

# **ATTACHMENT B**

**North Bellevue Segment CUP Analysis,  
With Alternative Siting Analysis  
(without Attachments)**

## **Description of Proposal**

# Puget Sound Energy – Energize Eastside Conditional Use Permit Description of Proposal – North Bellevue Segment

Puget Sound Energy, Inc. (PSE) proposes the construction of a new substation in South Bellevue (the “Richards Creek substation”) and the upgrade of approximately 16 miles of two existing transmission lines operating at 115 kilovolt (kV) to 230 kV (herein referred to as 230 kV lines) and continued aggressive conservation (collectively the “Energize Eastside Project” or the “Project”). The new substation, upgraded lines, and aggressive conservation are needed to address electrical system reliability deficiencies identified during federally-required planning studies. This Project significantly improves reliability for Eastside communities, including the City of Bellevue (City), and will supply the additional electrical capacity needed for current and anticipated growth.

The existing system is not robust enough to maintain reliable service if the entire existing PSE Eastside electric system facility is taken out of service at one time. Therefore, the Energize Eastside Project will be constructed in two phases. This will allow PSE to keep the existing 115 kV facilities partially in-service during construction, which will allow PSE to maintain reliable service to all customers during construction. The Land Use Permits for the first phase (the “South Bellevue Segment”) including a new substation and upgrading approximately 3.3 miles of existing lines) were issued by the City of Bellevue in 2019 (Permit Nos. 17-120556-LB and 17-120557-LO) and upheld by the City Hearing Examiner and King County Superior Court on appeal.

The second phase (the “North Bellevue Segment”) is the focus of this application and includes upgrading approximately 5.2 miles of existing 115 kV lines with 230 kV lines between the Redmond/Bellevue city boundary and existing Lakeside substation. This upgrade includes replacing existing wooden H-frame poles (which have 2-3 poles each) with steel monopoles. After deliberate review and extensive stakeholder input, PSE proposes to undertake this work in the existing transmission line corridor rather than siting the project in Bellevue neighborhoods that currently lack a transmission line corridor. Within the existing utility corridor, the proposed pole locations for the rebuilt lines will generally be in the same locations as the existing poles. Use of the existing corridor (which has housed transmission lines since the 1920s and 30s) minimizes potential impacts to the environment (e.g., vegetation management, aesthetic impacts) and to adjacent uses to the fullest extent feasible.

Per Bellevue Land Use Code (LUC) 20.20.255(C), new or expanding electrical utility facilities require Conditional Use Permit Approval under Part 20.30B LUC and Part 20.20.255.E LUC. Note that a separate Critical Areas Land Use Permit has been submitted for the project under Part 20.25H LUC. The following section demonstrates PSE’s compliance with the City of Bellevue’s Conditional Use Decision Criteria (LUC 20.30B.140):

A. *The conditional use is consistent with the Comprehensive Plan; and*

**Response:** The proposed transmission line replacement is consistent with the City’s Comprehensive Plan. As stated in the introduction to the Land Use Element of the Comprehensive Plan:

*One of the fundamental roles of the Comprehensive Plan is to anticipate, guide, and plan for a growth in a way that helps the city achieve its vision. The plan is a tool to look ahead to the likely growth and ensure that the city's plans for land uses, infrastructure, and services are aligned.*

PSE has a statutory duty to provide safe and reliable power at a reasonable cost (see RCW 80.28.010(2)). The Energize Eastside Project is a key electrical infrastructure project needed to bring a 230 kV power source to the Eastside region, including the City of Bellevue - the region's largest city and job center. As required by the state Growth Management Act (GMA), one of the elements that must be addressed in the City's Comprehensive Plan is Utilities.

As stated in the Utilities Element, the City must plan for adequate provision of utilities consistent with the goals and objectives of the Comprehensive Plan, *taking into consideration the public service obligation of the utility involved.*

The expansion of the PSE Sammamish to Talbot Hill transmission corridor (which includes the North Bellevue segment) is shown on Map UT-7 of the Comprehensive Plan. PSE's North Bellevue segment proposal is accordingly consistent with the routing identified in the Comprehensive Plan.

As previously determined by the City, The UT Element in the Comprehensive Plan is directly applicable to PSE's proposal. The goals outlined in the Utilities Element are:

- *To develop and maintain all utilities at the appropriate levels of service to accommodate the city's projected growth.*
- *To ensure reliable utility service is provided in a way that balances public concerns about infrastructure safety and health impacts, consumer interest in paying a fair and reasonable price for service, potential impacts on the natural environment, and aesthetic compatibility with surrounding land uses.*
- *Utility facilities are permitted and approved by the city in a fair and timely manner and in accord with development regulations, to encourage predictability.*
- *New technology to improve utility services and reliability is balanced with health and safety, economic, aesthetics, and environmental factors.*

As explained in detail below, the Energize Eastside project fulfills both these goals and the Utilities Element's more specific Comprehensive Plan policies:

General Utility System	
<p><b>UT-3:</b> Use design and construction standards that are environmentally sensitive, safe, cost-effective, and appropriate.</p> <p><b>UT-8:</b> Design, construct, and maintain facilities to minimize their impact on surrounding neighborhoods.</p>	<p><b>Response:</b> The proposed transmission line replacement will have temporary construction impacts on property owners where the utility corridor easements cross their property.</p> <p>Construction impacts will be minimized to the greatest extent feasible through use of existing or historic access routes that were used for initial pole installation and/or maintenance activities. As required by state law, utility locates will be performed prior to ground disturbing activities to avoid any potential conflicts. Appropriate temporary erosion control measures will be used during work activities. A safe work area will be established around each pole removal and installation location, providing space for placing equipment, vehicles, and materials. PSE will also comply with all City codes relating to hours of construction and noise.</p> <p>PSE will work with individual property owners to restore areas impacted during construction to its previous or an improved state. PSE will mitigate in-kind as required by applicable regulations when restoration is not possible. All applicable codes and standards will be followed during design and construction, including electrical, stormwater and erosion control, tree protection, and noise.</p> <p>PSE’s proposed use of the existing utility corridor minimizes impacts on surrounding neighborhoods by preventing impacts in new areas. The properties adjacent to the proposed project are already occupied by transmission lines and, to some extent, the adjacent vegetation is already maintained for this use. By locating replacement poles in proximity to existing pole locations, PSE’s proposed line minimizes impacts, including vegetation and aesthetic impacts, to surrounding neighborhoods.</p> <p>In addition, the use of steel monopoles instead of other designs regularly used to support high voltage transmission lines (including the “milk maid” designed used in the Seattle City Light corridor), reduces</p>

	potential aesthetic and ground disturbing impacts.
<b>Utility Coordination</b>	
<p><b>UT-18:</b> Coordinate with other jurisdictions and governmental entities in the planning and implementation of multi-jurisdictional utility facility additions and improvements.</p>	<p><b>Response:</b> The proposed transmission line upgrade is a linear utility project that crosses through multiple jurisdictions (including the cities of Redmond, Bellevue, Renton and Newcastle; collectively “Partner Cities”). The north segment of this project will traverse Redmond and Bellevue while the south segment will traverse the cities of Bellevue, Renton and Newcastle. PSE has engaged in regular and significant outreach and to inform both Redmond and Bellevue about the proposed project, which continues today as an extension of the process reflected in the Phase 1 and Phase 2 Draft Environmental Impact Statements (DEIS), which were developed co-operatively by the Partner Cities. This conclusion is also support by the City’s previous determination in evaluating the South Bellevue Segment that “Several UT policies call for planning and coordination to ensure reliable, sustainable, and quality service for the whole community. PSE has coordinated its system planning with the City and other agencies and is now proposing a project consistent with this system planning work and these policies.”</p>
<b>General Non City-Managed Utilities</b>	
<p><b>UT-45:</b> Coordinate with non-city utility providers to ensure planning for system growth consistent with the city’s Comprehensive Plan and growth forecasts.</p>	<p>PSE is a non-city utility provider. The purpose of the Energize Eastside project is to bring a new 230 kV power source to the Eastside region to meet capacity and reliability needs as determined through PSE planning studies. The 230 kV power brought into Richards Creek substation will supply existing and future 230 kV transmission lines providing power to the entire Eastside region. The project will increase reliability as well as meet forecasted increases in electricity demands.</p> <p>PSE also regularly coordinates with other non-city utilities, including monthly meeting</p>

	<p>with the Olympic Pipeline company to discuss and coordinate on the Energize Eastside project. This ongoing coordination aids in PSE ensuring that its construction and operational planning is integrated with other co-located facilities.</p>
<p><b>UT-47:</b> Defer to the serving utility the implementation sequence of utility plan components.</p>	<p>PSE is the electrical serving utility for Bellevue and has, due to operational and reliability concerns, proposed to permit the Energize Eastside project in two phases. The Bellevue utility plan focuses on developing and maintaining utilities at the appropriate levels of service in order to accommodate growth. The project falls under the electrical, non-city managed utilities, plan components. The Energize Eastside project will be permitted and constructed in two phases. This will allow PSE to keep the existing 115 kV facilities partially in service during construction, which will allow PSE to maintain reliable service to all customers during construction.</p>
<p><b>UT-48:</b> Coordinate with the appropriate jurisdictions and governmental entities in the planning and implementation of multi-jurisdictional utility facility additions and improvements.</p>	<p>See response to UT-18.</p>
<p><b>UT-49:</b> Require effective and timely coordination of all public and private utility activities including trenching and culvert replacements.</p>	<p>The new transmission lines would be constructed within PSE's existing 115 kV transmission line corridor. Anticipated construction coordination would need to occur with Olympic Pipe Line Company and Seattle City Light. No culvert replacements are proposed as part of the North Bellevue Segment.</p>
<p><b>UT-64:</b> Require the reasonable screening and/or architecturally compatible integration of all new utility and telecommunications facilities.</p>	<p><b>Response:</b> Transmission lines are exempt from screening requirements.</p> <p>Transmission poles do not naturally blend in with the surrounding environment. PSE is proposing to offset the aesthetic impacts through: pole design and finish selection based on neighborhood context; replacing poles as close to existing pole locations as possible; consolidating two lines on one pole where feasible; reducing the overall</p>

	<p>number of poles; and designing poles to the minimum height necessary based on topography, site context, and electrical design standards.</p> <p>Pole finishes selected for North Bellevue include dull galvanized steel and naturally self-weathering (Corten).</p> <p>Galvanized steel is a common choice for transmission poles because of its durability and low maintenance characteristics. The pole is coated with a layer of zinc that prevents the steel from rusting. Initially, the steel can have a shiny finish, but as the zinc weathers it becomes dull in appearance.</p> <p>Galvanizing provides decades of protection for steel from corrosion. It is gray in color and is better suited for areas with minimal backdrop as to better blend in with the skyline.</p> <p>Corten is long-lasting and low maintenance. When the steel is exposed to moisture and air, a rust patina forms. As the structure rusts it becomes brown in appearance, and over time the patina darkens in color. Once the patina forms on weathering steel, a natural protective layer prevents corrosion. The use of Corten steel poles is very suitable, and often preferred, within forested areas because of their rust brown finish.</p> <p>Please see the Pole Finishes Report submitted with the Conditional Use Permit (CUP) application for this project.</p>
<p><b>UT-68:</b> Encourage the use of utility corridors as non-motorized trails. The city and utility company should coordinate the acquisition, use, and enhancement of utility corridors for pedestrian, bicycle, and equestrian trails and for wildlife corridors and habitat.</p>	<p><b>Response:</b> The proposed transmission line upgrade is located within an existing corridor that was established in the late 1920s and early 1930s and is mostly composed of easements on private property. Residential and commercial development has occurred around the easement areas, limiting public access. Additionally, much of the corridor is either located within private backyards and is fenced off, preventing connectivity between properties, or is undeveloped with no public access. The Greenway Trail System crosses</p>



	<p>beneath the utility corridor at the Lake Hills Connector.</p>
<p><b>UT-69:</b> Avoid, when reasonably possible, locating overhead lines in greenbelt and open spaces as identified in the Parks and Open Space System Plan.</p>	<p><b>Response:</b> The existing corridor runs parallel to the Kelsey Creek Park and crosses Viewpoint Park, the Highland-Glendale Property, Skyridge Park, and the proposed Richards Valley Greenway, which are identified in the Parks and Open Space System Plan. PSE’s transmission corridor was established prior to the establishment of the City and prior to the designation of property for public park use. By locating the upgraded transmission facilities in the existing corridor, PSE is avoiding any new impacts to parks and open space.</p>
<p><b>UT-72:</b> Encourage cooperation with other jurisdictions in the planning and implementation of multi-jurisdictional utility facility additions and improvements.</p> <p>Decisions made regarding utility facilities shall be made in a manner consistent with, and complementary to, regional demand and resources, and shall reinforce an interconnected regional distribution network.</p>	<p><b>Response:</b> See response to UT-18 above.</p> <p>The purpose of the Energize Eastside project is to bring a new 230 kV power source to the Eastside region to meet capacity and reliability needs as determined through PSE planning studies. All of the Partner Cities, including those directly impacted by construction of the north segment, will experience increased reliability and the transmission system will be better able to meet forecasted increases in electricity demands.</p>
<p><b>UT-75:</b> Prior to seeking city approval for facilities, encourage utility service providers to solicit community input on siting of proposed facilities which may have a significant adverse impact on the surrounding community.</p>	<p><b>Response:</b> The PSE Energize Eastside team has engaged in public outreach since the project launched in December 2013. In 2014, PSE led a public route discussion process, shared information about the project with the public, and solicited and obtained considerable public input. PSE continues to inform the public about the project and connect with property owners regarding fieldwork efforts through mailers, emails, PSE’s website, public testimony to decision-makers, and public meetings.</p> <p>Throughout 2014, PSE worked with a Community Advisory Group (CAG) to identify and consider the values held by the community in evaluating different transmission line route options and potential substation locations. CAG members represented various interests, including potentially affected neighborhood</p>

	<p>organizations, cities, schools, social service organizations, major commercial users, and economic development groups. The CAG looked at factors used to develop different route options, narrowed the route options based on values and constraints, and prepared route option recommendations for PSE’s consideration. Throughout the CAG process, PSE held public open houses to inform the public of the CAG’s work and hosted additional community meetings and events to share information, respond to questions, and learn more about community values and interests.</p> <p>PSE has also provided numerous presentations and briefings to individual property owners, neighborhood groups, organizations, and other interested stakeholders. PSE regularly informs the public about the project and its development process through mailings, email updates, and a project website. To date, public outreach and involvement has included:</p> <ul style="list-style-type: none"> <li>• 22 CAG-related meetings, including 6 public open houses, 2 question and answer sessions, and 2 online open houses at key project milestones</li> <li>• 650+ briefings with individuals, neighborhoods, cities and other stakeholder groups</li> <li>• More than 3,000 comments and questions received</li> <li>• 40+ email updates to more than 1,500 subscribers</li> <li>• 10 project newsletters to 55,000+ households</li> <li>• Ongoing outreach to 500+ property owners, including door-to-door and individual meetings</li> <li>• Participation in 16 EIS-related public meetings</li> </ul>
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<p><b>UT-77:</b> Require all utility equipment support facilities to be aesthetically compatible with the area in which they are placed by using landscape screening and/or architecturally compatible details and integration.</p>	<p>The use of the existing utility corridor is the most effective method of ensuring area compatibility, as the proposed route replaces existing equipment rather than creating new corridors. In addition, the replacement of H-frame poles with fewer steel poles helps to reduce visual interference and can be considered an improvement from existing conditions. Pole finishes can also enhance integration with various settings. Please see the Pole Finishes Report submitted with the CUP application for this project.</p> <p>PSE is also working closely with the City to identify City preferences on variables that may further increase compatibility with surrounding areas (e.g., pole color and pole height).</p>
<p><b>Non City-Managed Utilities – Additional Electrical Facilities Policies</b></p>	
<p><b>UT-91:</b> Encourage the public to conserve electrical energy through public education.</p>	<p>PSE has led all northwest utilities in energy conservation since 1979. Its energy-efficiency programs have helped PSE customers conserve nearly 5 billion kilowatt-hours of electricity. PSE continues to develop and undertake aggressive conservation programs.</p> <p>More information can be found in PSE's <i>Energy Efficiency 2018 Annual Report of Energy Conservation Accomplishments</i> at: <a href="https://www.pse.com/-/media/Project/PSE/Portal/Rate-documents/EES/ees_2018_annual_rpt_energy_conservation_accomplishments.pdf">https://www.pse.com/-/media/Project/PSE/Portal/Rate-documents/EES/ees_2018_annual_rpt_energy_conservation_accomplishments.pdf</a></p>
<p><b>UT-94:</b> Require in the planning, siting, and construction of all electrical facilities, systems, lines, and substations that the electrical utility strike a balance between potential health effects and the cost and impacts of mitigating those effects by taking reasonable cost-effective steps.</p>	<p><b>Response:</b> PSE has conducted studies on potential health effects of the proposed transmission line upgrade, which have been peer reviewed by City of Bellevue consultants through the State Environmental Policy Act (SEPA) review and drafting of an EIS for this project. In particular, the EIS looked at electric and magnetic fields (EMF) and pipeline safety.</p> <p>As outlined in the <i>Final EIS (FEIS)</i>, no unavoidable significant adverse impacts were identified that could result from the</p>

