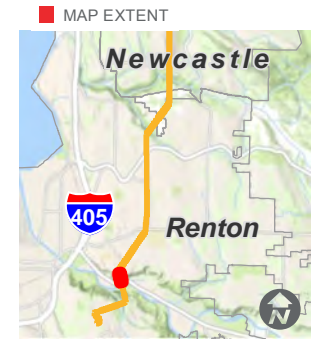
- Project Corridor
- Proposed Pole Location
- Existing Pole Location—To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary
- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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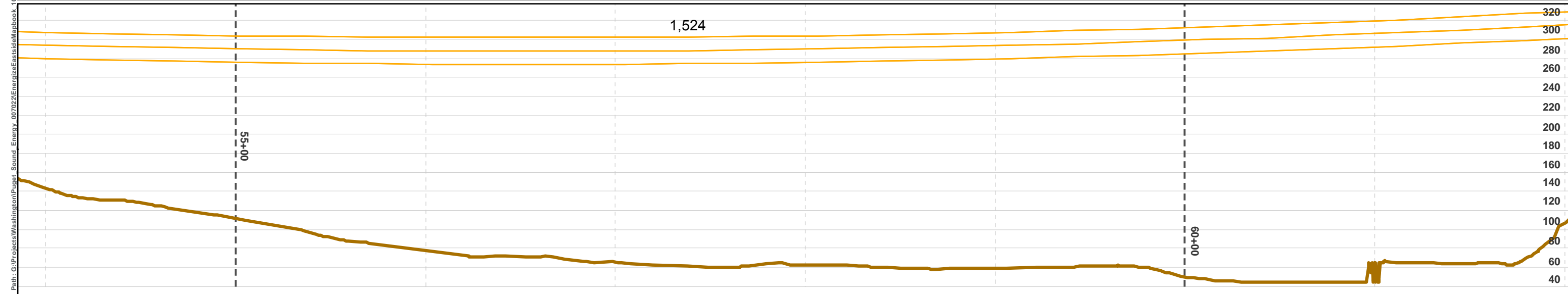
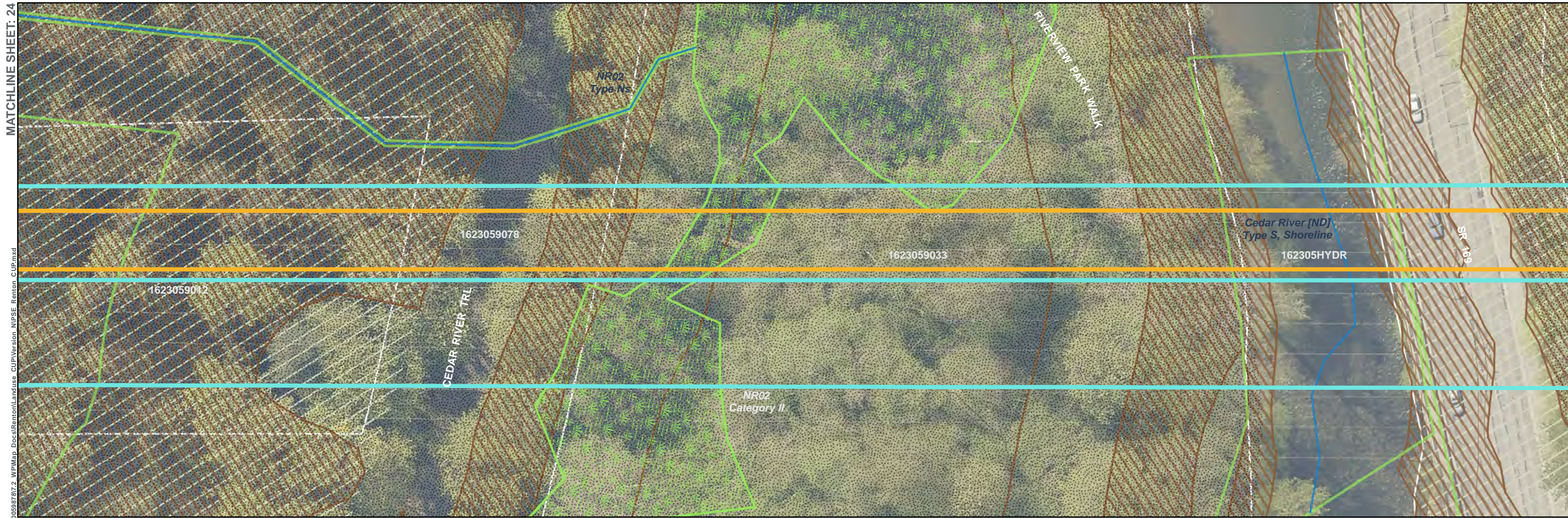
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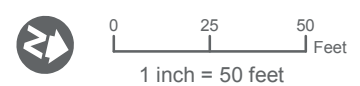
SITE PLAN

RENTON

**BASED ON PSE ENGINEERING
DESIGN REVISION N**



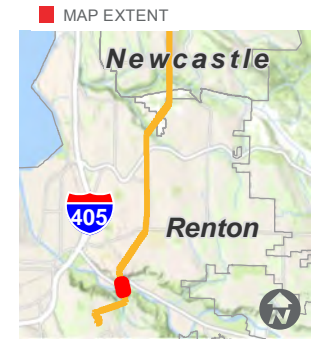
- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary
- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard
- Profile View
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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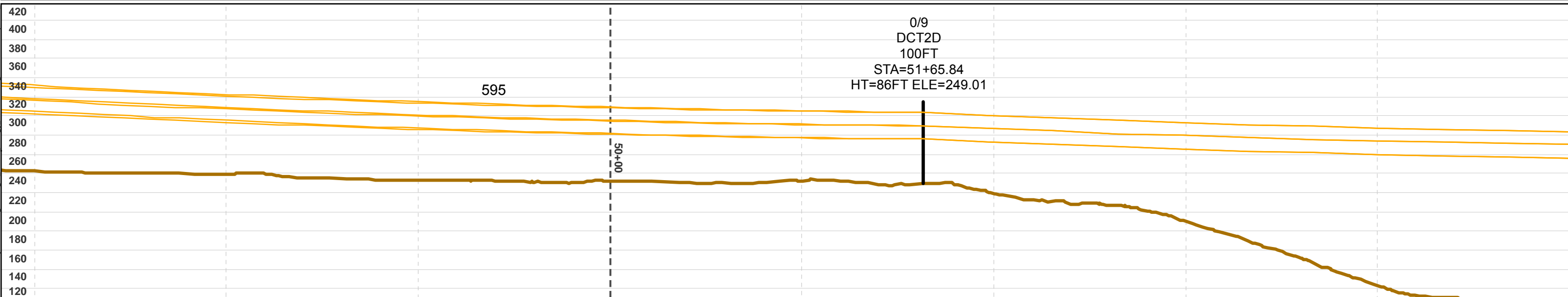
SITE PLAN

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**BASED ON PSE ENGINEERING
DESIGN REVISION N**

MATCHLINE SHEET: 25

MATCHLINE SHEET: 23

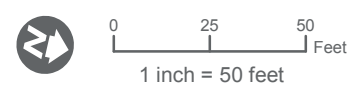


- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)

- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

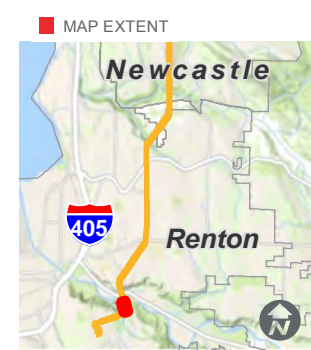
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

For cartographic purposes only.