	<p>Energize Eastside project related to health effects.</p>
<p><b>UT-95:</b> Work with Puget Sound Energy to implement the electrical service system serving Bellevue in such a manner that new and expanded transmission and substation facilities are compatible and consistent with the local context and the land use pattern established in the Comprehensive Plan.</p> <p><i>Discussion: Where feasible, electrical facilities should be sited within the area requiring additional service. Electrical facilities primarily serving commercial and mixed use areas should be located in commercial and mixed use areas, and not in areas that are primarily residential. Further, the siting and design of these facilities should incorporate measures to mitigate the visual impact on nearby residential areas. These considerations should be balanced with the community's need to have an adequate and reliable power supply.</i></p>	<p><b>Response:</b> The City of Bellevue is made up of a mix of land uses that have developed around the utility corridor that was established in the late 1920s and early 1930s. The corridor is identified in the Utilities Element of the Comprehensive Plan on both Map UT-6 (Existing Electrical Facilities) and Map UT-7 (New or Expanded Electrical Facilities). An Alternative Siting Analysis (submitted with this CUP application) has been completed as required by the City of Bellevue LUC and Comprehensive Plan for transmission corridors identified as sensitive sites. Additionally, the upgrading of the transmission lines to 230 kV is included in the City's Comprehensive Plan.</p> <p>The proposed transmission lines will be sited in the existing utility corridor and traverse a variety of land uses including commercial, institutional, single family residential, recreation, and parks/open space. The corridor predates the incorporation of the City and the existing land use patterns already integrate the utility facilities, keeping the proposed project compatible and consistent with local context and land use patterns.</p> <p>This conclusion is confirmed by the FEIS, which found that impacts to land use will "be less-than-significant because [the proposed project] is consistent with City and subarea plans, and would not adversely affect existing or future land use patterns." FEIS at 14.1-9 – 10.</p>

<p><b>UT-96:</b> Require siting analysis through the development review process for new facilities, and expanded facilities at sensitive sites, including a consideration of alternative sites and collocation.</p> <p><i>Discussion: Sensitive facility sites are those new facilities and existing facilities proposed to be expanded where located in or in close proximity to residentially – zoned districts such that there is potential for visual impacts absent appropriate siting and mitigation. The city will update Map UT-7 to the extent needed to stay current with changes in Puget Sound Energy’s system planning.</i></p>	<p><b>Response:</b> PSE has prepared a siting analysis as required for expanded facilities at sensitive sites. Please see the <i>Energize Eastside Alternative Siting Analysis</i> submitted with the CUP application for this project.</p>
<p><b>UT-97:</b> Avoid, minimize, and mitigate the impacts of new or expanded electrical facilities through the use of land use regulation and performance standards that address siting considerations, architectural design, site screening, landscaping, maintenance, avoidable technologies, aesthetics, and other appropriate measures.</p>	<p><b>Response:</b> The City of Bellevue and partner jurisdictions of Redmond, Renton, Kirkland, and Newcastle completed an FEIS that addresses anticipated impacts from the proposed Energize Eastside Project.</p> <p>Avoidance, minimization, and potential mitigation measures are discussed in detail in the <i>Phase 2 Draft Environmental Impact Statement</i> for the Energize Eastside Project. Alternative technologies were analyzed in detail in the <i>Phase 1 Draft Environmental Impact Statement</i>.</p> <p>PSE proposes mitigation that fully complies with all of the City’s code requirements. Mitigation measures include, but are not limited to, revegetation, pole height reduction, and selection of pole finishes that are suitable to the context. PSE is also in discussions with the City to coordinate and ensure that any impact identified during the Partner Cities’ State Environmental Policy Act review are avoided, minimized and mitigated to the extent feasible under the law (<i>i.e.</i>, any mitigation must be proportionate to identified impacts caused by the proposed project).</p>
<p><b>UT-98:</b> Discourage new aerial facilities within corridors that have no existing aerial facilities.</p>	<p><b>Response:</b> PSE is proposing to replace two existing aerial 115 kV lines with two 230 kV lines within an existing, established utility corridor. No new aerial facilities are proposed corridor as part of the project.</p>

<p><b>UT-99:</b> Work with and encourage Puget Sound Energy to plan, site, build and maintain an electrical system that meets the needs of existing and future development, and provides highly reliable service for Bellevue customers.</p> <p><i>Discussion: Providing highly reliable service is a critical expectation for the service provider, given the importance of reliable and uninterrupted electrical service for public safety and health, as well as convenience.</i></p> <p><i>Highly reliable service means there are few and infrequent outages, and when an unavoidable outage occurs it is of short duration and customers are frequently updated as to when power is likely to be restored. A highly reliable system will be designed, operated and maintained to keep pace with the expectations and needs of residents and businesses as well as evolving technologies and operating standards as they advance over time.</i></p>	<p><b>Response:</b> PSE has prepared two studies that describe the need for the Energize Eastside Project: the Eastside Needs Assessment Report and the Supplemental Eastside Needs Assessment Report (Gentile et al., 2014, 2015). The deficiency in the transmission capacity on the Eastside is based on a number of factors. Key factors include: growing population and employment in the Eastside (including significant projected growth in Bellevue), changing power consumption patterns, and changing utility regulations that require a higher standard of reliability. PSE has concluded that the most effective and efficient solution to meet the need objectives is to site a new 230 kV transformer at a central location on the Eastside that will be fed from the Sammamish substation in Redmond from the north and the Talbot Hill substation in Renton from the south. This decision is consistent with the City’s comprehensive plan, which requires not just reliable power, but “highly reliable” power. Additionally, PSE evaluates its system needs annually and continues to conclude that the Energize Eastside project is needed under current and foreseeable load scenarios.</p> <p>Without adding transmission capacity, a deficiency during peak periods could develop on the Eastside as early as the winter of 2017-2018, with the potential for load shedding (forced power outages) <u>by the summer of 2018</u>. PSE now operates with the use of Corrective Action Plans, which include load shedding to address this deficiency. The proposed project is needed to meet the needs of the City’s residents and businesses.</p>
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**Environmental Element**

The proposed transmission line replacement will have impacts on environmental resources within the City of Bellevue.

<p><b>Environmental Stewardship</b></p>	
<p><b>EN-12:</b> Work toward a citywide tree canopy target of at least 40% canopy coverage that</p>	<p><b>Response:</b> Selective tree canopy will be removed as part of the transmission line</p>

<p>reflects our “City in a Park” character and maintain an action plan for meeting the target across multiple land use types including right-of-way, public lands, and residential and commercial uses.</p> <p><b>EN-13:</b> Minimize the loss of tree canopy and natural areas due to transportation and infrastructure projects and mitigate for losses, where impacts are unavoidable.</p>	<p>upgrade. Strict federal clearance requirements must be met with the upgrade from a 115 kV transmission corridor to a 230 kV transmission corridor, resulting in additional vegetation management within the existing corridor.</p> <p>To mitigate for loss of significant trees in the transmission corridor, PSE is proposing mitigation ratios that meet or exceed regulatory standards. PSE will work with individual property owners to replace trees and mitigate other vegetation impacts on private property. Where individual property owners decline to have new trees or shrubbery planted onsite, PSE will work with the City to place additional trees offsite.</p> <p>PSE is required by federal standards to maintain safe clearances between vegetation and utility lines. The upgraded transmission lines will have to comply with PSE’s 230 kV vegetation management standards, which generally require removal of trees located in the wire zone that have a mature height of more than 15 feet. Taller trees within the transmission right-of-way may also be affected depending on tree species, tree health, distance from the wires, and topography.</p> <p>PSE has been meeting with property owners along the existing corridor to discuss tree replacement and will continue to work together to develop property-specific landscaping and tree replacement plans. It is anticipated that a number of trees cannot be replaced onsite due to property owners’ preferences. In those cases, replacement trees will need to be planted outside the corridor. One benefit of offsite planting is the option to plant larger trees that will contribute to habitat quality and area aesthetics. Offsite options may include city parks, and neighborhood groups/HOAs. PSE will work with the City to identify other offsite areas that would benefit from these trees. PSE’s goal is that the proposed project will result in a net increase in the number of trees, which should assist the City in achieving its tree cover goals.</p>
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<b>Water Resources</b>	
<p><b>EN-19:</b> Retain existing open surface water systems in a natural state and restore conditions that have become degraded.</p>	<p><b>Response:</b> The transmission line would cross 18 streams in the North Bellevue Segment (Kelsey Creek and streams EB02-EB18). However, the aerial crossings of the transmission line will not impact the streams or their buffers and no in-water work will occur. Impacts to buffers will be minimized and limited to pole foundations and selective vegetation management.</p> <p>No natural open surface water systems in Bellevue will be affected by the project. Proposed mitigation for project impacts includes enhancement of Wetland A at the Richards Creek Substation (restoring degraded conditions) and purchase of credits from the Keller Farm Mitigation Bank (KFMB). Mitigation specifics are presented in the associated Critical Areas Report.</p>
<p><b>EN-26:</b> Manage water runoff for new development and redevelopment to meet water quality objectives, consistent with state law.</p>	<p><b>Response:</b> The transmission line upgrade, including pole replacements, will not result in changes to existing runoff patterns.</p>
<b>Geo Hazards</b>	
<p><b>EN-30:</b> Regulate land use and development to protect natural topographic, geologic, vegetational, and hydrological features.</p> <p><b>EN-39:</b> Use specific criteria in decisions to exempt specific small, isolated, or artificially created steep slopes from critical areas designation.</p> <p><b>EN-40:</b> Minimize and control soil erosion during and after development through the use of best management practices and other development restrictions.</p>	<p><b>Response:</b> All applicable City of Bellevue land use and clearing regulations, including LUC 20.25H.125 – Performance Standards, will be complied with as part of the Energize Eastside Project construction. Following the completion of geotechnical reports, there will be selective tree removal and approximately 48 poles will be removed from geo hazard areas and 16 new poles will be installed within geo hazard areas. Per the Bellevue code, areas that do not meet the 10 foot rise or 1,000 square feet threshold (including small engineered or manmade slopes) have been removed from the geo hazard analysis.</p> <p>A temporary erosion and sediment control (TESC) plan will be developed for the project. Necessary best management practices (BMPs) will be used as appropriate, including chipping and scattering of removed vegetation.</p>



	<p>Disturbance will be limited to the minimum necessary within geo hazard areas, including limiting equipment access and disturbance areas. All disturbed areas will be restored.</p> <p>See the project Geotechnical Report (Appendix D to the Critical Areas Report) for further information.</p>
<p><b>Fish and Wildlife Habitat</b></p>	
<p><b>EN-63:</b> Preserve and maintain fish and wildlife habitat conservation areas and wetlands in a natural state and restore similar areas that have been degraded.</p> <p><b>EN-67:</b> Prohibit creating new fish passage barriers and remove existing artificial fish passage barriers in accordance with applicable state law.</p> <p><b>EN-70:</b> Improve wildlife habitat especially in patches and linkages by enhancing vegetation composition and structure, and incorporating indigenous plant species compatible with the site.</p> <p><b>EN-71:</b> Preserve a portion of significant trees throughout the city in order to sustain fish and wildlife habitat.</p>	<p><b>Response:</b> Impacts to fish, wildlife, wetlands and habitat conservation areas are discussed and analyzed in detail in the North Bellevue Critical Areas Report and Endangered Species Act Biological Evaluation associated with the proposed project. As explained in those documents, limited disturbance is anticipated within fish and wildlife habitat areas and wetlands. Existing poles within wetlands will be replaced outside of wetlands. Buffer impacts will be limited to the pole footprint and selective vegetation management activities required by federal clearance standards. Existing impact to wetlands would be removed by relocating 6 poles from wetland to non-wetland areas which will allow approximately 150 SF of wetland area to be restored. Following pole removal, the holes will be filled in with dirt and restored with an appropriate native wetland seed mix and left to naturally regenerate.</p> <p>Proposed mitigation for project impacts includes enhancement of Wetland A at the Richards Creek Substation (improving wildlife habitat and native species/diversity) and purchase of credits from the KFMB. Mitigation specifics are presented in the associated Critical Areas Report.</p>
<p><b>Critical Areas</b></p>	
<p><b>EN-84:</b> Use science based mitigation for unavoidable adverse impacts to critical areas to protect overall critical areas function in the watershed.</p>	<p><b>Response:</b> The proposed mitigation for wetland and buffer impacts caused by the Energize Eastside Project will be mitigated using the best available science to the extent allowable in compliance with LUC 20.25H, the City of Bellevue’s critical areas</p>

	code. Proposed mitigation, which includes enhancement of Wetland A at the Richards Creek Substation and purchase of credits from the KFMB, will result in measurable habitat improvements to critical area functions and values. Mitigation specifics are presented in the associated Critical Areas Report.
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**Subareas**

The existing transmission corridor crosses through the following five Subareas identified in the Comprehensive Plan: Bridle Trails, Bel-Red, Wilburton/NE 8th St, Southeast Bellevue, and Richards Valley.

<b>Bridle Trails Subarea</b>	
<i>General Land Use</i>	
<p><b>Policy S-BT-1.</b> Protect Bridle Trails from encroachment by more intense uses to ensure that the Subarea remains an area of residential neighborhoods.</p>	<p><b>Response:</b> The proposed transmission line upgrade will serve and improve reliability for PSE’s residential customers in Bridle Trails and will not cause a change in adjacent uses from residential to non-residential uses. Additionally, the proposed project is located within an existing transmission line corridor that was established in the late 1920s and early 1930s and is mostly composed of easements on private property. PSE’s proposed project is compatible with existing adjacent uses and will not cause long-term impacts to access to the existing trail or in any way interrupt residential uses now or in the future. Within the Bridle Trails Subarea, the future land use designation is Single-Family Residential.</p>
<i>Natural Determinants</i>	
<p><b>Policy S-BT-5.</b> Protect and enhance the capability of Yarrow Creek, Valley Creek, and Goff Creek to support fish and other water-dependent wildlife.</p> <p><i>Discussion: This policy recognizes the role of these creeks in fisheries support and wildlife preservation. It is important to preserve the natural environment and to</i></p>	<p><b>Response:</b> The transmission line does not cross or occur within these stream buffers; therefore, no impacts would occur.</p>

<p><i>retain our native habitat for the aesthetic value and character of the community.</i></p>	
<p><b>Policy S-BT-7.</b> Where natural vegetation is removed, replacement with similar plant materials should be required.</p>	<p><b>Response:</b> As set forth in PSE’s North Bellevue Segment Vegetation Management Plan, to mitigate for loss of significant trees in the transmission corridor, PSE is proposing mitigation ratios that meet or exceed regulatory standards. PSE will work with individual property owners to replace trees on private property.</p>
<p><b>Bel-Red Subarea</b></p>	
<p><i>General Land Use</i></p>	
<p><b>Policy S-BR-10.</b> Accommodate the continued operation of existing, and allow new, service uses that are compatible with planned future land uses. Accommodate existing service uses that are less compatible with residential and higher intensity, mixed use development (i.e., those that create noise, odor, fumes, aesthetic or other impacts), but preclude the new establishment of these types of service uses in transit nodes and in stand-alone residential areas.</p> <p><i>Discussion: This policy is to be implemented through the City’s land use regulations. The services sector is quite broad, and includes uses such as health care, business and professional office, household repair, and auto repair. Many of these service uses have characteristics of general retail, are compatible with mixed use commercial and residential, and are encouraged in Bel-Red’s future. A smaller sub-set of service uses, such as auto repair, auto dealers and boat dealers (particularly their service/repair components) and towing, display characteristics similar to light industrial uses. These types of uses are less compatible with transit nodes and stand-alone residential areas, and thus new uses of this type are precluded in these areas.</i></p>	<p><b>Response:</b> The proposed transmission line upgrade is located within an existing corridor that was established in the late 1920s and early 1930s and is mostly composed of easements on private property. The small portion of the North Bellevue segment that goes through the Bel-Red Subarea Plan boundaries has a future land use designation as General Commercial.</p>

<i>Environment</i>	
<p><b>Policy S-BR-27.</b> Protect and enhance wetlands and other designated critical areas in Bel-Red, through the use of development regulations, incentives, and possibly public funds.</p> <p><i>Discussion: Special attention is needed if Bel-Red's critical areas are to be protected and restored, given that much Bel-Red development took place before standards were adopted to identify and protect these sites.</i></p>	<p><b>Response:</b> None of the poles would be placed in wetlands, streams, or their respective buffers in the Bel-Red Subarea.</p>
<b>Wilburton/NE 8th St Subarea</b>	
<i>Land Use</i>	
<p><b>Policy S-WI-1.</b> Protect residential areas from impacts of other uses by maintaining the current boundaries between residential and non-residential areas.</p> <p><i>Discussion: This plan establishes appropriate areas for non-residential uses. Beyond these areas, non-residential uses, except for those normally permitted in residential areas, (such as parks, churches, schools, utilities, and home occupations) should not be permitted to encroach into residential areas. This does not limit the potential for development that mixes residential uses with commercial, institutional or other uses in areas that are predominately non-residential.</i></p>	<p><b>Response:</b> The proposed transmission line upgrade is located within an existing corridor that was established in the late 1920s and early 1930s and is mostly composed of easements on private property. PSE's proposed project will be constructed and operated within the existing corridor, which will not be expanded. The project is a use that is compatible with and serves residential and non-residential but does not affect where these uses are developed. It will not affect the current boundaries between residential and non-residential uses.</p>
<i>Natural Determinants</i>	
<p><b>Policy S-WI-16.</b> Protect and enhance streams, drainage ways, and wetlands in the Kelsey Creek Basin.</p> <p><b>Policy S-WI-17.</b> Prevent development from intruding into the floodplain of Kelsey Creek.</p>	<p><b>Response:</b> The corridor will be enhanced with appropriate vegetation to provide stream and wetland habitat improvements. Project impacts, including those within the Kelsey Creek Basin, will be mitigated for through enhancement of Wetland A at the Richards Creek Substation and through purchase of credits from the KFMB. The associated Critical Areas Report provides additional information.</p> <p>No impacts from the project are proposed within areas of special flood hazard,</p>

	including within the floodplain of Kelsey Creek.
<i>Community Design</i>	
<p><b>Policy S-WI-44.</b> Utilities should be provided to serve the present and future needs of the Subarea in a way that enhances the visual quality of the community (where practical).</p>	<p><b>Response:</b> The purpose of the Energize Eastside project is to bring a new 230 kV power source to the Eastside region to meet capacity and reliability needs as determined through PSE planning studies and independently confirmed by City of Bellevue consultants. The 230 kV power brought into Richards Creek substation will supply existing and future power to the entire Eastside region. All of the Partner Cities, including those directly impacted by construction of the north segment, will experience increased reliability and the transmission system will be better able to meet forecasted increases in electricity demands.</p> <p>In addition, the replacement of H-frame poles with fewer steel poles helps to reduce visual clutter and can be considered an aesthetic improvement from existing conditions. Pole finishes can also enhance integration with various settings. Please see the Pole Finishes Report submitted with the CUP application for this project.</p>
<b>Southeast Bellevue Subarea</b>	
<i>Policies</i>	
<p><b>Policy S-SE-2.</b> Enhance or improve the existing residential character through landscaping, building orientation, and building design for all new development and physical improvements.</p>	<p><b>Response:</b> The proposed transmission line upgrade is located within an existing corridor that was established in the late 1920s and early 1930s and is mostly composed of easements on private property. To mitigate for loss of significant trees in the transmission corridor, PSE is proposing mitigation ratios that meet or exceed regulatory standards. PSE will work with individual property owners to replace trees on private property, which provides an opportunity for residential customers to have improved landscaping throughout the corridor.</p> <p>In addition, the replacement of H-frame poles with fewer steel poles helps to reduce</p>

	<p>visual clutter and can be considered an aesthetic improvement from existing conditions. Pole finishes can also enhance integration with various settings. Please see the Pole Finishes Report submitted with the CUP application for this project.</p>
<p><b>Richards Valley Subarea</b></p>	
<p><i>General Land Use</i></p>	
<p><b>Policy S-RV-1.</b> Enhance the natural environment within the industrial area by encouraging redevelopment to consider natural features in site design, including but not limited to reducing impervious surface, improving the functions of wetlands and stream corridors, incorporating natural drainage features, retaining trees, and restoring vegetated corridors.</p>	<p><b>Response:</b> The corridor will be enhanced with appropriate vegetation to provide stream and wetland habitat improvements. Project impacts to wetlands and wetland/stream buffers will be mitigated for through enhancement of Wetland A at the Richards Creek Substation and through purchase of credits from the Keller Farm Mitigation Bank. The associated Critical Areas Report provides additional information.</p>
<p><i>Natural Determinants</i></p>	
<p><b>Policy S-RV-5.</b> Retain the remaining wetlands within the 100-year floodplain along Richards Creek, Kelsey Creek, and Mercer Slough for drainage retention and natural resource park use.</p> <p><i>Discussion: It is important to preserve the natural environment and to retain the native habitat for the aesthetic value and character of the community</i></p>	<p>Through careful project design, pole installations and associated permanent impacts have been avoided within wetlands. Additionally, no impacts from the project are proposed within areas of special flood hazard.</p>
<p><b>Policy S-RV-6.</b> Protect and enhance the capability of Richards Creek, Kelsey Creek, and Mercer Slough and their tributaries to support fisheries along with other water-related wildlife.</p>	<p><b>Response:</b> There are no direct impacts to any streams in the N Bellevue segment. Project disturbance, including temporary construction impacts, will not occur below the OHWM of Kelsey Creek or any other regulated stream within the project area. Temporary impacts will occur in the Valley Creek, Richards Creek, and Kelsey Creek drainage basins during construction in stream buffers as part of the following activities: pole installation and removal, and construction access route re-establishment/use.</p>

<p><b>Policy S-RV-7.</b> Retain and enhance existing vegetation on steep slopes, within wetland areas, and along stream corridors to control erosion and landslide hazard potential and to protect the natural drainage system.</p>	<p><b>Response:</b> Proposed tree and vegetation removal is the minimum necessary to construct and operate the project. The corridor will be enhanced with appropriate vegetation to provide stream and wetland habitat improvements.</p> <p>Clearing activities (including vegetation removal) within geo hazard areas will be minimized as applicable during construction, and stumps will be left in-place. Additional description and analysis of landslide hazard potential associated with the project can be found in the Bellevue North Segment Critical Areas Report (Appendix D).</p>
<p><i>Utilities</i></p>	
<p><b>Policy S-RV-20.</b> Use common corridors for new utilities if needed.</p> <p><i>Discussion: If new power lines are needed in the Subarea, they should be developed in areas that already contain power lines, rather than causing visual impacts in new areas.</i></p>	<p><b>Response:</b> The Project is consistent with this policy because the existing 115 kV transmission lines within the Sammamish-Lakeside-Talbot Hill corridor will be upgraded to 230 kV instead of proposing the development of a new corridor.</p>
<p><b>Policy S-RV-21.</b> Improve the appearance of public streets and power line rights-of-way.</p>	<p><b>Response:</b> The transmission line corridor within the Richards Creek subarea is located in a Light Industrial land use district. There are currently numerous transmission lines and other utilities in the corridor.</p> <p>The replacement of H-frame poles with fewer steel poles helps to reduce visual interference and can be considered an improvement from existing conditions. Pole finishes can also enhance integration with various settings. Please see the Pole Finishes Report submitted with the CUP application for this project. PSE will explore opportunities with the City.</p>
<p><b>Policy S-RV-28.</b> Encourage the retention of vegetation during the clearing, grading, and construction processes to screen development from nearby residential neighborhoods.</p>	<p><b>Response:</b> Applicable City of Bellevue land use and clearing regulations, including retention of vegetation, will be complied with as part of project construction.</p>

- B. *The design is compatible with and responds to the existing or intended character, appearance, quality of development and physical characteristics of the subject property and immediate vicinity; and*

**Response:** The Energize Eastside Project is compatible with and responds to the existing character, appearance, quality of development and physical characteristics of the subject site and immediate vicinity. Because the Project is sited in an existing corridor shared with another utility (the Olympic Pipeline system), the Project will both improve reliability to adjacent uses and will not introduce a change in land use. It will consolidate the lines onto fewer poles, which, although larger, will not increase visual clutter and could reduce it in some areas. Various pole treatments will be employed to complement the natural environment, and vegetation management will maintain the general appearance of landscaping in a similar manner as the present. Although a number of trees will be removed, the remaining and proposed trees will partially screen views of the taller poles. Reinstallation of telecommunications facilities on the same transmission facilities following construction will ensure that there will not be an increase in the number of telecommunications facilities to the maximum extent feasible.

The transmission line corridor is an existing utility corridor that was established in the late 1920s and early 1930s. The current uses adjacent to the corridor developed over time as areas were annexed into the City and these areas became more dense and populated. As such, the utility corridor is part of the existing character of these areas. PSE is proposing to replace the existing 115 kV transmission poles with steel poles to accommodate 230 kV conductors. The poles will generally be installed in the same location or in close proximity to the existing poles. In most cases, the number of poles will be reduced from four to one or two. The consistency of the proposed transmission lines with other uses in the vicinity was confirmed by the FEIS, which found that impacts to land use will “be less-than-significant because [the proposed project] is consistent with City and subarea plans, and would not adversely affect existing or future land use patterns.” FEIS at 4.1-9.

The FEIS found that impacts to the aesthetic environment on the North Bellevue segment would be less-than-significant. Contrast with the natural environment would be minimal because the 93-foot poles would, in most cases, be shorter than the surrounding vegetation or would appear shorter than surrounding vegetation due to vegetation density. In general, the topography does not affect the visibility of the transmission line along this segment because dense, tall vegetation obscures the view of the transmission line. Within the built environment, the poles would be approximately 40 feet taller than existing conditions, and the pole diameter would be wider than existing conditions, contrasting more with the surrounding houses and existing utility infrastructure. The new transmission line would have consistent form and height throughout the segment, and would reduce visual clutter by reducing the number of poles. FEIS at 4.2-18.

In many areas, PSE further proposes using a *delta* conductor configuration that uses less hardware rather than the existing rectilinear design. By limiting the area of visual impact and mirroring other natural elements, PSE can effectively mitigate aesthetic impacts and ensure consistency with adjacent uses.

- C. *The conditional use will be served by adequate public facilities including streets, fire protection, and utilities; and*



**Response:** The transmission line upgrade is a utility and will consist of replacing two existing 115 kV transmission lines within an existing 100-foot wide corridor with two 230 kV lines in the same corridor. No new permanent access or other additional public facilities will be required to accommodate the upgraded lines.

- D. *The conditional use will not be materially detrimental to uses or property in the immediate vicinity of the subject property; and*

**Response:** PSE’s proposed project will improve the reliability of electrical services to uses adjacent to the upgraded transmission line poles. The north segment of the proposed transmission line upgrade will not be materially detrimental to uses or properties in the immediate vicinity. PSE proposes siting the north segment along the same corridor used by existing transmission lines. This corridor has been established for almost a century. Because adjacent land uses and properties already integrate transmission line facilities, they will not be materially impacted by replacement of the existing transmission line facilities.

Property owners closest to the transmission lines typically own and use the property beneath the transmission lines, subject to terms of the easement that was on the property when purchased. The presence of transmission lines generally does not impede property owners use and enjoyment of their property and the visual enjoyment of their property will remain largely unchanged, with the exception that the poles will be larger, made of metal rather than wood, and in slightly different locations. In some cases, the new pole configuration will mean fewer poles, and the lines will be higher above the line of sight for properties in the immediate vicinity, thereby reducing the visual impacts to some of the properties closest to the Project. PSE has also offered to work with each property owner to adjust the location of the new poles to the extent feasible for the convenience of individual property owners.

The consistency of the proposed transmission lines with other uses in the vicinity was confirmed by the FEIS, which found that impacts to land use will “be less-than-significant because [the proposed project] is consistent with City and subarea plans, and would not adversely affect existing or future land use patterns.” FEIS at 4.1-9—10.

With respect to aesthetic impacts to properties in the vicinity of the proposed transmission line, the FEIS describes the north segment as follows:

No scenic views from parks, trails, or outdoor recreation facilities would be significantly impacted. There are occasional views of the Cascades along the transmission corridor, views of the Olympics from Northup Way, and views of Mount Rainier along SR 520. Changes in the transmission infrastructure from 115 kV transmission lines to 230 kV transmission lines are not expected to negatively impact views from those locations because the change would occur within an existing transmission corridor, and the increase in height would move the wires farther above drivers’ line of sight of visual resources. Impacts would be less-than-significant. FEIS at 4.2-19.

In general, studies have found that the effects on property values are highest for properties nearest the lines and tend to diminish over time after the project is constructed. Phase II DEIS at 3.10-2.

One more objective rubric for assessing harm to properties in the vicinity is the potential for the project to impact house values. Both the Phase I and Phase II of the DEIS confirmed that

there would be no materially detrimental impact to house values resulting from PSE's proposed transmission line upgrade. Phase II DEIS at 3.10-1—2; and Phase I DEIS at Ch. 10 Land Use and Housing, 10-21—22 (which summarizes studies detailing economic impacts of transmission lines on housing values). This is especially significant as the studies reviewed contemplated the siting of a new transmission line, rather than a transmission line upgrade where similar utilities already exist. The DEIS's conclusions on economic impacts provides further evidence that PSE's proposed transmission line upgrade would not be materially harmful to properties in the immediate vicinity.

PSE has also proactively addressed potential safety concerns related to construction safety and the potential for interactions between the project and two collocated Olympic Pipeline petroleum pipelines. As proposed, PSE and pipeline safety expert DNV-GL have concluded that while there are safety risks for occupants of adjacent properties associated with the high voltage lines and the presence of the Olympic Pipeline system, these risks will not increase with the Project, and will likely be reduced. Additionally, DNV-GL modelling confirmed that fault potential, shock potential, and A/C interference (all of which are safety concerns in a collocated corridor) are all below industry safety standard thresholds.

*E. The conditional use complies with the applicable requirements of this Code.*

**Response:** The proposed transmission line upgrade complies with the applicable requirements of the City of Bellevue code as evidenced through the documentation provided by this CUP application.

### **LUC 20.20.255.E: Electrical utility facility decision criteria:**

*1. The proposal is consistent with Puget Sound Energy's System Plan;*

**Response:** The need for additional 230 kV capacity in the Eastside region was identified, and has been included in PSE's Electrical Facilities Plan for King County ("Plan"), since 1993. As explained in the Plan, "[t]he 230 kV sources for the 115 kV system in northeast King County are primarily the Sammamish and Talbot Hill substation. The loads on the 230- 115 kV transformers in these stations will be high enough to require new sources of transformation." Additionally, the "Lakeside 230 kV Substation project [now referred to as Energize Eastside] will rebuild two existing 115 kV lines to 230 kV between Sammamish and Lakeside [where PSE proposes the construction of the Richards Creek substation], and between Lakeside and Talbot Hill."

*2. The design, use, and operation of the electrical utility facility complies with applicable guidelines, rules, regulations, or statutes adopted by state law, or any agency or jurisdiction with authority;*

**Response:** Performance requirements for any integrated transmission system are heavily regulated at both the federal and regional levels. PSE's regulators include FERC, NERC, and WECC (the Federal Energy Regulatory Commission, North American Electric Reliability Corporation and Western Electricity Coordinating Council, respectively).

NERC is the regulatory authority certified by FERC to develop and enforce reliability standards. NERC has delegated the task of monitoring and enforcing the federal reliability standards to WECC, the regional entity that has authority over transmission in the western region.

The NERC standards mandate that certain forecasts and studies must be completed to determine if the system has sufficient capability to meet expected loads now and in the future. When completing transmission planning studies, contingencies are simulated to determine if the electric system meets the mandatory NERC performance requirements<sup>1</sup> for a given set of forecasted demand levels, generation configurations and levels, and multiple system component outages.

Federal regulations require that the appropriate planning be undertaken proactively. The probability that events which must be modeled may occur is not an element of NERC-compliant reliability planning. This conservative planning methodology is implemented to prevent large scale, cascading, transmission system blackouts, like those that have occurred in the recent past (for example, the 2003 Northeast blackout that affected 55 million people in the Northeast and Midwest regions of the United States and Canada).

The PSE transmission planning studies performed in 2013 and 2015 determined that thermal violations on transmission line and transformer equipment could occur under foreseeable scenarios within the next few years. The thermal violations are a result of modelling scenarios for several mandatory component outage contingencies that take into consideration peak demand (which is heavily dependent on seasonal temperatures and daily demand profiles) and levels of conservation. In essence, this is a requirement to have redundancy in the transmission system.