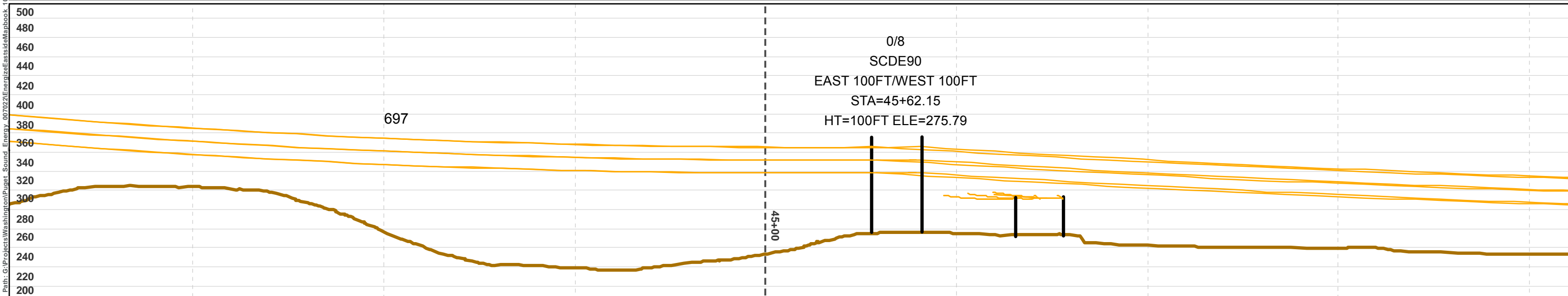
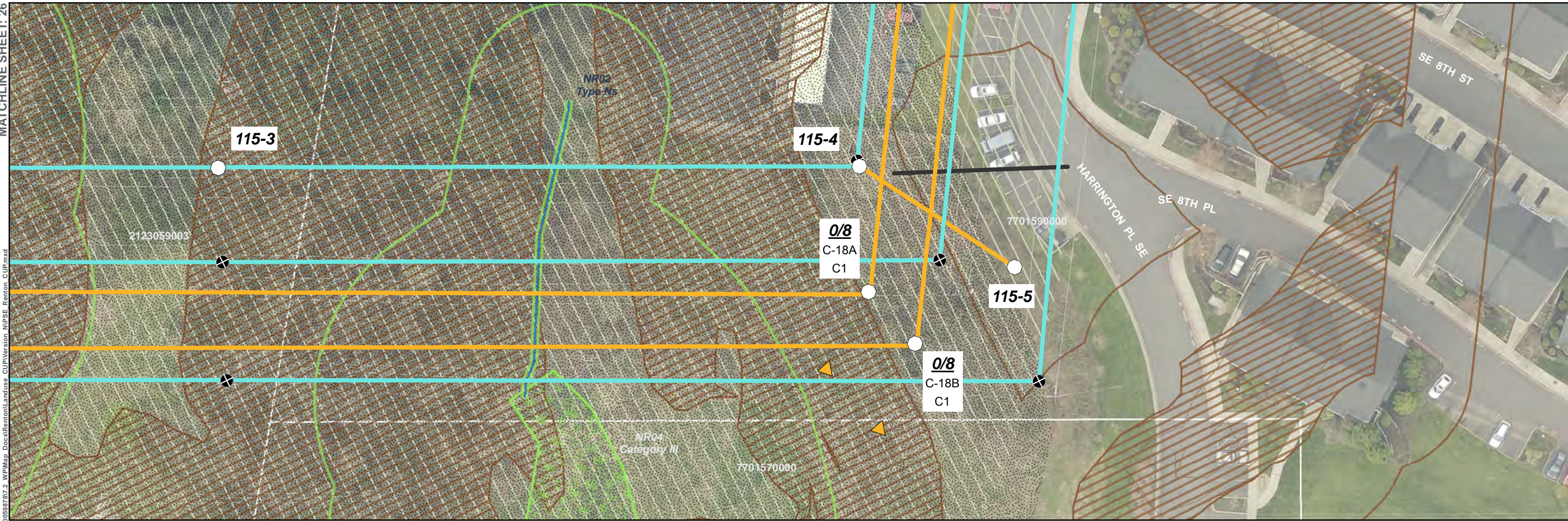
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SITE PLAN

RENTON

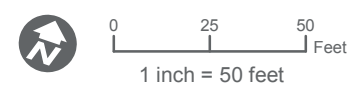
**BASED ON PSE ENGINEERING
DESIGN REVISION N**



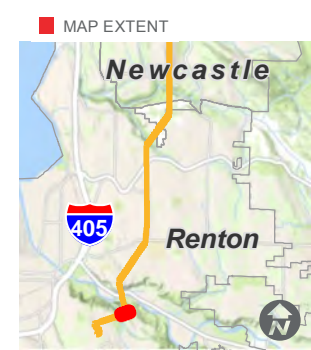
- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16** Structure Type (See Appx. A)
- A1** Construction Scenario Key (See Appx. B)
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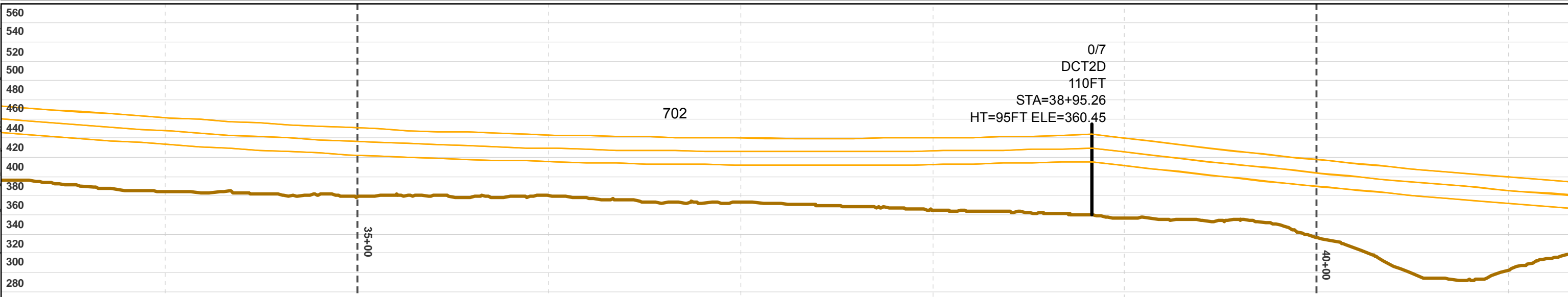
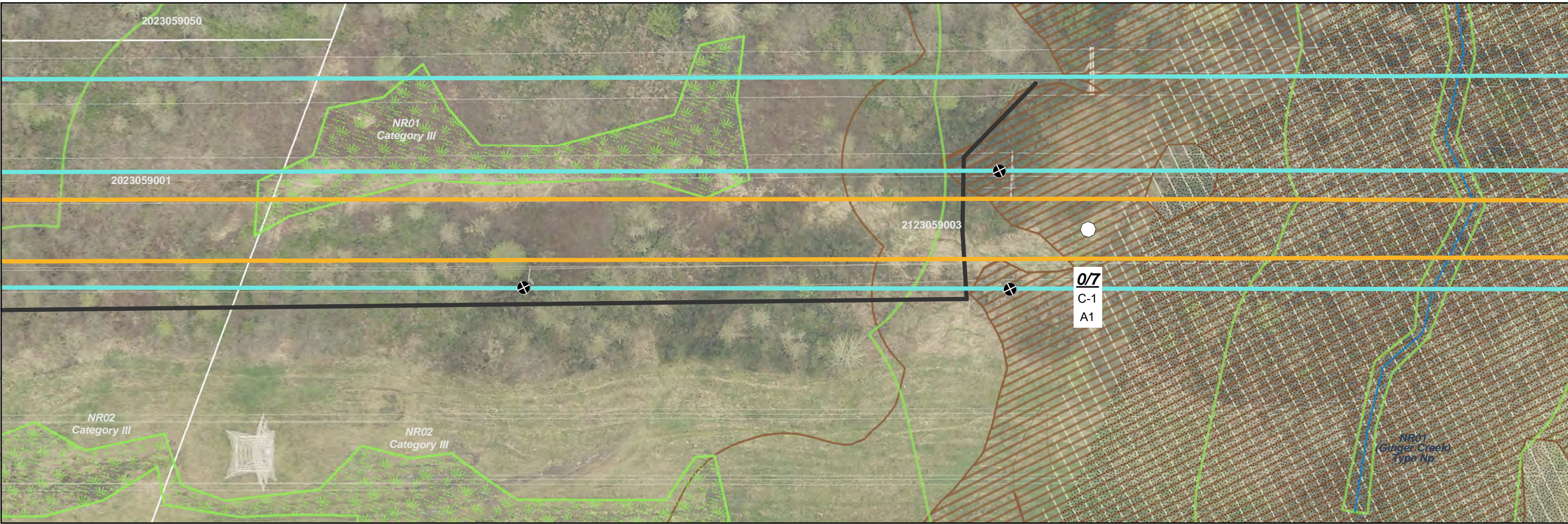
SITE PLAN

RENTON

BASED ON PSE ENGINEERING DESIGN REVISION N

MATCHLINE SHEET: 27

MATCHLINE SHEET: 25

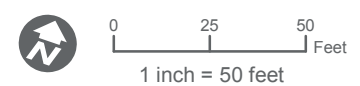


- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)

- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

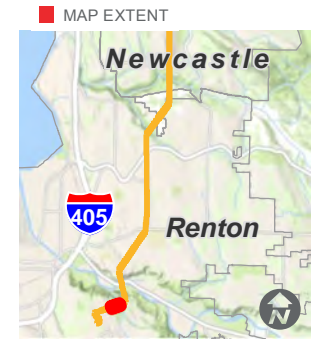
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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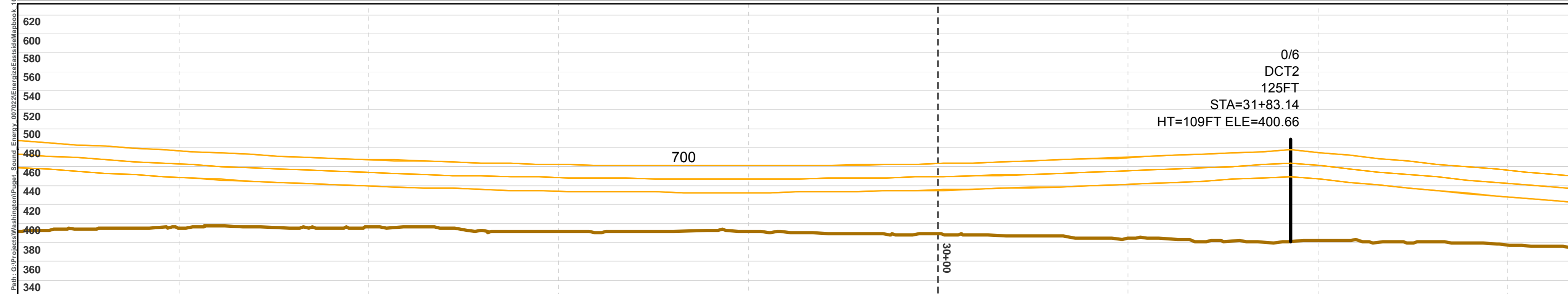
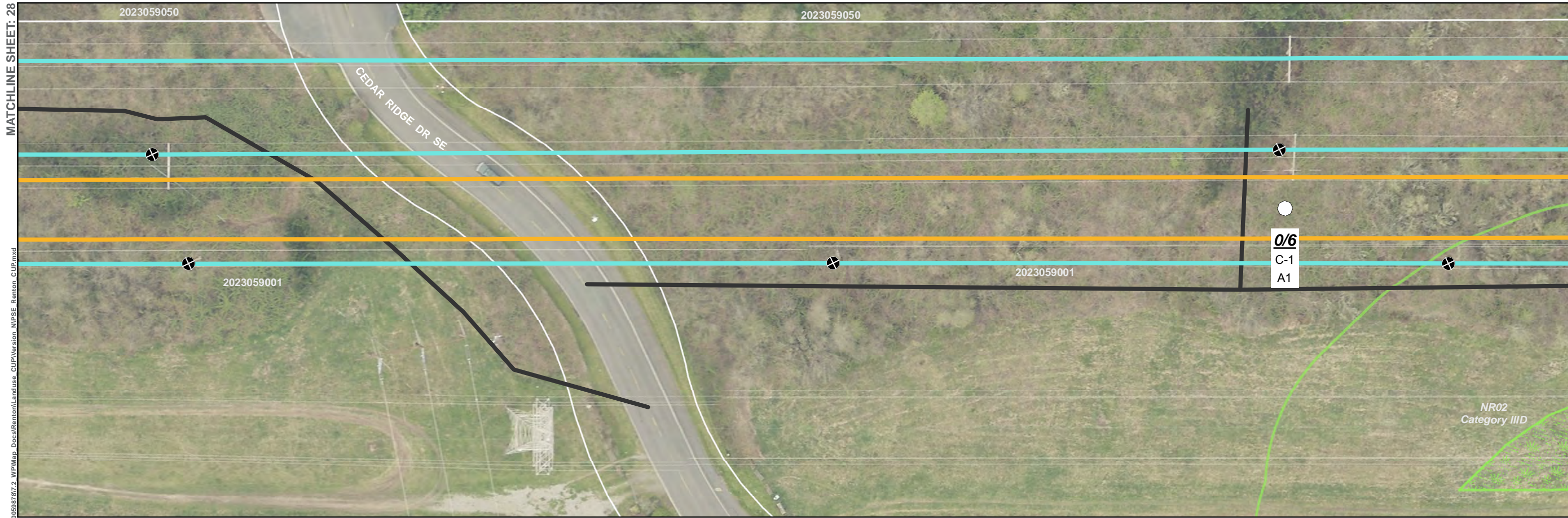
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SITE PLAN