In an effort to stop PSE's Energize Eastside Project, a complaint was filed with the Federal Energy Regulatory Commission (FERC) against PSE and other utilities alleging the transmission reliability study methods utilized by PSE et al. were not consistent with NERC requirements (Attachment A). FERC dismissed all aspects of the complaint, stating:

“Based on the record before us, we find that Puget Sound [PSE] and the other Respondents complied with their transmission planning responsibilities under Order No. 890 in proposing and evaluating the Energize Eastside Project.” (FERC Docket No. EL15-74-000, [Order Dismissing Complaint](#), Issued Oct. 21, 2015.)

The FERC response also concluded:

“We agree with Puget Sound [PSE] and ColumbiaGrid that the Energize Eastside Project was properly classified a Single System Project because it was designed to address Puget Sound's projected inability to serve its own customers, ColumbiaGrid's Puget Sound Area Study Team did not find any Material Adverse Impacts associated with the project, and ColumbiaGrid included the project as a Single System Project in its most recent 2015 Biennial Plan. Accordingly, we find that the Energize Eastside Project was proposed and evaluated in accordance with the then-applicable transmission

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<sup>1</sup> The transmission planning standards that were in effect in 2012-2013 were: TPL-001-3, TPL- 002-0b 2nd Rev (TPL-002-2b), TPL-003-0b 2nd Rev (TPL-003-2b), and TPL-004-2. TPL-001-3, TPL-002-2b, TPL-003-2b, and TPL-004-2 are being retired as they are replaced in their entirety by TPL-001-4. Enforcement of the new standards began January 1, 2015. Visit the NERC website at <http://www.nerc.com/pa/Stand/ReliabilityStandards/TPL-001-4.pdf> for more information.

planning requirements.” (FERC Docket No. EL15-74-000, [Order Dismissing Complaint](#), Issued Oct. 21, 2015.)

3. *The applicant shall demonstrate that an operational need exists that requires the location or expansion at the proposed site;*

The stated purpose of the Energize Eastside project is to address a transmission system deficiency between the Sammamish and Talbot Hill substations and to meet local demand growth and protect reliability in the Eastside of King County, roughly defined as extending from Redmond in the north to Renton in the south, between Lake Washington and Lake Sammamish, and including the City of Bellevue. The Project was identified in the City's Comprehensive Plan UT Element policies for non-City-managed utilities and is shown on Map UT-7 – New or Expanded Electrical Facilities.

Comprehensive Plan Policy UT-47 directs the City to defer to the serving utility, in this case PSE, regarding the implementation sequence of components of the utility's plan. In total, six separate studies performed by five separate parties have confirmed the need to address Eastside transmission capacity (20.20.255.E.4; D.3.b & c):

- Electrical Reliability Study by Exponent, 2012 (City of Bellevue)
- Eastside Needs Assessment Report by Quanta Services, 2013 (PSE)
- Supplemental Eastside Needs Assessment Report by Quanta Services, 2015 (PSE)
- Independent Technical Analysis by Utility Systems Efficiencies, Inc., 2015 (City of Bellevue)
- Review Memo by Stantec Consulting Services Inc., 2015 (EIS consultant).
- Assessment of Proposed Energize Eastside Project prepared for Newcastle, 2020 (MaxETA Energy, PLLC & Synapse Energy Economics, Inc.)

In addition to the above studies, PSE annually reanalyzes the need as part of PSE's mandatory requirements by NERC. These requirements are detailed in NERC standard TPL-001-4 Transmission System Planning (TPL) Performance Requirements. Per NERC requirements, PSE performs this annual planning assessment to analyze the electric system and reconsider previous transmission planning conclusions. All of the annual reviews conducted for 2016, 2017, 2018, and 2019 have confirmed PSE's previous determination that the Energize Eastside project is needed and that there is a transmission capacity deficiency and the transmission capacity deficiency in the Eastside, including Bellevue, will continue to get worse as load grows.

The Quanta-prepared Needs Assessment reports published in 2013 and 2015 and performed pursuant to the mandatory NERC transmission planning standards identified four major areas of concern:

1. Overload of PSE facilities in the Eastside area. Studies identified potential overloading of transformers at Sammamish and Talbot Hill substations, and several 115 kV transmission lines routing power to the Eastside area are at risk of overloading under certain conditions.

2. Small margin of error to manage risks from inherent load forecast uncertainties. PSE's planning studies rely in large part on load forecast data. Imbedded in PSE's load forecasts are several factors that include elements of risk. These include conservation, weather and block loads.
  - Conservation: To date, PSE customers have achieved 100 percent of the company's conservation goals, which are very aggressive within the industry. If 100 percent of conservation goals are not achieved, then the transmission system capacity will be surpassed sooner than expected.
  - Weather: PSE's load forecast assumes "every other year" cold weather. (Some utilities take a more conservative approach, using the coldest and hottest weather in five or ten years, as inputs to system performance studies<sup>2</sup>.) If the region experiences weather extremes outside of those used in PSE's planning studies, electricity demand will surpass the transmission system capacity sooner than expected.
  - Block loads: These include large development projects that add significant load to the system. If block load growth increases more than anticipated, demand for electricity will surpass the transmission capacity sooner than expected.
3. Increased use and expansion of operational Corrective Action Plans (CAPs) to keep the system compliant. CAPs are a series of operational steps used to prevent system overloads or loss of customers' power. They are a short-term fix to alleviate potential operational conditions that could put the entire grid at risk. They protect against large-scale, cascading power outages; however, they can put large numbers of customers at increased risk of power outages. For example, to prevent winter overloads on the Talbot Hill transformer banks, PSE is already using operational CAPs, which increases outage risk to customers. As growth continues, additional CAPs will be needed. Per federal standards, operational CAPs are not intended to be long-term solutions to system deficiencies.
4. Impacts to interconnections identified by ColumbiaGrid. Though the need for Energize Eastside is driven by local demand, because the electric system is interconnected for the benefit of all it is a federal requirement to study all electric transmission projects to ensure there are no material adverse impacts to the reliability or operating characteristics of PSE's or any surrounding utilities' electric systems. ColumbiaGrid, the regional planning entity, produces a Biennial Transmission Expansion Plan that addresses system needs in the Pacific Northwest, including the PSE system.

PSE's 2015 Supplemental Needs Assessment Report confirmed the winter deficit findings in the 2013 Needs Assessment Report, stating that: *By winter of 2017-18, there is a transmission capacity deficiency on the Eastside that impacts PSE customers and communities in and around Kirkland, Redmond, Bellevue, Issaquah, Newcastle, and Renton...By winter of 2019-20, at an Eastside load level of approximately 706 MW, additional CAPs are required that will put approximately 63,200 Eastside customers at risk of outages.* The 2015 Needs Assessment also confirmed that by summer of 2018, there would be a transmission capacity deficiency on the Eastside and that **by summer of 2018, CAPs will be required to manage overloads under certain N-1-1 contingencies,**

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<sup>2</sup> For example, ISO-NE plans to a 90/10 or one in ten year weather forecast.

**and the use of these CAPs will place approximately 68,800 customers at risk and could require 74 MW of load shedding, affecting approximately 10,900 customers at a time.**

To further study this, in 2015 PSE commissioned Nexant to simulate three scenarios of rotating outages that could be needed if no action is taken to upgrade the Eastside's transmission system. Nexant's Energize Eastside Outage Cost Study determined that if PSE must use corrective action plans that include rolling blackouts, more than 130,000 customers could be impacted as early as the summer of 2018, at a cost of tens of millions of dollars to the local economy. The City of Bellevue contracted with Utility System Efficiencies, Inc. (USE) to perform an Independent Technical Analysis (ITA) of the purpose, need and timing of the Energize Eastside project. This study confirmed the capacity deficiency in the Eastside area. The ITA was performed to verify the project need and PSE's study methods, as these were questioned by a small public opposition group (see **LUC 20.20.255.E: Electrical utility facility decision criteria** (2), above).

The ITA concluded that "PSE used reasonable methods to develop its forecast showing the Eastside area growing at a higher level [faster pace] than the county or system level". Additionally, the ITA addressed common questions about the project, including:

- Is the Energize Eastside Project needed to address the reliability of the electric grid on the Eastside? **The ITA determined, "YES."**
- If the load growth rate was reduced, would the project still be needed? **The ITA determined, "YES."**
- If generation was increased in the Puget Sound area, would the project still be needed? **The ITA determined, "YES."**
- Is there a need for the project to address regional flows, with imports/exports to Canada? **The ITA determined that by modeling zero flow to Canada, the project is still necessary to address local need.**

The City of Newcastle hired MaxETA Energy, PLLC and Synapse Energy Economics, Inc. (MaxETA and Synapse) to prepare a study reviewing this need. That study, completed June 28, 2020, concluded that there is a need ("...shows that there is a summer transmission capacity deficiency in King County under N-1-1 contingencies even at today's peak load level.")<sup>3</sup>.

Since those studies, summer demand from PSE's customers has twice exceeded planning thresholds identified in these studies as putting PSE at risk of having to implement CAPs.<sup>4</sup> Because PSE's system now experiences summer loads that exceed planning thresholds, PSE undertakes CAP planning that includes the potential for intentional load shedding (i.e.,

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<sup>3</sup> *Assessment of Proposed Energize Eastside Project*, MaxETA Energy, PLLC and Synapse Energy Economics, Inc., June 2020, Page 3 Key Findings

<sup>4</sup> On June 8, 2018, PSE sent letters to several cities on the Eastside including Bellevue stating that their peak customer demand projections, which were the basis for determining the need for the Energize Eastside project, had been exceeded in the summer of 2017. PSE indicated that the systemwide peak customer load in the summer of 2017 reached the levels earlier predicted for summer of 2018, exceeding the 3,625 MW threshold identified as the load level at which PSE's system is at risk of outages. This occurred in early August of 2017, following a brief period of unusually high daytime and nighttime temperatures.

intentional power outages) throughout its Eastside service area, including north Bellevue neighborhoods.

Load shedding is not a practice that PSE or many other responsible utilities use unless absolutely necessary. Since load shedding adversely impacts residential, commercial and industrial customers as well as surrounding cities, towns and neighboring communities, it is necessary and good utility practice to coordinate with cities, towns, municipal officials and emergency services, and to publicly inform those affected.

The geographic location of the Energize Eastside project is directly related to the operational need, local demand growth, and reliability considerations that PSE has identified and that the Project is designed to address. Specifically, the Project is located between Redmond and Renton, the two points where the system can connect to 230 kV bulk power on the Eastside. PSE explored dozens of other options for siting the Project in the Eastside. Based on its siting analysis, and consistent with the findings of the project's EIS, PSE found that locating the Project within an existing right-of-way has fewer impacts than creating a new right-of-way corridor, as well as being the location that provides the least costly way to develop the Project. The Project is therefore proposed in the existing 115 kV corridor connecting the Talbot Hill substation to the Lakeside substation.

Using the existing transmission line corridor provides the shortest path between the Sammamish substation in the north and the Talbot Hill substation in the south to the Lakeside substation area. Operationally, replacing the existing 115 kV lines with 230 kV lines utilizes an existing corridor without the need for creating a new one through areas that do not have transmission lines today.

4. *The applicant shall demonstrate that the proposed electrical utility facility improves reliability of the system as a whole, as certified by the applicant's licensed engineer;*

**Response:** PSE's transmission planning studies, listed above, demonstrate that under certain contingencies the delivery system on the Eastside could not continue to meet reliability requirements without significant infrastructure upgrades. PSE's 2013 Eastside Transmission Solution Report and 2015 Supplemental Eastside Transmission Solution Report addressed the needed reliability infrastructure upgrades to build a new 230-115 kV substation in the Bellevue area with a 230-115 kV transformer, upgrade the existing 115-kV lines to 230-kV lines, and provide aggressive conservation to provide the reliable improvements to the Eastside area. The new substation will allow existing 115 kV lines to distribute the power into Eastside communities. This would provide increased capacity and reliability for more than 100,000 customers on the Eastside, including north Bellevue.

Completing this infrastructure upgrade would eliminate PSE's reliance on operational CAPs. These CAPs could include intentional shedding of the load under certain conditions when re-dispatching the generation and/or sectionalizing the transmission system would not help in reducing the load beyond capacity limitations of the transmission equipment. Thus, ensuring reliable service to all the Eastside customers and beyond by preventing a large area outage.

All of the studies listed above are provided in the Alternative Siting Analysis. These studies were reviewed and confirmed by Jens Nedrud, Manager of System Planning, a Washington State licensed engineer. See Attachment B (containing PSE's 2021 Reliability Certification for Energize Eastside 230-kV Project (LUC 20.20.255.E)).

5. *For proposals located on sensitive sites as referenced in Figure UT.5a of the Utility Element of the Comprehensive Plan, the applicant shall demonstrate:*

- a. *Compliance with the alternative siting analysis requirements of subsection D of this section;*

See PSE's Alternative Siting Analysis.

- b. *Where feasible, the preferred site alternative identified in subsection D.2.d of this section is located in the land use district requiring additional service and residential land use districts are avoided when the proposed new or expanded electrical utility facility serves a nonresidential land use district;*

As explained in the six studies assessing the need for Energize Eastside, PSE's proposed transmission line upgrade is responsive to projected growth in the Eastside generally and the City of Bellevue specifically. All land uses (including residential and non-residential uses) on the Eastside, including the land use districts in which the project is proposed to be sited will directly benefit from the reliability improvements (and the associated reduced risk of outages) that will follow project construction. Improvements to reliability as a result of the Project will also benefit the entire City and other communities surrounding Bellevue, including both non-residential districts and residential districts

The Energize Eastside project provides additional transmission capacity needed to accommodate existing electrical demand and expected growth throughout the Eastside. Most of the population and employment growth in Bellevue to be served by the Project is expected to occur in non-residential zones and mixed-use zones. However, because transmission capacity must connect to the regional grid, it is not possible to construct the facility in a discrete zone or zones; the lines must cross several zones to reach the center of the Eastside, and the majority of the area it must cross is residentially zoned.

Finally, consistent with City policies on utility corridors, PSE's proposal makes use of an existing shared utility transmission corridor. By using an existing transmission line corridor that passes through residential areas, it is not feasible to avoid residential areas and to the extent that residential land use districts are impacted, they are districts that already house PSE's high voltage transmission lines and are subject to PSE transmission line easements, which largely predate the construction of residential uses along the corridor.

- 6. *The proposal shall provide mitigation sufficient to eliminate or minimize long-term impacts to properties located near the electrical utility facility.*

The FEIS identified limited unavoidable significant adverse impacts. PSE is committed to implementing avoidance, minimization, and mitigation identified through the SEPA review process where feasible to avoid and address any significant adverse impacts. PSE is committed to fully complying with all mitigation required by the City's code and permit conditions. Specifically, PSE will mitigate those impacts identified in the Critical Areas Report, as well as tree impacts that are necessary to meet federal transmission line operational standards. PSE will work with affected property owners, the City, and other



stakeholders to replace trees in the most effective manner that meets the permit conditions.

F. *Design Standards:*

*In addition to the requirements set forth in Part 20.30B LUC, Part 20.30E LUC, Part 20.25B LUC (if applicable), and other applicable provisions of this section, all proposals to locate or expand an electrical utility facility shall comply with the following:*

1. *Site Landscaping. Electrical utility facilities shall be sight-screened as specified in LUC 20.20.520.F.2 or as required for the applicable land use district. Alternatively, the provisions of LUC 20.20.520.J may be used, provided this subsection does not apply to transmission lines as defined in LUC 20.50.018.*

**Response:** The proposed project in the North Bellevue Segment consists of a transmission line corridor. This requirement is not applicable within the transmission line corridor.

2. *Fencing. Electrical utility facilities shall be screened by a site-obscuring fence not less than eight feet in height, provided this subsection does not apply to transmission lines as defined in LUC 20.50.018. This requirement may be modified by the City if the site is not considered sensitive as referenced in Figure UT.5a [UT-7] of the Utility Element of the Comprehensive Plan, is adequately screened by topography and/or existing or added vegetation, or if the facility is fully enclosed within a structure. To the maximum extent possible, all electrical utility facility components, excluding transmission lines, shall be screened by either a site-obscuring fence or alternative screening.*

**Response:** This requirement is not applicable within the transmission line corridor.

3. *Required Setback. The proposed (including required fencing) shall conform to the setback requirement for structures in the land use district.*

**Response:** The Project will comply with water, sewer, and storm clearance and setback per BCC 24.02 and 24.04.

4. *Height limitations. For all electrical utility facility components, including transmission lines, the City may approve a request to exceed the height limit for the underlying land use district if the applicant demonstrates:*

- a. *The requested increase is the minimum necessary for the effective functioning of the electrical utility facility; and*

**Response:** The request to exceed the height limit is the minimum necessary for the effective and safe functions of the transmission lines. The existing corridor is located within different zoning districts throughout the City, including residential and commercial. The replacement pole height will need to increase over the current pole height. NESC requires minimum clearance between each of the conductors and the ground, said distance based on operating temperature and loading to account for sag. These safety standards also require increased separation between the three conductors necessary for each circuit once upgraded to 230 kV. This increased conductor separation adds height to the poles. Poles are designed to meet the

minimum height, required safety provisions, and design standards, all of which ensure effective functioning of the transmission line during all operational conditions.