RENTON

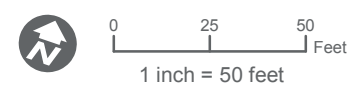
**BASED ON PSE ENGINEERING
DESIGN REVISION N**



- Project Corridor
- Proposed Pole Location
- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- Proposed Pole Number
- Structure Type (See Appx. A)
- Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard

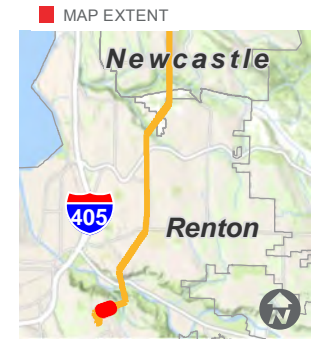
- Profile View**
- Structure
- Conductor
- Ground Line
- Major Elevation Grid
- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

For cartographic purposes only.

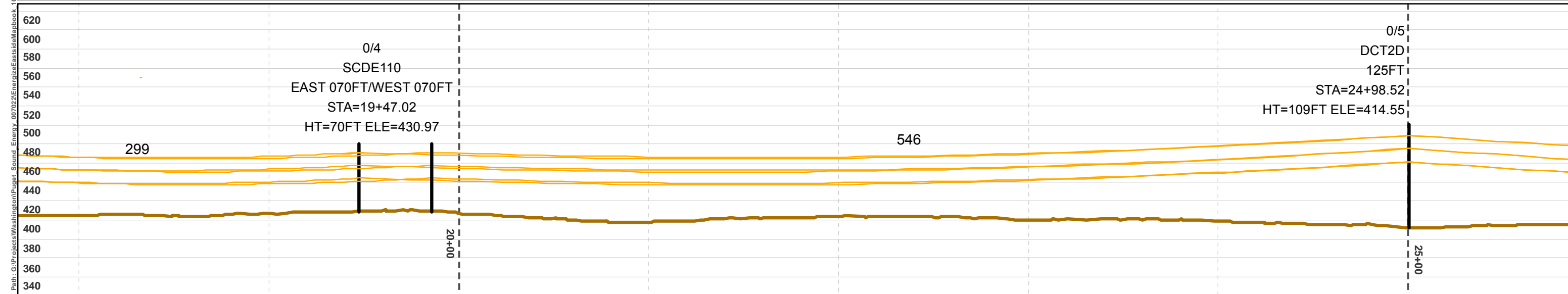
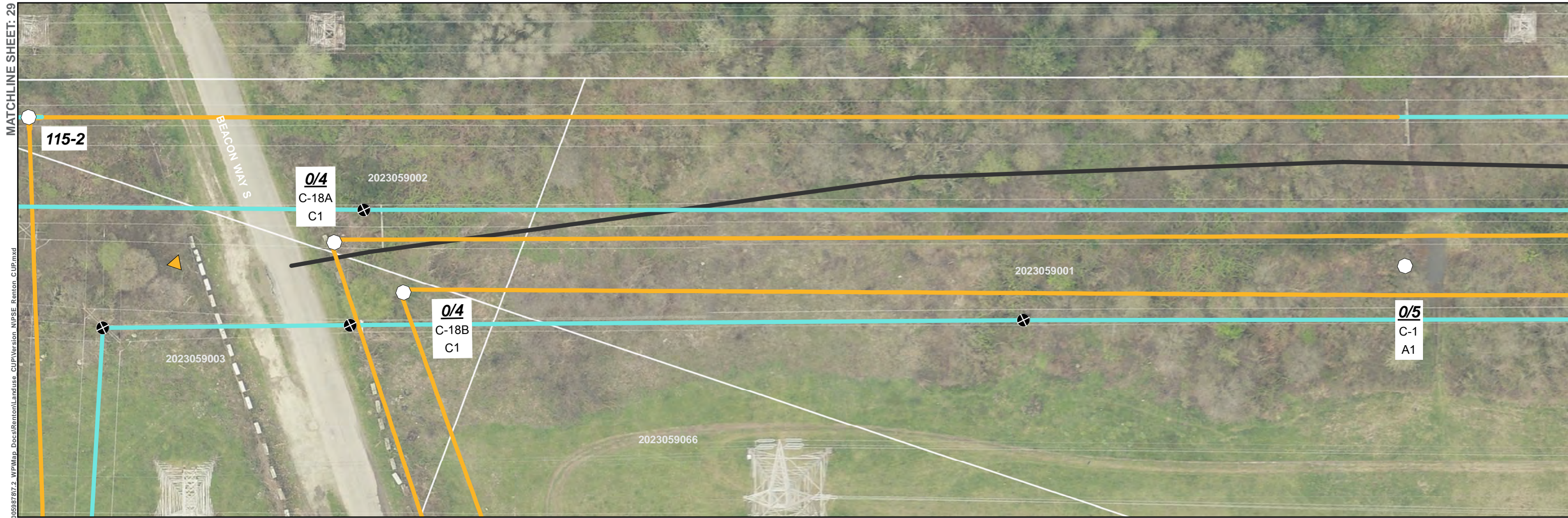
Note: Note: Underground utility lines are surveyed in the vicinity of poles only. Existing Lake Tradition poles aren't represented by new conductors because they are an existing line, and are being represented due to the poles being replaced.