- b. Impacts associated with the electrical utility facility have been mitigated to the greatest extent technically feasible.*

**Response:** As stated above and in the Alternative Siting Analysis, the location of the upgraded transmission lines minimizes impacts to adjacent properties by using an existing transmission line corridor that was established more than 80 years ago. Additionally, extensive engineering, which included design and operational parameters, was undertaken to minimize pole height to the extent practicable. This approach also allowed for a reduction in EMF, which in turn allowed for the lowest AC interaction with other utilities that share the corridor. Flexibility of pole finish has been accounted for in an effort to help minimize the contrast of the replacement poles with the dominant background.

# **Alternative Siting Analysis**



 PUGET SOUND ENERGY

energize**EASTSIDE**



# **Alternative Siting Analysis**

**North/Central Bellevue Segments**

**LUC 20.20.225.D**

**March 2021**

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### **Attachment C – Supporting Studies**

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- C-4: Independent Technical Analysis (Utility Systems Efficiencies, Inc. 2015)
- C-5: Review Memo (Stantec Consulting Services, Inc. 2015)
- C-6: Eastside System Energy Storage Alternatives Screening Study (Strategen 2015)
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- C-8: Assessment of Proposed Energize Eastside Project (MaxETA Energy and Synapse Energy Economics 2020)

### **Attachment D – Community Advisory Group Report**

### **Attachment E – Coalition of Eastside Neighbors for Sensible Energy v. City of Bellevue and Puget Sound Energy, Inc.**

## 1.0 Introduction

### 1.1 Project Summary

Puget Sound Energy, Inc. (PSE) proposes the construction of a new substation in the City of Bellevue (City), known as the “Richards Creek substation” and the upgrade of 16 miles of two existing 115 kV transmission lines with 230 kV lines (collectively the “Energize Eastside Project” or the “Project”). The new substation and upgraded lines are needed to address electrical system deficiencies identified during federally required planning studies. Combined with aggressive conservation, the Project significantly improves electric reliability for Eastside communities, including the City, and will supply the additional electrical capacity needed for current and anticipated growth.

The existing system is not robust enough to maintain reliable service if the entire facility is taken out of service at one time. Therefore, the Project will be constructed in two phases. This is the best approach to allow PSE to keep the existing 115 kV facilities partially in service during construction, which will allow PSE to maintain reliable service to all customers during construction. Both phases of the project are needed to complete the identified solution. The first phase includes construction of the Richards Creek substation and upgrading 3.3 miles of existing 115 kV lines with 230 kV lines between the Lakeside and Talbot Hill substations (the “South Bellevue Segment”). See LUP 17-120556-LB.

The second phase (the “North Bellevue Segment”) is the primary focus of this application and includes replacing approximately 5.2 miles of existing 115 kV lines with new transmission lines that can operate up to 230 kV lines (herein referred to as 230 kV lines) between the Redmond/Bellevue city boundary and the new Richards Creek Substation. This requires replacing existing wood H-frame poles with steel monopoles. After deliberate review and extensive stakeholder input, PSE proposes to undertake this work in the existing transmission line corridor rather than siting a new corridor through Eastside communities<sup>1</sup>. Within the existing utility corridor, the proposed pole locations for the rebuilt lines will generally be in the same locations as the existing poles. Selective tree removal will also be required within the managed corridor to meet federal vegetation management requirements and PSE standards. Use of the existing corridor (which has housed transmission lines since the 1920s and 30s) minimizes environmental impacts and impacts to adjacent uses to the fullest extent feasible.

This Alternative Siting Analysis summarizes the years of study, including dozens of technical studies and two-phases of review under the State Environmental Policy Act (SEPA), required to reach a decision on how to best meet growing demand and ensure PSE’s compliance with federal performance standards.

### 1.2 Alternative Siting Analysis Purpose and Objectives (LUC 20.20.255.D)

PSE is proposing the Project—the construction of a new substation and upgrading of 115 kV transmission lines to 230 kV lines in an existing transmission line corridor. In the Bellevue Comprehensive Plan, PSE’s proposed route is on a “sensitive site.” See Map UT-7. For new or expanded utility facilities on sensitive sites, an Alternative Siting Analysis is required per LUC 20.20.255.D in conjunction with the Conditional Use Permit (CUP) process.

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<sup>1</sup> The existing transmission lines were last upgraded in the 1960s and are in PSE’s Sammamish – Lakeside – Talbot Hill transmission line corridor, which was established in the late 1920s and early 1930s.



Under LUC 20.20.255.D, an Alternative Siting Analysis must: 1) identify, describe and map three alternative site options; 2) analyze whether each alternative site is feasible; 3) describe the technologies considered and how the proposed facilities will improve system reliability; and 4) describe community outreach related to the new or expanded facilities. Where proposed sites are located within a Neighborhood Business or Residential Land Use District, the applicant must also 1) describe whether the proposed location is a consequence of demands from customers within the district and 2) describe whether operational need requires locating the proposed facility in the district. Using the location selection hierarchy, the applicant must then identify the preferred site alternative. Finally, where the preferred site is in a Residential Land Use District, the applicant must demonstrate that the siting causes fewer site compatibility impacts than a nonresidential siting.

## 2.0 Alternatives Analysis

Adding a new substation and upgrading the 115 kV transmission lines with 230 kV transmission lines, combined with continued aggressive conservation measures, constitutes the Project<sup>2</sup>. As confirmed by the City's independent consultants, the Project will improve reliability for Eastside communities and supply needed electrical capacity for growth and development on the Eastside.

Siting of electrical transmission infrastructure through urbanized areas presents unique challenges. Finding the best way to route a transmission line is complex, as dozens of elements of both the natural and built environments need to be considered. This is especially true here as the proposed Project traverses the City from north to south.

Within the City, the Project will be constructed in two phases: a north and south phase, with the northern phase of the transmission line traversing approximately 5.2 miles of the City. Construction of the entire project is necessary to address the identified system need. As a linear project, it necessarily travels through many land use districts. To limit the need to construct new facilities (and the associated environmental impacts), when looking at the entirety of the Project, all transmission line route alternatives start at PSE's Sammamish substation in Redmond (at the north end) and end at the Talbot Hill substation in Renton (at the south end). PSE considered various routing options for the entire line, including three route options in the North/Central Bellevue Segments. The North Bellevue and Central Bellevue Segments were assessed separately throughout the EIS but are both addressed as part of this "North Bellevue Phase" submittal.

### 2.1 Routing Analysis Methodology (LUC 20.20.255.D.1)

*LUC 20.20.255D.1. Alternative Sites Analyzed. Prior to submittal of the application for Conditional Use Permit required pursuant to subsection C of this section, the applicant shall*

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<sup>2</sup> Notably, the City's Final EIS concluded that "Under the No Action Alternative, PSE would continue to manage its system in largely the same manner as at present, with some exceptions. Specifically, PSE indicates it would be necessary to operate with additional Corrective Action Plans (CAPs) including load shedding plans as described in Section 1.3 [of the Final EIS]. These additional plans are not necessary at present but will become necessary as the electrical load continues to grow. Operation of the existing system includes maintenance programs to reduce the likelihood of equipment failure (including pole replacement), and stockpiling additional equipment so that in the event of a failure, repairs could be made as quickly as possible. Implementation of the No Action Alternative would not meet PSE's objectives for the proposed project, which are to maintain a reliable electrical system and to address a deficiency in transmission capacity on the Eastside. Implementation of the No Action Alternative would increase the risk to the Eastside of power outages or system damage during peak power events." Final EIS at 2-4.

*identify not less than three alternative site options to meet the system needs for the proposed new or expanding electrical utility facility. At least one of the alternative sites identified by the applicant shall be located in the land use district to be primarily served by the proposed electrical utility facility.*

PSE determined that the best approach to route selection would be to use a modern tool that employed a graphical information system (GIS)-based Linear Routing Tool (LRT) to conduct a broad evaluation of possible transmission line routes.

PSE contracted Tetra Tech, a consulting and engineering firm who has developed an LRT, to conduct evaluations. Details of the LRT assessment can be found in the Eastside 230 kV Project Constraint and Opportunity Study for Linear Site Selection (December 2013) (Attachment C, Study C-2). The LRT is a tool developed by Tetra Tech based on commercially available geospatial technology and Tetra Tech's linear routing experience. It is a collaborative process that combines powerful analytical software with project experience, system planning, engineering, land use and local knowledge considerations. The LRT's innovative geospatial tool identifies the most suitable route alternatives based on modeled environmental and infrastructure factors and constraints.

PSE and Tetra Tech began this process by identifying an approximately 255 square mile study area (Attachment A, Figure 1) that encompasses the Sammamish substation in the north and Talbot Hill substation in the south. The study area was bounded on the west by the eastern shore of Lake Washington and extending far enough east to include the BPA corridor near Soaring Eagle Regional Park (located north east of the City of Sammamish). Any new transmission line route had to connect to one of the new potential 230 kV to 115 kV transformation sites (substation) within this area in order to solve the problem. For the study, three possible substation sites were identified.

The LRT combined GIS data layers and created an output file called the suitability grid, which represents a summation of all the constraints and opportunities for every point (grid cell) across the entire study area. The LRT processed and combined the data layers to model preferred corridors across the suitability grid, while still connecting the corridors to one of the transformation site (i.e., substation) options within the study area. The LRT analyzed more than 200 route and substation alternatives. From these, the preferred corridors identified by the LRT were used to develop route alternatives.

All alternatives analyzed are in the land use district to be primarily served by the North Bellevue Phase, as construction of the project will improve reliability throughout north Bellevue and, once constructed, will eliminate the need for the use of Corrective Action Plans that include load shedding on the Eastside.

## **2.2 Alternative Sites Analyzed (LUC 20.20.255.D.1-2)**

*LUC 20.20.255D.1. Alternative Sites Analyzed. Prior to submittal of the application for Conditional Use Permit required pursuant to subsection C of this section, the applicant shall identify not less than three alternative site options to meet the system needs for the proposed new or expanding electrical utility facility. At least one of the alternative sites identified by the applicant shall be located in the land use district to be primarily served by the proposed electrical utility facility.*

LUC 20.20.255D.2b. Map the location of the sites identified in subsection D.1 of this section and depict the proximity of the sites to Neighborhood Business Land Use Districts, Residential Land Use Districts, and Transition Areas.

As set forth in detail below, this Alternative Siting Analysis addresses the requirements of LUC 20.20.255.D. First, using nomenclature developed during the 2014 community advisory group process and the Phase 2 Draft Environmental Impact Statement (DEIS), PSE discusses three siting alternatives considered for the North Bellevue Phase:

- 1) Willow 1 route (Attachment A, Figure 2, entirely within the existing corridor for the Bellevue North and Bellevue Central Segments)
- 2) East Bellevue Community Council (EBCC) Bypass Route 1 (Attachment A, Figure 3, Bellevue Central Segment)
- 3) EBCC Bypass Route 2 (Attachment A, Figure 4, Bellevue Central Segment)

The Willow 1 and EBCC Bypass Routes 1 and 2 are all feasible; however, based on the information obtained through the EIS process and extensive public outreach, PSE will proceed with the Willow 1 route to limit environmental impacts and the siting of an entirely new corridor which would result in greater, new impacts to adjacent uses. In addition, pipeline safety experts concluded that the Willow 1 route gives PSE the greatest assurance that the Project will operate safely in the same corridor as the pipelines operated by the Olympic Pipeline Company (OPL).

### 2.3 Alternative Site Descriptions

*LUC 20.20.255D.2.a. Describe the sites identified in subsection D.1 of this section and the land use districts within which the sites are located.*

[...]

*LUC 20.20.255D.2.c. Describe which of the sites analyzed are considered practical or feasible alternatives by the applicant, and which of the sites analyzed are not considered practical or feasible, together with supporting information that justifies the conclusions reached. For sites located within a Neighborhood Business Land Use District, Residential Land Use District, and/or Transition Area (including the Bel-Red Office/Residential Transition (BR-ORT), the applicant shall:*

- i. Describe whether the electrical utility facility location is a consequence of needs or demands from customers located within the district area; and*
- ii. Describe whether the operational needs of the applicant require location of the electrical utility facility in the district or area.*

The Project serves all of the potentially impacted land uses which require electricity (essentially, this encompasses most if not all land uses). The Project will provide an upgraded, reliable transmission system serving the Eastside including adjacent uses. The Project is needed because cumulatively, demand on the Eastside is increasing. The transmission line component of the project must run between the Sammamish and Talbot Hill substations. It must also connect with the proposed Richards Creek substation in South Bellevue. In addition, operationally, the transmission line must transverse through the City of Bellevue from the north to the south, making it impossible to completely avoid areas of residential zoning. The existing

corridor (Willow 1) provides the shortest distance through the city and therefore, crosses the least amount of residential zoning.

As required under LUC 20.20.255.D.1 and LUC 20.20.255.D.2.c.i-.ii, all siting alternatives are located in land use districts served by the Project. The growing demand for power in both Bellevue and the Eastside is a primary driver of the need for the Project.

This conclusion was confirmed by the City's independent experts. Utility System Efficiencies, Inc. (USE) was engaged by the City in December, 2014 to conduct an independent technical analysis of the purpose, need, and timing of the Project. In April 2015, USE published a report summarizing its findings. See Independent Technical Analysis of Energize Eastside for the City of Bellevue, WA (April 28, 2015) ("USE Report") (Attachment C, Study C-4). The USE Report answered the following questions:

**Is the EE Project Needed to Address the Reliability of the Electric Grid on the Eastside?  
Yes.**

Although the new 2014 forecast resulted in an 11 MW decrease in the Eastside area's 2017/18 winter forecast, the reduced loading still resulted in several overloaded transmission elements in winter 2017/2018, which drive the project need.

Although the corrective action plan (CAP) required in the 2017/18 winter to avoid facility overload doesn't require dropping load (turning off customers' power), by winter 2019/20 approximately 63,200 customers are at risk of losing power.

The USE Report went on to confirm PSE's conclusion that, applying federal electrical system planning requirements, transformers serving uses adjacent to the North Bellevue Phase will experience overloads (i.e., reduced reliability) in foreseeable planning scenarios. USE Report at 52 (containing tables summarizing PSE's forecasting results that show overloads at the Talbot and Lakeside substations).

In addition to the USE Report, in 2012, Bellevue retained Exponent to perform an electrical system reliability assessment. Exponents report stated "As a minimum, the following capacity additions have been identified as being needed within the next 5 to 10-year time frame:

- Upgrade of existing 115 kV lines to 230 kV
- Addition of transformer banks to support expected growth in various areas of the City (Downtown, Bel-Red, and Somerset/Eastgate)
- Addition of new 115 kV lines to reinforce the overall electric system."

See City of Bellevue Electrical Reliability Study, Phase 2 Report at 140 (Attachment C, Study C-C-1). All studies assessing whether the project is needed for PSE to comply with federal reliability criteria since this report have also concluded that the project, including the North Phase, is needed to improve reliability on the Eastside. Most recently, this includes the 2020 Synapse report drafted under the direction of the City of Newcastle (Attachment C, Study C-8), which concluded that "PSE has demonstrated that the proposed transmission upgrades are needed to safeguard the operational reliability of the electric system as a whole. To maintain system security, power systems are operated so that overloads do not occur either in real-time or under any statistically likely contingency. Not securing the bulk electric system to operate reliably over a broad spectrum of system conditions and following a wide range of probable contingencies could affect the electric supply reliability in Newcastle. This peer review verified

that under specific contingencies (N-1-1 and N-2) the as-is bulk electric system serving Newcastle is already susceptible and operationally reliant in the implementation of Corrective Action Plans (CAPs).” See Attachment C, Study C-8. Although focused on impacts to Newcastle, the report confirms that the existing system does not comply with transmission planning criteria under current summer load scenarios and accordingly is susceptible to outages.<sup>3</sup> Following construction, uses adjacent to the proposed transmission line will benefit from improved reliability now, and into the future.

As described above, numerous route alternatives were developed and evaluated in the public review processes, detailed in Section 4.0 of this document. Three of the options for the North Bellevue Phase are described below and shown in Attachment A (LUC 20.20.255.D.1). These include the one existing transmission line corridor and two bypass routes. The one existing corridor includes PSE’s Sammamish-Lakeside-Talbot Hill 115 kV corridor. The two bypass routes were developed based on public comments during scoping for the Phase 2 DEIS and bypasses the boundaries of the EBCC.

### **2.3.1 Willow 1, Existing PSE 115 kV Transmission Line Corridor for North Bellevue and Central Bellevue Segments**

“Willow 1” was one of the original two routes recommended by the community advisory group in 2014. The route utilizes the existing Sammamish-Lakeside-Talbot Hills 115 kV corridor (Attachment A, Figure 2). The corridor was established in the late 1920s and early 1930s. In the 1960s, the line was upgraded from 55 kV to 115 kV, which included replacement of original poles with the existing H-frame poles. As noted in Section 2 of this document, PSE identified in the early 1990s that the lines within the same corridor would need to be upgraded to the next higher transmission voltage (230 kV). This 230 kV upgrade has been included in Bellevue Comprehensive Plans since the adoption of the Growth Management Act in 1990.

The North Bellevue Phase is located within 9 different land use districts, which include R-1, R-1.8, R-2.5, R-3.5, R-5, BR-GC, BR-CR, BR-ORT, and LI (LUC 20.20.255.D.2.a Consistent with the City’s Phase 2 DEIS and Final EIS, PSE considers this route to be feasible (LUC 20.20.255.D.2.c).

As described in the City’s Phase 2 DEIS (page 3.1-7), specific to the Bellevue North Segment:

Existing land uses are mostly single-family residential homes. Approximately 118 parcels are adjacent to the existing corridor. Unique land uses include Westminster Chapel and Viewpoint Park. This segment goes through the residential neighborhoods of Bridle Trails and Bel-Red. Bridle Trails is predominantly a single-family residential area, with large lots and mature evergreen trees. The portion of the Bellevue North Segment that goes through Bel-Red is just south of State Route (SR) 520 and characterized by a large commercial property.

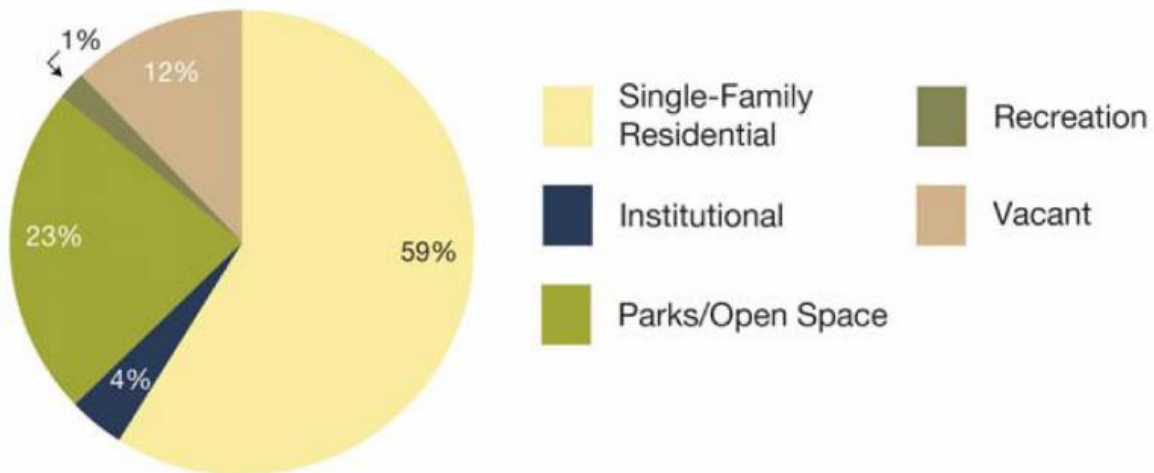
The existing corridor is located in four different zoning districts in the City of Bellevue, including single-family residential and commercial districts. The Bridle Trails Subarea Plan land use designations within the segment study area include Single-Family Residential. A small portion of

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<sup>3</sup> In upholding the City’s recommendation for approval on PSE’s applications for the South Bellevue Segment, the King County Superior Court held that “The Hearing Examiner correctly found that “‘load-shedding’ – i.e. rolling blackouts – is currently part of PSE’s corrective action plan (CAP) options in neighborhoods throughout the Eastside, including residential neighborhoods that are located along the route of the South Bellevue Segment.” Attachment E, at 14.

the segment goes through the Bel-Red Subarea Plan boundaries and has a future land use designation as General Commercial. Therefore, future land use in the study area is expected to mostly stay the same.

There are 102 single-family and no multi-family residences within this segment. Approximately 59% of the Willow 1 route would impact Single-Family uses (Graph 1) (Phase 2 DEIS at 3.1-7). All of these residences currently have two 115 kV transmission lines as an adjacent use. The use of an existing corridor does not impose a new transmission line on new areas, does not require the acquisition of new easements, and is specifically identified on Bellevue’s Comprehensive Plan UT-7 map as being expanded to 230 kV.



Graph 1: Bellevue North Segment Existing Land Uses

As described in the City’s Phase 2 DEIS (page 3.1-8), specific to the Bellevue Central Segment (Existing Corridor Option):

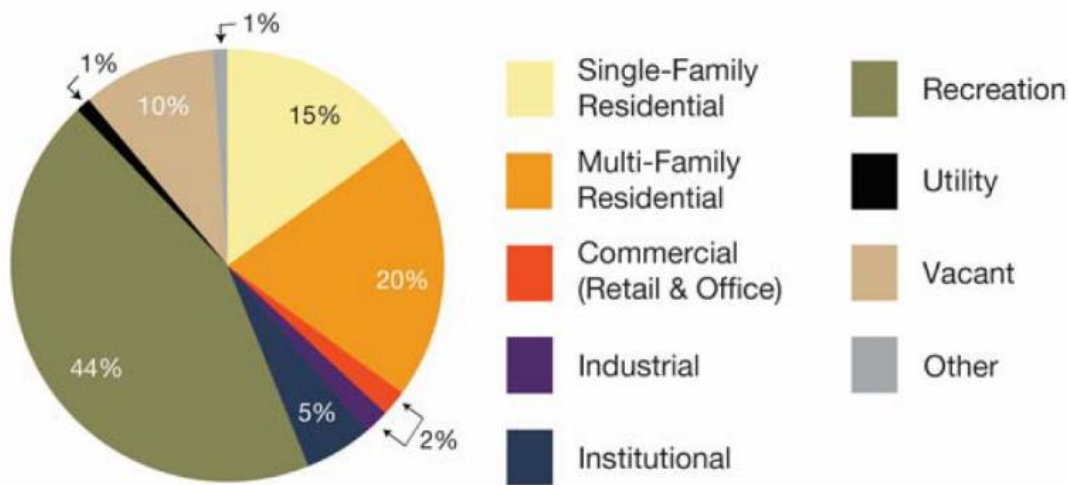
Existing land uses include mostly recreation. Approximately 135 parcels are immediately adjacent to the existing corridor. Unique land uses include Glendale Country Club and Skyridge Park.

This route follows the existing corridor, which starts in the Bel-Red neighborhood just south of SR 520, and is characterized by large manufacturing and commercial spaces. The Bellevue Central Segment runs along the Wilburton (covered by the Wilburton/NE 8th Street Subarea Plan) and Crossroads neighborhood boundaries and the Woodridge and Lake Hills neighborhoods. The border between Wilburton and Crossroads neighborhoods is characterized by a mix of single-family and a multi-family development, with the exception of the Glendale Country Club, which is immediately adjacent to the option. The border of Woodridge and Lake Hills is mostly single-family housing and open spaces, and is covered by the Richards Valley Subarea Plan, the Eastgate Subarea Plan, and the SE Bellevue Subarea Plan. Several parks (including Kelsey Creek Park) are along this option.

The existing corridor is in 13 different zoning districts in the City of Bellevue, including single-family residential, multi-family residential, commercial, industrial, and mixed-use districts.

The Bellevue Comprehensive Plan land use designations for this option include a mix of Single-Family and Multi-Family designations along the existing corridor. This indicates that the neighborhoods along this option will continue to have residential land uses into the foreseeable future. The policies specific to the Wilburton/Crossroads and Woodridge/Lake Hills neighborhoods indicate the intent to preserve the current residential character without limiting the potential for growth.

There are 92 single-family and 1,318 multi-family residences within this portion of the study area. Approximately 15% of the Willow 1 route would impact Single-Family uses (Graph 2) (Phase 2 DEIS at 3.1-8). All of these residences currently have two 115 kV transmission lines as an adjacent use. The use of an existing corridor does not impose a new transmission line on new areas, does not require the acquisition of new easements, and is specifically identified on Bellevue’s Comprehensive Plan UT-7 map as being expanded to 230 kV.



Graph 2: Willow 1 Existing Land Uses

PSE has selected the Willow 1 route as its preferred alternative. All of the proposed routes, including Willow 1, traverse residential land use districts. By constructing the proposed transmission line facilities in the existing 115 kV transmission line corridor, site compatibility impacts are limited by this alternative (LUC 20.20.255.2.d). By using the existing corridor, PSE minimizes tree removal and management within the corridor (see Attachment B), as compared to establishing a new corridor and can better assess and limit potential interactions with a co-located petroleum and natural gas pipeline (*AC Interference Analysis – 230 KV Transmission Line Collocation with Olympic Pipelines OPL 16 & OPL20*; DNV-GL 2016). It also avoids the creation of new impacts to adjacent uses, including residential uses. As properties adjacent to the transmission line corridor already have utility facilities in their viewsheds and neighborhoods, Willow 1 significantly limits new impacts.

### 2.3.2 Bellevue Central Segment, Bypass Option 1

PSE submitted the Bellevue Central Segment, Bypass Option routes as part of the public comment period for Phase 2 Scoping of the EIS process. This submittal ensured that the Bypass Option 1 (and Bypass Option 2, described below in Section 2.3.3), along with PSE’s preferred route, were studied in the Phase 2 EIS.

Both Bypass Options 1 and 2 use a combination of the existing corridor and new corridors. The bypass routes wind through the Spring District, Bel-Red Corridor, Wilburton neighborhood, and along Lake Hills Connector before rejoining the existing corridor (Attachment A, Figure 3).

Where the existing transmission corridor crosses NE 20th Street/Northup Way, the new route would run west on NE 20th Street/Northup Way, and turn south along 132nd Avenue NE. The route would then run southwest along NE Bel-Red Road, and then south along NE 1st Street/Lake Hills Connector, where it would meet up with the existing corridor (Attachment A, Figure 3).

The Bypass Option 1 route crosses through the following land use districts: BR-GC, BR-RC-1, BR-RC-2, BR-CR, BR-ORT, BR-OR, O, PO, GC, CB, R-20, R-10, R-7.5, R-4, and R-3.5 (LUC 20.20.255.D.2.a). In sum, Bypass Option 1 would be located in a total of 15 different zoning districts in the City of Bellevue, including a combination of commercial, office, multi-family residential, and single-family residential districts (LUC 20.20.255.D.2.a).

As described in the City's Phase 2 DEIS (pages 3.1-9 to 3.1-10):

Existing land uses include mostly commercial, industrial, and vacant lands. Approximately 199 parcels are immediately adjacent to the corridor (existing and new). Unique land uses include large blocks of commercial and manufacturing along Northup Way, 132nd Ave NE, the International School and Bel-Red Road, Bannerwood Park, and Skyridge Park.

Bypass Option 1 goes through the neighborhoods of Bel-Red, Wilburton, Woodridge, and Lake Hills. In Bel-Red, the Bypass Option 1 corridor is characterized by large industrial and commercial spaces. In Wilburton (covered by the Wilburton/NE 8th Street Subarea Plan), Bypass Option 1 follows major street corridors that are lined with office parks and commercial spaces. In Woodridge, Bypass Option 1 follows the Lake Hills Connector road, which is lined with vacant or open space areas (classified as vacant lands by King County Assessor parcel information), as well as the existing corridor, which is lined by single-family residences. The Lakeside substation is in an area characterized by industrial utilities. This option also traverses areas covered by the Richards Valley Subarea Plan, the Eastgate Subarea Plan, and the SE Bellevue Subarea Plan. Several parks (including Kelsey Creek Park), government buildings, and a school (International School) lie along Bypass Option 1.

Within this portion of the study area, the future land use is anticipated to be mixed-use and commercial for the northern portion of the option and transitioning into multi-family and single-family residential along the Lake Hills Connector.

This option is also covered by several subarea plans. The Bel-Red Subarea Plan designates commercial development as a future land use; the Wilburton Subarea Plan designates commercial and multi-family for future development; the Woodridge and Lake Hills Subarea Plans would continue to develop with single-family residential.

Bellevue intends for the Bel-Red Subarea to focus on nodal development, which means that the planned Sound Transit's East Link light rail stations (anticipated to open in 2023) would be nodes around which development would be focused. The nodes would feature higher density buildings, with taller buildings toward the center of the nodes allowed with a variance process in exchange for various public amenities. Additionally, the Bel-Red Subarea Plan establishes policies to generate new jobs and new housing units; restore streams and ecological functions;



construct new amenities such as parks, trails, and bike paths; and promote economic development.

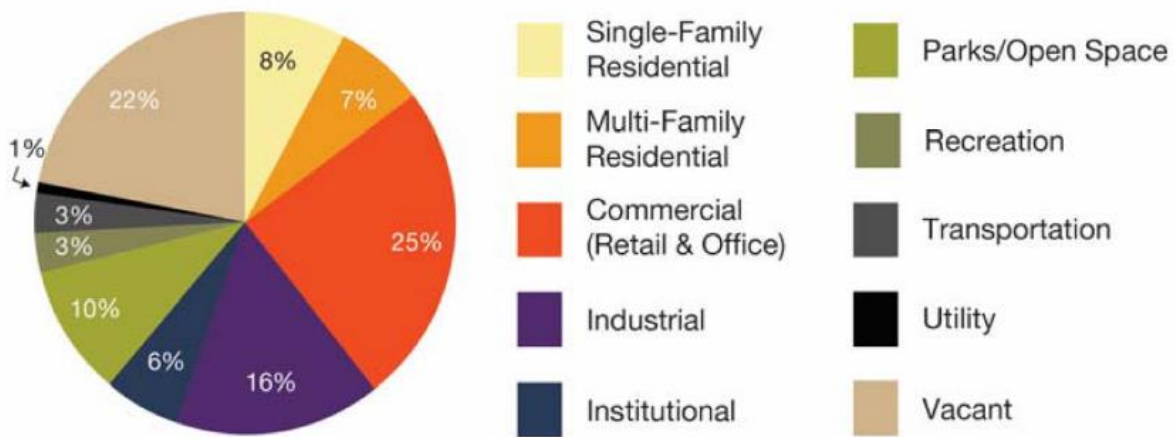
The Wilburton-Grand Connection planning initiative is an ongoing two-part project to improve non-motorized connectivity, as well as a re-visioning of the Wilburton Commercial Area.

1. The Grand Connection will improve pedestrian and cyclist connectivity from Meydenbauer Bay to the Eastside Rail Corridor, including a crossing over I-405 that will reconnect Downtown Bellevue and the Wilburton Commercial Area. Ultimately it will interface with the Eastside Rail Corridor, providing a comprehensive north-south and east-west non-motorized network.
2. The Wilburton Commercial Area planning initiative will identify land use, urban design, transportation, and environmental opportunities, including design guidelines addressing changes to floor area ratio, height, permitted uses, and design character.

The Richards Valley Subarea Plan plans for future development that would not compromise the existing natural features of dense vegetation and wooded vistas. It includes policies for utilizing common corridors (places where utility infrastructure already exists) for new utilities and for placing them alongside transportation rights-of-way.

The policies of each of these subarea plans support development that would accommodate continued residential and commercial growth in the foreseeable future.

There are 54 single-family and 292 multi-family residences within this option. Approximately 8% of the Bypass Option 1 route would impact Single-Family uses, and 7% would impact Multi-Family uses (Graphic 3) (Phase 2 DEIS at 3.1-9). The project would not impact the existing land use pattern of commercial uses to the north and west, and open space and single-family residential to the south. In the portion of the option using the existing corridor, new easements would not be required on adjoining properties. The transmission lines would also use a new corridor, which would require new easements. New easements are not anticipated to affect adjacent land uses since they would be negotiated with the property owner and would not interfere with the current use of adjacent properties.