SITE PLAN

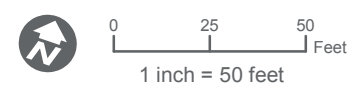
RENTON

**BASED ON PSE ENGINEERING
DESIGN REVISION N**



- Project Corridor
- Proposed Pole Location
- Existing Pole Location- To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
- 5/7** Proposed Pole Number
- C-16 Structure Type (See Appx. A)
- A1 Construction Scenario Key (See Appx. B)
- Potential Stringing Site
- Recommended Access- Proposed Pole
- Underground Power Utility Line
- Underground Water & Wastewater Utility Line
- Parcel
- City Jurisdiction Boundary

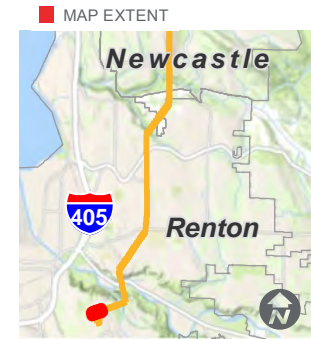
- Stream
- Wetland
- Wetland or Stream Buffer
- Landslide Hazard
- Landslide Hazard 50ft Buffer
- Steep Slope
- Steep Slope 50ft Buffer
- Erosion Hazard
- Profile View**
- Structure
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- Ground Line
- Major Elevation Grid
- Major Station Grid
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SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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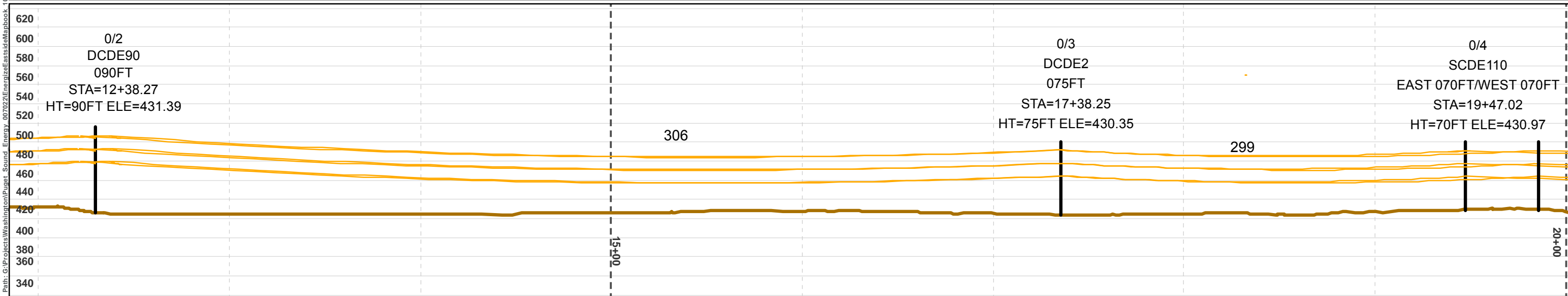
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SITE PLAN

RENTON

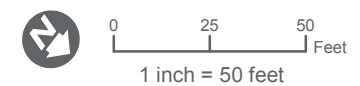
**BASED ON PSE ENGINEERING
DESIGN REVISION N**



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- Existing Pole Location - To Be Removed
- Transmission Line - Proposed
- Transmission Line - Existing
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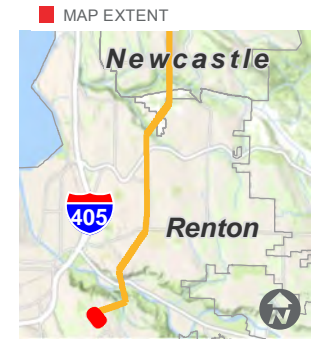
- Profile View
- Structure
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 - Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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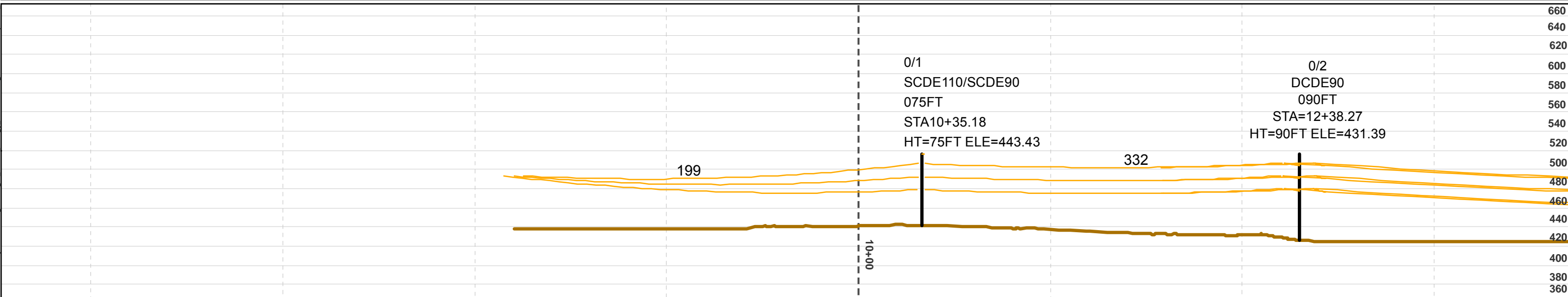
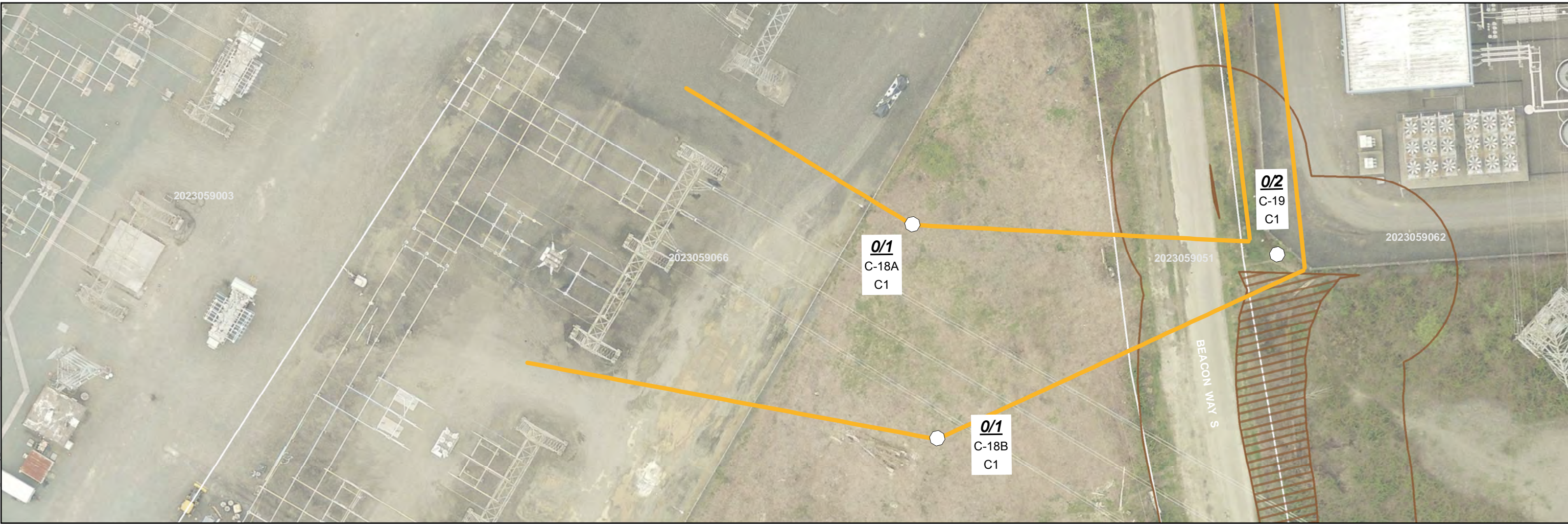
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SITE PLAN

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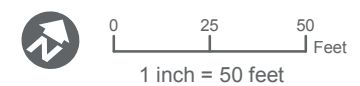
**BASED ON PSE ENGINEERING
DESIGN REVISION N**



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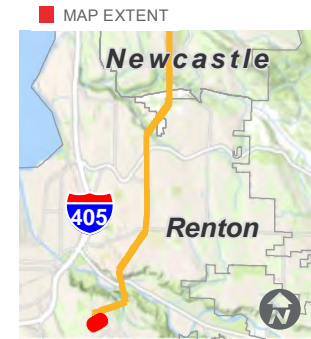
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- Structure
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- Major Station Grid
- Minor Station Grid



SOURCES: Roads and Parcels - King County (2015), Aerial - King County (2015); Streams, Wetlands and Buffers, Landslide Hazard and Buffers, and Steep Slopes and Buffers from Watershed Company (2017).

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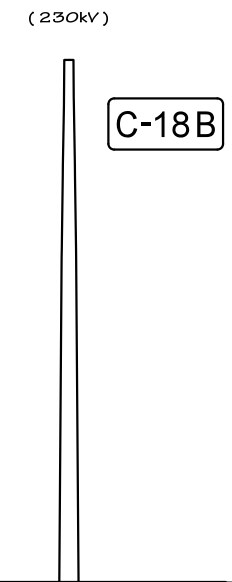
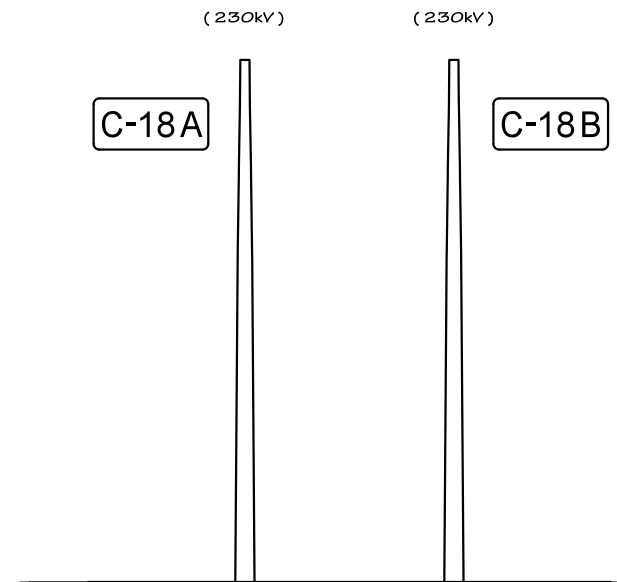
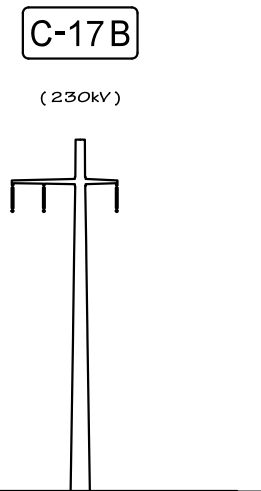
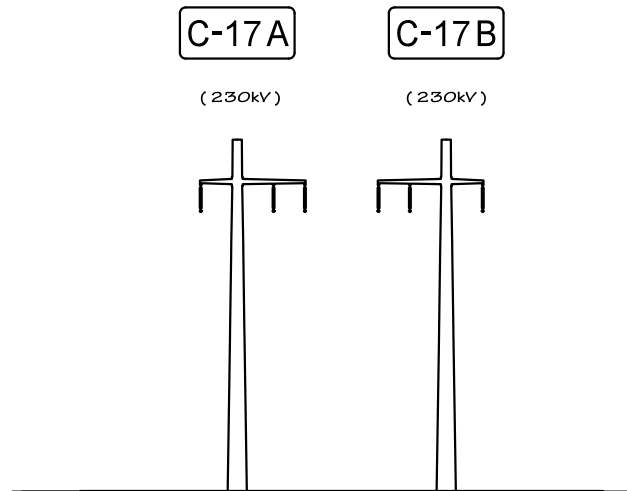
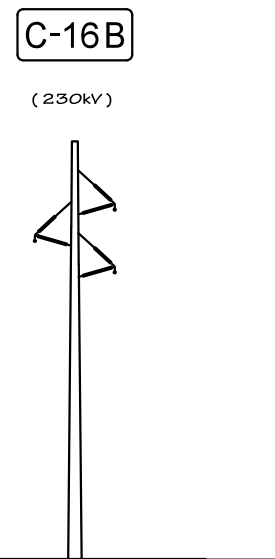
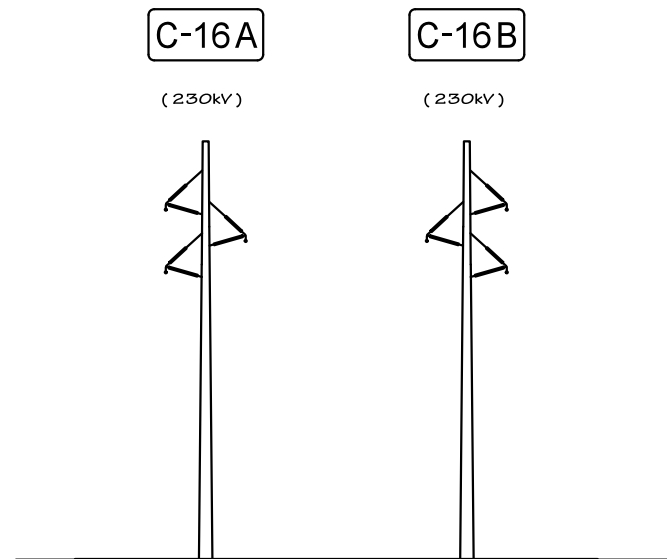
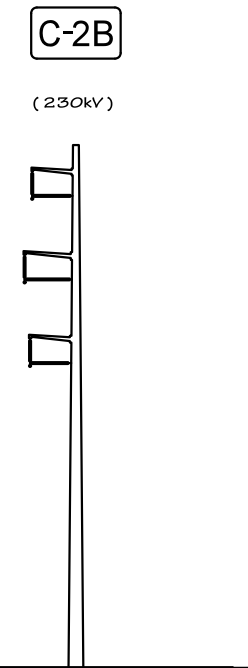
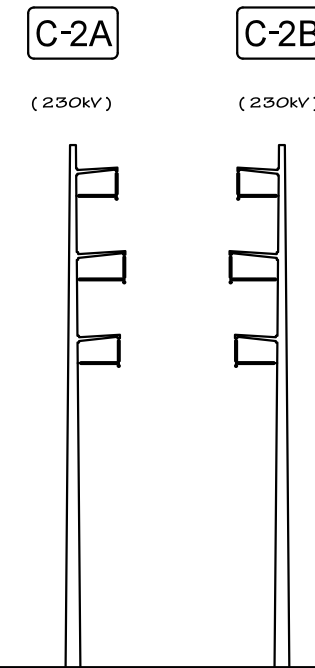