Graphic 3: Bypass Option 1 Existing Land Uses

Consistent with the City's Phase 2 DEIS, PSE considers this route to be feasible (LUC 20.20.255.D.2.c), but significantly more impactful than PSE's preferred alternative. PSE ultimately eliminated this route from consideration, however, because the Bellevue Central Segment, Bypass Option 1 route could result in significant adverse visual impacts because the transmission line would be in a new corridor, resulting in a high level of contrast with high viewer sensitivity (Phase 2 DEIS at 1-15). Also, acquisition of easements in publicly owned recreation sites is not consistent with the City of Bellevue recreation plans and policies, which would result in significant unavoidable adverse impacts (Phase 2 DEIS at 1-23). Additionally, the Bypass Option 1 route was removed from consideration because the Willow 1 route requires the fewest number of trees to be removed in order to comply with NERC standards.

### **2.3.3 Bellevue Central Segment, Bypass Option 2**

The Bellevue Central Segment, Bypass Option 2 routes wind through the Spring District, Bel-Red Corridor, Wilburton neighborhood, and along Lake Hills Connector before rejoining the existing corridor.

Where the existing transmission corridor crosses NE 20th Street/Northup Way, the new route would run west on NE 20th Street/Northup Way, and turn south along 132nd Avenue NE. The route would then run southwest along NE Bel-Red Road, and then south along NE 1st Street/Lake Hills Connector, where it would turn south on Richards Road, then east on SE 26th Street where it would connect to the Lakeside Substation (Attachment A, Figure 4).

The Bypass Option 2 route crosses through the following land use districts: BR-GC, BR-RC-1, BR-RC-2, BR-CR, BR-ORT, BR-OR, O, PO, GC, CB, R-20, R-10, R-7.5, R-4, R-3.5, and LI (LUC 20.20.255.D.2.a). In sum, Bypass Option 2 would be in 16 different zoning districts in the City of Bellevue, including a combination of commercial, light industrial, office, multi-family residential, and single-family residential districts (LUC 20.20.255.D.2.a).

As described in the City's Phase 2 DEIS (pages 3.1-11 to 3.1-12):

Similar to Bypass Option 1, existing land uses include mostly vacant, commercial, and industrial lands. Approximately 169 parcels are immediately adjacent to the corridor (existing and new). Unique land uses include large blocks of commercial and manufacturing along 132nd Ave NE and Bel-Red Road, Bannerwood Park, Skyridge Park, and Bellevue Foursquare Church.

Bypass Option 2 goes through the neighborhoods of Bel-Red, Wilburton, and Woodridge. Bel-Red is characterized by large industrial and commercial spaces. Wilburton (covered by the Wilburton/NE 8th Street Subarea Plan), is characterized by major roads lined with industrial parks and commercial spaces. In Woodridge, single-family homes and open space characterize the land along the corridor, including Richards Road, which is predominantly single-family residences. The Lakeside substation is in an area characterized by industrial utilities. This option also traverses areas covered by the Richards Valley Subarea Plan, the Eastgate Subarea Plan, and the SE Bellevue Subarea Plan. Several parks (including Kelsey Creek Park), government buildings, and schools (International School and the Asian Pacific Language School) are along Bypass Option 2.

Within this portion of the study area, the future land use is anticipated to be mixed-use and commercial for the northern portion of the option and transitioning into multi-family and single-family residential along the Lake Hills Connector. The main difference between Bypass Option 1 and Bypass Option 2 is that this option travels down Richards Road and then follows SE 26th

Street to connect with the existing corridor. The future land use on Richards Road is anticipated to be multi-family residential, with industrial development planned along the south side of SE 26th Street.

This option is also covered by several subarea plans. The Bel-Red Subarea Plan designates commercial development as a future land use; the Wilburton Subarea Plan designates commercial and multi-family for future development; the Woodridge and Lake Hills Subarea Plans would continue to develop with single-family residential.

Bellevue intends for the Bel-Red Subarea to focus on nodal development, which means that the planned Sound Transit's East Link light rail stations (anticipated to open in 2023) would be nodes around which development would be focused. The nodes would feature higher density buildings, with taller buildings toward the center of the nodes allowed with a variance process in exchange for various public amenities. Additionally, the Bel-Red Subarea Plan establishes policies to generate new jobs and new housing units; restore streams and ecological functions; construct new amenities such as parks, trails, and bike paths; and promote economic development.

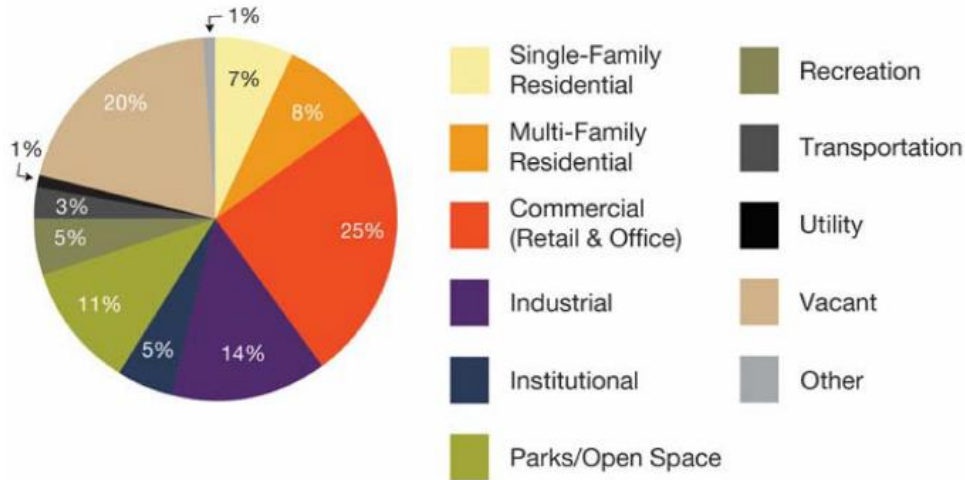
The Wilburton-Grand Connection planning initiative is an ongoing two-part project to improve non-motorized connectivity, as well as a re-visioning of the Wilburton Commercial Area.

1. The Grand Connection will improve pedestrian and cyclist connectivity from Meydenbauer Bay to the Eastside Rail Corridor, including a crossing over I-405 that will reconnect Downtown Bellevue and the Wilburton Commercial Area. Ultimately it will interface with the Eastside Rail Corridor, providing a comprehensive north-south and east-west non-motorized network.
2. The Wilburton Commercial Area planning initiative will identify land use, urban design, transportation, and environmental opportunities, including design guidelines addressing changes to floor area ratio, height, permitted uses, and design character.

The Richards Valley Subarea Plan plans for future development that would not compromise the existing natural features of dense vegetation and wooded vistas. It includes policies for utilizing common corridors (places where utility infrastructure already exists) for new utilities and for placing them alongside transportation rights-of-way.

The policies of each of these subarea plans support development that would accommodate continued residential and commercial growth in the foreseeable future.

There are 26 single-family and 530 multi-family residences within this option. Approximately 7% of the Bypass Option 2 route would impact Single-Family uses, and 8% would impact Multi-Family uses (Graphic 4) (Phase 2 DEIS at 3.1-11). The project would not impact the existing land use pattern of commercial uses to the north and west, or single-family and multifamily residential along Richards Road. In the portion of the option using the existing corridor, new easements would not be required on adjoining properties. The transmission lines would use a new corridor, which would require new easements. New easements are not anticipated to affect adjacent land uses since they would be negotiated with the property owner and would not interfere with the current use of the properties.



Graphic 4: Bypass Option 2 Existing Land Uses

Consistent with the City’s Phase 2 DEIS, PSE considers this route to be feasible (LUC 20.20.255.D.2.c), but significantly more impactful than PSE’s preferred alternative. PSE ultimately eliminated this route from consideration, however, because the Bellevue Central Segment, Bypass Option 2 route could result in significant adverse visual impacts because the transmission line would be in a new corridor, resulting in a high level of contrast with high viewer sensitivity (Phase 2 DEIS at 1-15). Also, acquisition of easements in publicly owned recreation sites is not consistent with the City of Bellevue recreation plans and policies, which would result in significant unavoidable adverse impacts (Phase 2 DEIS at 1-23). Additionally, the Bypass Option 2 route was removed from consideration because the Willow 1 route requires the fewest number of trees to be removed in order to comply with NERC standards.

## 2.4 Selected Site and Route

*LUC 20.20.522D.2.d. Identify a preferred site from the alternative locations considered for the proposed new or expanding electrical utility facility. The following location selection hierarchy shall be considered during identification of the preferred site alternative: (i) nonresidential land use districts not providing transition, (ii) nonresidential Transition Areas (including the Bel-Red Office/Residential Transition (BR-ORT), and (iii) residential areas. The applicant may identify a preferred site alternative in a Residential Land Use District or Transition Area (including the Bel-Red Office/Residential Transition (BR-ORT) upon demonstration that the location has fewer site compatibility impacts than a nonresidential land use district location.*

After years of study and extensive community dialogue, PSE selected the Willow 1 option, which is located in the existing transmission line corridor option, as the best location to site the transmission line upgrade. Because PSE’s project requires reconstruction of miles of transmission lines through the City, all routes evaluated by PSE traverse residential uses. As such, PSE cannot completely avoid residential uses by selecting a site reflective of the City’s selection hierarchy (LUC 20.20.255.D.2.d). The Willow 1 route, however, minimizes compatibility impacts by using an existing utility corridor that has been in operation since the 1920s and 1930s. By doing so, it does not require acquisition of additional easements, it removes the fewest number of trees, and it prioritizes safety by having the lowest potential AC interaction with the two petroleum pipelines that share the corridor. Additionally, any adjacent residential use already incorporates transmission line uses in these neighborhoods and

homeowners bought their homes with full knowledge of the adjacent high voltage transmission line corridor.

Willow 1 is more consistent with the City's selection hierarchy which seeks to limit impacts to residences. When considering the location selection hierarchy (LUC 20.20.225.2.d.), there is no possible way to route a transmission line, between the Redmond/Bellevue city border and Richards Creek substation, entirely within nonresidential land use districts not providing transition or non-residential Transition Areas. This is a result of city zoning that does not provide any congruent nonresidential north-south corridors. The Willow 1 route was originally established in the late 1920s and early 1930s when little to no development in the area had occurred. The residential areas that exist today have developed around the transmission line corridor. Additionally, the proposed upgrade of the existing 115 kV lines to 230 kV has been incorporated in the City's comprehensive plan since the early 1990s; therefore, using the Willow 1 route is compliant with the Comprehensive Plan.

In sum, as Willow 1 upgrades an existing transmission line and follows the existing route, this alternative creates the fewest new impacts (including compatibility impacts) as compared to the Bypass 1 and 2 routes (LUC 20.20.255.D.2.d). These are the key factors that make Willow 1 the preferred alternative for the Project.

#### **2.4.1 Other Rejected Transmission Line Options**

The 2015 Solutions Study and 2014 Solutions Report concluded that the preferred solution to solve the Eastside's transmission deficiencies was aggressive conservation combined with construction of a new 230/115 kV transformer and the development of 230 kV transmission lines to connect existing facilities. Transmission line alternatives evaluated, but rejected, by PSE included the use of the Seattle City Light 230 kV corridor, underwater transmission lines (Phase 1 DEIS), the undergrounding of transmission lines, as well as numerous overhead alternatives. These are discussed below.

##### **2.4.1.1 Seattle City Light 230 kV Corridor**

Seattle City Light (SCL) operates a dual 230 kV transmission line through the Project area. The use of these transmission lines/corridor was evaluated in the Phase 1 DEIS. The SCL corridor traverses approximately 7.3 miles within the city of Bellevue, with about 4 miles in the north phase.

PSE explored the idea of using the SCL lines as an option; however, the SCL facility is not under PSE ownership, and SCL stated that it needs these lines to serve its customers (Gentile et al., 2014). For the foregoing reasons (lack of sufficient capacity, need for new transmission line facilities that will provide sufficient capacity for less than 10 years, and lack of permission from SCL), PSE does not consider this alternative to be feasible (LUC 20.20.255.D.2.c).

##### **2.4.1.2 Lake Washington Submarine Cable Alternative**

The option of using a submerged or underwater transmission line in Lake Washington was also included in the Phase 1 DEIS. Additional detail about constructing a submarine cable in Lake Washington is included in the Eastside 230 kV Project Lake Washington Submarine Cable Alternative Feasibility Report (Power Engineers, 2015). A submerged line would be prohibited by shoreline regulations in the Beaux Arts Village and Hunts Point communities, because new utility corridors are prohibited in the aquatic environments of these communities.

As described in the Phase 1 DEIS, development of new corridors is expected to have higher environmental impacts than use of existing corridors, including permanent displacement of existing uses, vegetation removal, visual impacts, and construction duration. As such, this alternative was not seen as a reasonable alternative to using the existing corridor as proposed by PSE. For these reasons, an underwater line in Lake Washington was not carried forward as a viable alternative.

#### **2.4.1.3 Underground Alternative**

The option of placing the new 230 kV transmission lines entirely underground was evaluated in the Phase 1 DEIS. Underground transmission lines involve several technical and economic challenges that would necessitate acquiring a new or expanded right-of-way, including greater restrictions on surface vegetation and uses than are present in PSE's existing 115 kV right-of-way. Factors contributing to the need for additional right-of-way include the need for heat dissipation from each conductor, and the need for separation from the OPL pipelines, which is collocated in much of PSE's existing 115 kV corridor, in order to prevent corrosion of the pipeline. For heat dissipation, underground transmission lines must be placed approximately 12 to 15 feet apart and 3 feet below the surface (Power Engineers, 2014), which means there can be no trees or large shrubs planted over them. The potential for the electrical line to cause unacceptable corrosion of the pipeline is greater if the electrical line is underground than for overhead lines because soils are more conductive than air. Large access vaults are also required every quarter mile and must remain unobstructed by surface structures.

While PSE has an easement for their overhead lines, placing a transmission line underground would require permission from both the Olympic Pipe Line Company and each property owner along the route. Gaining such permission would likely require extensive legal action that would delay the project and thus not meet the project objectives regarding timing. A study of potential undergrounding of the transmission lines prepared for PSE by Power Engineers (2014) states that installation adjacent to the pipeline is technically viable, but that the Olympic Pipe Line Company has stated to PSE that they will not consent to other underground facilities being installed longitudinally in their easements. PSE would therefore have to place its transmission lines outside the Olympic Pipeline easement which is, in some places, nearly as wide as the PSE corridor. Even in places where the pipeline easement is substantially narrower than PSE's corridor, PSE generally does not have enough easement area to provide the necessary separation without the pipeline being relocated. As such, an underground line would require a new corridor to avoid collocation with the Olympic Pipeline (Power Engineers, 2014). This would need to be in a street or on other public or private property that PSE would have to obtain rights to use.

The construction costs for an overhead transmission line are about \$3 million to \$4 million per mile; versus \$20 million to \$28 million per mile to construct the line underground (PSE, 2016). When a new line is constructed overhead, project costs are distributed evenly between PSE's 1.1 million customers and paid for over time. If a transmission line were to be constructed underground, PSE can't justify asking customers across its entire service territory to pay the significant cost increases. As a result, per state-approved tariff rules, the requesting party, often the local jurisdiction, must ultimately decide whether to make this investment. The requesting party is then responsible for paying the difference between overhead and underground costs. Bellevue has not requested that PSE underground the project, nor proposed a method of payment for the cost delta.

Given the high cost of acquiring and developing an entirely new underground corridor, and the likely delays it would entail, this option was not considered reasonable as an alternative for the entire corridor, although it is considered as an option for mitigation in limited areas, should one or more jurisdictions determine that it was necessary to avoid significant impacts. Impacts generally associated with the undergrounding of the transmission lines are addressed in the Phase 1 DEIS (in the analysis of Option C).

### **3.0 Technologies Considered and Reliability Need (LUC 20.20.255.D.3)**

*LUC 20.20.255D.3.a: Describe the range of technologies considered for the proposed electrical utility facility.*

PSE studied a range of potential solutions to resolve the Eastside transmission deficiencies; these included additional conservation, additional generation, demand response (DR), distributed generation (DG), energy storage, expansion of existing transmission substations, transmission line upgrades, and new transmission lines. PSE's analysis of alternative technologies is documented in detail in PSE's Solutions Report (2014), Pre-Screening Study (Feb. 2014), Underground Feasibility Study (2014), Supplemental Eastside Solutions Study Report (2015) ("Solutions Study") (Attachment C, Study C-3), the Lake Washington Submarine Cable Alternative Feasibility Study (June 2015), and Eastside System Energy Storage Alternatives Screening Study (*Strategen*, 2015 and 2018) (Attachment C, Studies C-6 and C-7). All of these studies can be accessed at <https://energizeeastside.com/documents>. Non-wire technology solutions are also evaluated in detail in the Phase 1 DEIS (available at <http://www.energizeeastsideeis.org/>).