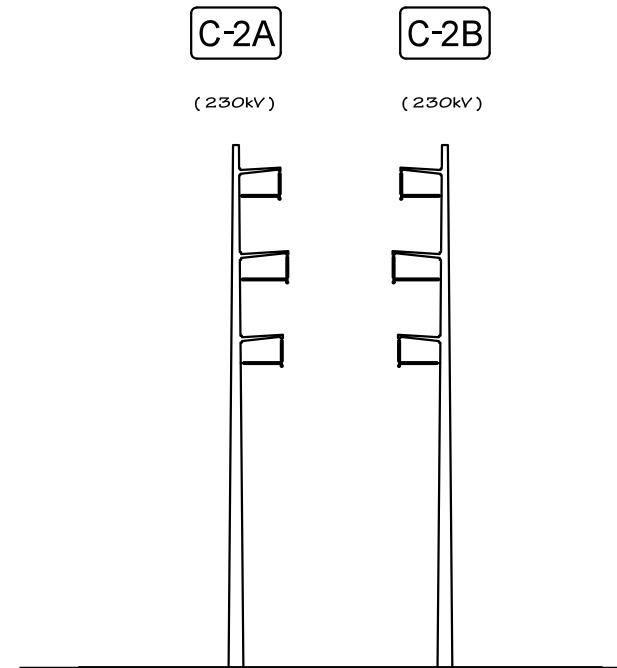
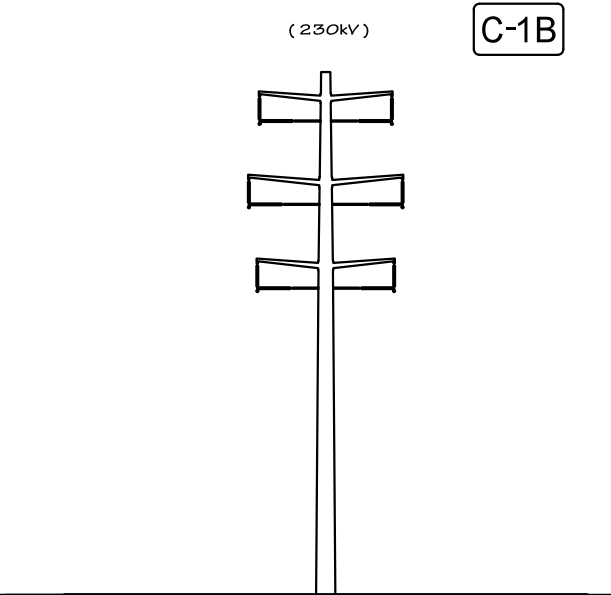
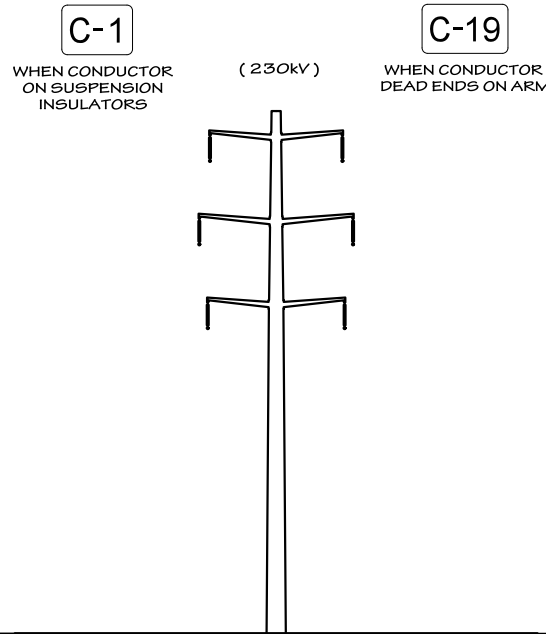
SITE PLAN

RENTON

**BASED ON PSE ENGINEERING
DESIGN REVISION N**

ENERGIZE EASTSIDE 230KV - STRUCTURE TYPES

NOTE: FOR SPECIFIC LOCATIONS AND HEIGHTS, SEE PROFILE SHEETS



Eastside 230 ROW and structure options.dgn 8/16/2017 2:06:44 PM

Structure Type	Structure Height	Naming Convention	Description
SCDE	65'-105'	C-18 A/B	Single circuit deadend
SCT	85'-90'	C-16 A/B	Single circuit tangent
DCT	70'-120'	C-1 / C-19	Double circuit tangent (D denotes OHGW overhead groundwire)
DCA	85'-115'	C-1B	Double circuit angle - equiv to a C1 with a post brace to handle bigger angle
SCHDE	50'	C-17 A/B	Single circuit horizontal deadend (only under SCL line)
SCA	90'-95'	C-2 A/B	Single circuit angle

*number after type in table denotes angle

STRUCTURE TYPES

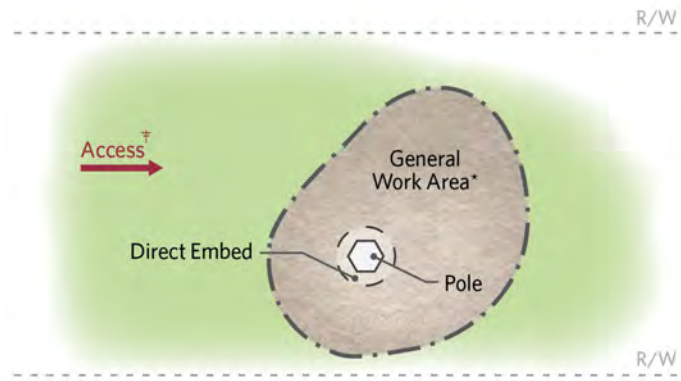
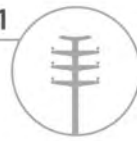
RENTON

BASED ON PSE ENGINEERING
DESIGN REVISION N

Appendix A

Date: 1/18/2018

Construction Scenario A1



Pole Type
Single Pole

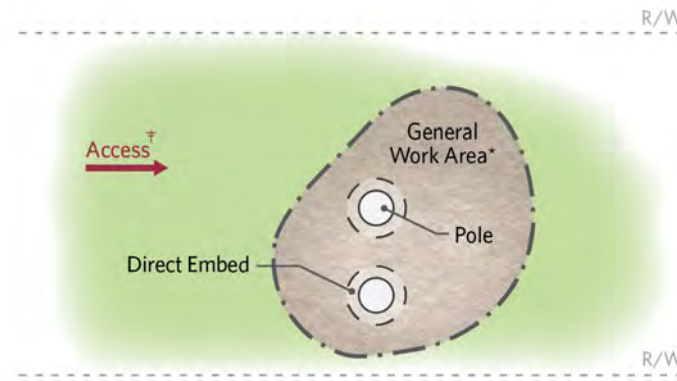
Temporary Work Area
Approx. 2,500 sq. ft.

Installation Type
Direct Embed

Additional Considerations
Place pole in hole and backfill annulus

* Terrain/topography dependent
† See map sheets

Construction Scenario B1



Pole Type
H-Frame

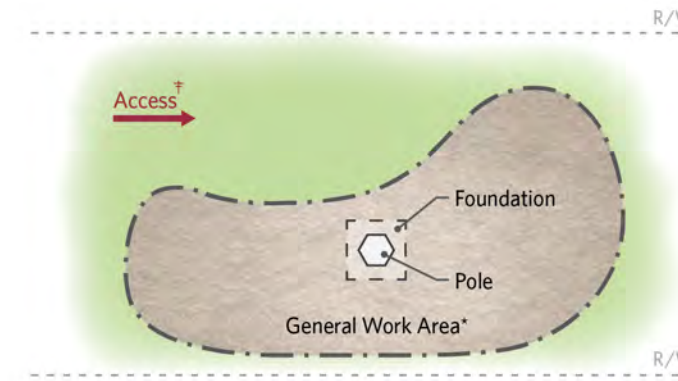
Temporary Work Area
Approx. 2,500 sq. ft.

Installation Type
Direct Embed

Additional Considerations
Place each pole in hole and backfill annulus

* Terrain/topography dependent
† See map sheets

Construction Scenario C1



Pole Type
Single Pole

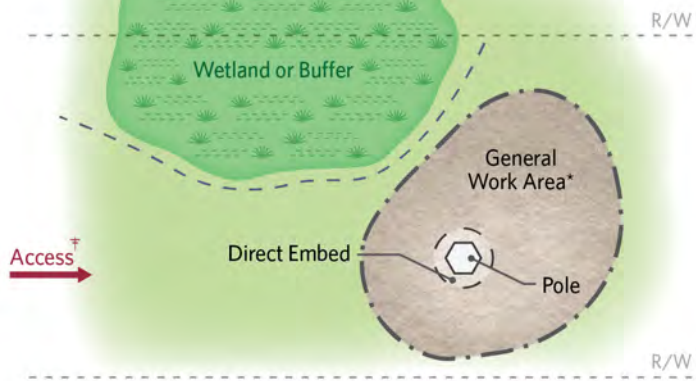
Temporary Work Area
Approx. 5,000 sq. ft.

Installation Type
Foundation

Additional Considerations
Build foundation and install pole

* Terrain/topography dependent
† See map sheets

Construction Scenario A2



Pole Type
Single Pole

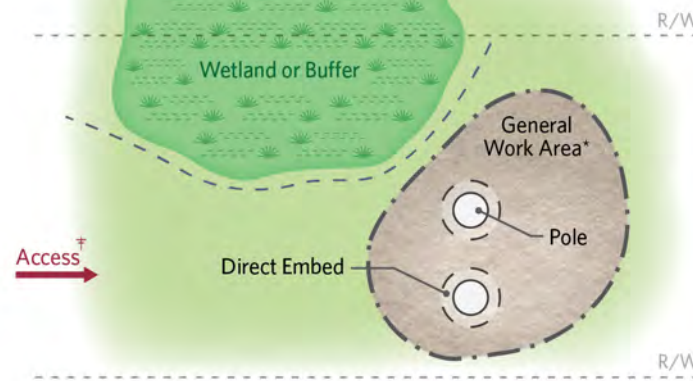
Temporary Work Area
Approx. 2,500 sq. ft.

Installation Type
Direct Embed

Additional Considerations
Establish construction buffer from critical area using appropriate BMPs

* Terrain/topography dependent
† See map sheets

Construction Scenario B2



Pole Type
H-Frame

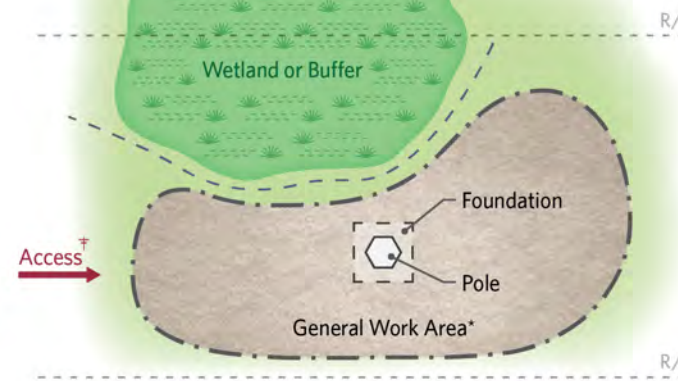
Temporary Work Area
Approx. 2,500 sq. ft.

Installation Type
Direct Embed

Additional Considerations
Establish construction buffer from critical area using appropriate BMPs

* Terrain/topography dependent
† See map sheets

Construction Scenario C2



Pole Type
Single Pole

Temporary Work Area
Approx. 5,000 sq. ft.

Installation Type
Foundation

Additional Considerations
Establish construction buffer from critical area using appropriate BMPs

* Terrain/topography dependent
† See map sheets

Structure Type	Typical Construction Scenario	Typical Construction Scenario
	(Not in critical area)	(In a critical area)
C-1	A1	A2
C-2	C1	C2
C-1B	C1	C2
C-16	A1	A2
C-17	C1	C2
C-18	C1	C2

CONSTRUCTION SCENARIOS

RENTON

BASED ON PSE ENGINEERING
DESIGN REVISION N

Appendix B

Date: 1/18/2018