The following section summarizes PSE's analysis with respect to each alternative technology.

#### **3.1 Increasing Conservation**

PSE retained Energy and Environmental Economics, Inc. (E3) to conduct a Non-wires Alternatives Screening Study in 2014. E3 included energy efficiency, demand response and distributed generation measures in its evaluation of cost-effective non-wires potential in the Eastside area. The study concluded that the cost-effective non-wires potential for the Eastside is not large enough to provide sufficient load reduction to address the need. Recent studies conducted as part of PSE's integrated resource plan process continue to evaluate the cost-effective non-wire potential. Including all of the available cost-effective non-wire potential identified in the 2021 IRP study is still not sufficient to address or defer the Eastside transmission upgrade needs.

#### **3.2 Construction of New Generation Facilities**

PSE studied both conventional generation and distributed generation (DG) in its 2015 Solutions Study. To be effective, this alternative would require at least 300 MW of generation located in the Eastside. Locating conventional generation of this size on the Eastside has major siting and environmental challenges, as a facility with necessary capacity would require a site of approximately 12 to 15 acres and would have significant supporting infrastructure, noise, emissions, and permitting challenges. For DG to meaningfully impact the identified needs, DG must be installed in the right locations, available when needed and be of significant magnitude. Locating 300 MW or more of distributed renewable generation within the Eastside area by the

winter of 2017/2018 or summer of 2018 was not practical and highly impactful to the environment and surrounding communities. Additionally, the Cities' Phase 1 DEIS determined that this alternative did not meet SEPA requirements to provide a reasonable alternative that could feasibly attain or approximate a proposal's objectives at a lower environmental cost or decreased level of environmental degradation (WAC 197-11-440(5)(b); Phase 2 DEIS at 2-56).

### 3.3 Energy Storage and Battery Alternatives

PSE contracted with Strategen to perform an Eastside System Energy Storage Alternatives Screening Study, which concluded that an energy storage system with power and energy storage ratings comparable to PSE's identified need has not yet been installed anywhere in the world. In addition, Strategen determined that the existing Eastside transmission system does not have sufficient capacity to charge energy storage systems to a level sufficient to meet PSE's operating standards.

Chemical (battery) storage was determined to be potentially the most appropriate and commercially-viable technology for application within the Eastside. Chemical storage technology is rapidly advancing, but the only system of comparable size to what PSE requires is a 100 MW/400 MWh lithium-ion ESS recently procured by Southern California Edison ("SCE"), which is not expected to be operational until 2021. The largest deployed and commissioned chemical storage project (by power rating) in the United States at the time of report drafting was SDG&E's Expedited Energy Storage Project in Escondido, CA, a 37.5 MW/150 MWh lithium ion battery. SCE's Tehachapi Wind Energy Storage ESS, an 8 MW/32 MWh lithium ion battery. Confidential interviews with various vendors indicate that the technology and capability exists for batteries to be deployed for this application and at this magnitude exists. However, since no similarly-sized system has ever actually been built or commissioned, it is difficult to estimate the time necessary for development, procurement, construction and deployment. Procurement of battery cells in particular may result in long lead times, especially for the two larger systems contemplated would constitute a significant portion of the global market for batteries.

Based upon the results of the study, Strategen concluded that the existing Eastside transmission system does not have sufficient capacity to charge a large chemical battery to a level sufficient to meet PSE's operating standards. Specifically, the Eastside system has significant constraints during off-peak periods that could prevent an energy storage system from maintaining sufficient charge to eliminate or sufficiently reduce normal overloads over multiple days. In other words, an energy storage system is not capable of meeting the Project's need, nor does an example of this scale of energy storage exist anywhere in the world.

### 3.4 The Energize Eastside Project Ensures a Long-Term Solution to Near-Term Reliability Deficits

*LUC 20.20.255.D.3.b. Describe how the proposed electricity utility facility provides reliability to customers served.*

The Project is needed to meet local demand growth in the eastside of King County, including Bellevue, Redmond, Kirkland, Renton, Newcastle and Issaquah. It is PSE's responsibility to plan and operate the electrical system while complying with federal standards and guidelines.



Electricity is currently delivered to the Eastside area through<sup>4</sup> two 230 kV/115 kV bulk electric substations – the Sammamish substation in Redmond and the Talbot Hill substation in Renton – and distributed to neighborhood distribution substations using 115 kV transmission lines. No 230 - 115 kV transformer upgrades have been made and the primary 115 kV lines connecting the Sammamish and Talbot Hill substations (the backbones of the Eastside electrical system) have not been upgraded since the 1960s. Since then, the Eastside population has grown eight-fold and this growth is expected to continue. The Puget Sound Regional Council estimates that the Eastside population will likely grow by another third and employment will grow by more than three-quarters over the next 25 years.

The Eastside's rapid growth is also documented in the City's Phase 1 and Phase 2 DEIS':

Based on U.S. Census and Puget Sound Regional Council population forecast data, PSE's analysis concluded that the population in PSE's service area on the Eastside is projected to grow by approximately 1.2 percent per year over the next 10 years and employment is expected to grow by 2.1 percent per year, resulting in additional electrical demand (Gentile et al., 2015). If electrical load growth occurs as PSE has projected, PSE's system would likely experience loads on the Eastside that would place the local and regional system at risk of damage if no system modifications are made (Phase 1 DEIS at 2-13).

As required by federal regulations, PSE performs annual electric transmission planning studies to determine if there are potential system performance violations (transformer and line overloads) under various operational and forecasted electrical use scenarios. These exercises are generally referred to as reliability assessments.

The need for additional 230 kV to 115 kV transmission transformer capacity and 230 kV support in the Eastside was identified in the 1993 reliability assessment, and has been included in PSE's Electrical Facilities Plan for King County ("Plan") since that time.<sup>5</sup> It was first determined during PSE's 2009 annual reliability assessment, that if one of the Talbot Hill Substation transformers failed, it would significantly impair reliability on the Eastside. Replacement of a failed 230 kV transformer can take weeks, or even months, to complete depending on the level of failure and other site-specific parameters. Since 2009, other reliability deficits have been identified. These include concerns over the projected future loading on the Talbot Hill Substation and increasing use of Corrective Action Plans (CAPs) to manage outage risks to customers in this portion of the PSE system.

In total, since 2009, eight separate studies<sup>6</sup> (Attachment C) performed by four separate parties have confirmed the need to address Eastside transmission capacity:

- Electrical Reliability Study by Exponent, 2012 (City of Bellevue)
- Eastside Needs Assessment Report by Quanta Services, 2013 (PSE)
- Supplemental Eastside Needs Assessment Report by Quanta Services, 2015 (PSE)

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<sup>4</sup> For the purpose of this project, the Eastside is defined as the area between Renton and Redmond, bounded by Lake Washington to the west and Lake Sammamish to the east.

<sup>5</sup> As explained in the Plan, "[t]he 230 kV sources for the 115 kV system in northeast King County are primarily the Sammamish and Talbot Hill substation. The loads on the 230-115 kV transformers in these stations will be high enough to require new sources of transformation." Additionally, the "Lakeside 230 kV Substation project [now the Energize Eastside Project] will rebuild two existing 115 kV lines to 230 kV between Sammamish and Lakeside [where PSE proposes the construction of the Richards Creek substation], and between Lakeside and Talbot Hill."

<sup>6</sup> These studies are relevant to the City's review under LUC 20.20.255.E.4 and LUC 20.20.255.D.3.b & c.

- Independent Technical Analysis by Utility Systems Efficiencies, Inc., 2015 (City of Bellevue)
- Review Memo by Stantec Consulting Services Inc., 2015 (EIS consultant)<sup>7</sup>.
- Eastside System Energy Storage Alternatives Screening Study by Strategen, 2015 (PSE)
- Eastside System Energy Storage Alternatives Assessment, Report Update by Strategen 2018 (PSE)
- Assessment of Proposed Energize Eastside Project, 2020 MaxETA Energy and Synapse Energy Economics<sup>8</sup>

The studies performed by PSE in 2013 and 2015 confirmed that the Eastside’s existing grid will not meet federal reliability requirements by the winter of 2017/2018 and the summer of 2018 without the addition of 230 kV to 115 kV transformer capacity in the Eastside area. The City of Newcastle commissioned a study on project need that was released in 2020 that looked at the latest data provided by PSE and concluded that the project is needed (Attachment C, Study C-8). Additionally, PSE performs annual planning studies that continue to confirm the need for Energize Eastside.

### 3.5 Electrical Utility Facility Components

*LUC 20.20.255.D.3c. Describe components of the proposed electrical utility facility that relate to system reliability.*

PSE’s proposal is to install and operate a new 230 kV to 115 kV electrical transformer in the center of the Eastside load area. The ideal location for the new transformer is in close proximity to PSE’s existing Lakeside 115 kV substation, which provides the connection to the existing 115 kV electrical system that serves the surrounding neighborhood distribution substations. The new 230 kV to 115 kV transformer is the principal component that will allow the Eastside electrical system to reliably operate and meet Federal Planning standards. By installing a new 230-115 kV transformer at the new Richards Creek substation, electrical load can be taken off of the 230-115 kV transformers at the Sammamish (Redmond) and Talbot Hill (Renton) substations. To operate the new transformer it must be connected to the both the Sammamish and Talbot Hill substations by approximately 16 miles of new high-capacity electric transmission lines (230 kV). Electrical power would come into the Richards Creek substation and the voltage lowered, or “stepped down” (transformed), from 230 kV to 115 kV. The 115 kV power would then be sent to the adjacent Lakeside substation for distribution to local customers on the existing 115 kV transmission network. In sum, and as confirmed by independent experts, all of the proposed Project components will benefit all Bellevue customers by improving reliability of the entire electrical system on the Eastside.

### 3.6 Technology Best Suited to Mitigate Impacts to Surrounding Properties

*LUC 20.20.255.D.3d. Describe how the proposed facility includes technology best suited to mitigate impacts on surrounding properties.*

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<sup>7</sup> The City’s consultant’s evaluation concluded as follows: “...PSE[s] needs assessment was overall very thorough and applied methods considered to be the industry standard for planning of this nature. Based on the information that the needs assessment contains, I concur with the conclusion that there is a transmission capacity deficiency in PSE’s system on the Eastside that requires attention in the near future.” (DeClerck, Review Memo by Stantec Consulting Services Inc., July 31, 2015).

<sup>8</sup> Technical review prepared for the City of Newcastle

As proposed, the Project uses the existing transmission line corridor that was originally established in the late 1920s and early 1930s. By building within the existing corridor, new environmental impacts are avoided, including vegetation impacts as trees in the corridor are already managed for collocation with transmission lines. As part of the Project, PSE has also aggressively sought to mitigate impacts by reducing pole height and moving pole locations where feasible and requested by a stakeholder. Post-construction and consistent with the City's code, PSE will fully mitigate all vegetation impacts by replanting both on and off-site. PSE has also prepared pole finish reports for each jurisdiction/segment to limit contrast with the skyline or adjacent uses.

## 4.0 Community Outreach Conducted

*LUC 20.20.255.D.4: Upon submittal of the Conditional Use Permit application required pursuant to subsection C of this section, the applicant shall provide a description of all methods of community outreach or involvement conducted by the applicant prior to selecting a preferred site for the proposed electrical utility facility.*

The Project was designed specifically to address system reliability deficits identified in multiple PSE and independent review studies. Overall, the Eastside's electrical grid will become less reliable in the near-term during times of peak demand without an upgrade in transmission facilities from 115 kV to 230 kV. The North/Central Bellevue Segment (230 kV transmission line upgrade) are designed to implement this change and improve reliability.

### 4.1 PSE has Fully Engaged the Public in Evaluating Energize Eastside Project Alternatives

Since launching the Project in December 2013 and consistent with LUC 20.20.255.D.4, PSE has engaged the Eastside community in a robust public involvement process. This process has included mailings, public meetings and direct outreach efforts to ensure that stakeholders are informed about the project and have had plentiful and diverse opportunities to participate. PSE's public involvement process, especially with regards to routing, goes well beyond environmental review and permitting requirements, including a year-long route selection process with a Community Advisory Group (CAG).

To date, public outreach, and involvement has included:

- 22 CAG-related meetings, including 6 public open houses, 2 question and answer sessions, and 2 online open houses at key project milestones
- 650+ briefings with individuals, neighborhoods, cities and other stakeholder groups
- More than 3,000 comments and questions received
- 40+ email updates to more than 1,500 subscribers
- 10 project newsletters to 55,000+ households
- Ongoing outreach to 500+ property owners, including door-to-door and individual meetings
- Participation in 16 EIS-related public meetings

In addition, PSE's Energize Eastside website (<https://pse.com/energizeeastside>) provides project updates and functions as a repository for project materials, including maps, technical

studies, the CAG Final Report, fact sheets, newsletters, meeting summaries and other materials. An overview of the public engagement process is provided in the following sections.

#### **4.1.1 Phase 1: Public Route Discussion (2014)**

To analyze and narrow the potential route alternatives to a reasonable number to study in detail and remove routes with considerable constraints, PSE engaged the CAG in 2014 to consider community values when evaluating the route options. The advisory group was comprised of representatives from various interests within the study area, including potentially affected neighborhood organizations, cities, schools, social service organizations, major commercial users, economic development groups, and other interests. The advisory group spent a year learning about the Eastside's electrical system, participating in meetings and workshops and evaluating 18 route options identified by PSE using a Linear Routing Tool (see Section 2.2 for discussion). The advisory group looked at the factors used to develop different route options, narrowed the route options based on values and constraints, and prepared route option recommendations for further consideration.

In addition to the CAG, PSE involved the community through public meetings, neighborhood meetings, briefings and comments, which provided Eastside residents opportunities to share their community values and ask initial questions about the project. The details about the advisory group process can be found in the Community Advisory Group Final Report (2015) (Attachment D).

#### **4.1.2 Phase 2: Fieldwork and Environmental Review (2015 – 2018)**

In 2015, PSE began collecting field information necessary for design and environmental review. PSE kept stakeholders informed about these fieldwork activities to ensure residents knew when crews were expected to perform surveys near their homes and businesses.

In 2015, the City began its review under the SEPA (discussed in greater detail below). The City of Bellevue lead the EIS process in cooperation with Newcastle, Kirkland, Redmond and Renton.

PSE has provided supplemental EIS notifications about major milestones and comment periods to keep stakeholders informed and to support community engagement in addition to those provided by the City of Bellevue and other jurisdictions. PSE has also participated in eight scoping meetings and eight draft EIS hearings over the two-phased EIS process where input on EIS alternative solutions and route options was solicited from the public.

#### **4.1.3 Phase 3: Property-Owner Consultations (2016 – Today)**

As project design progressed, PSE began reaching out to individual property owners to share information and answer questions. In spring 2016, the project team visited neighborhoods along the existing corridor and Factoria area to talk with residents and business owners about the project. This door-to-door outreach was conducted to help inform customers about the project status and to address questions and concerns from property and business owners.

In September 2016, PSE began meeting with property owners and tenants along the existing corridor to discuss property-specific design and tree replacement plans. The current design for that specific property was shared, including pole locations and how PSE planned to access

those locations during construction. These conversations helped refine the project design and better understand customer interests and concerns.

In May 2017, PSE began meeting with property owners to begin developing property-specific landscaping and tree replacement plans with property owners. PSE has reached out to affected property owners about these efforts. However, the COVID-19 restrictions have made in-person meetings difficult.

Input received through the CAG process, neighborhood and stakeholder briefings, the EIS process, one-on-one property owner meetings, and the nearly 3,000 comments and questions received to date has helped to shape the Project and PSE's decision making.

## 4.2 State Environmental Policy Act Review

The City rigorously evaluated the Project, including the North Bellevue Phase, under SEPA. In conjunction with the cities of Redmond, Kirkland, Renton, and Newcastle, the City published a Phase 1 and Phase 2 DEIS and a Final EIS. These documents can be found online at <http://www.energizeeastsideeis.org/>.

The Phase 1 DEIS contained a programmatic review of project alternatives including analysis of the feasibility of an overhead transmission line (such as the one currently proposed), use of the Seattle City Light transmission system, the construction of underwater transmission lines, and an integrated resource approach (i.e., employing non-transmission line technologies such as additional aggressive conservation and demand response technologies, new distributed generation facilities, and/or energy storage systems) (See Phase 1 DEIS, Ch. 2). A thorough analysis of all project alternatives relative to defined project objectives (e.g., meeting demand growth and being environmentally acceptable to impacted cities), resulted in a narrowing of reasonable alternatives to an overhead transmission solution.

The Phase 2 DEIS contains the City's focused review of overhead transmission line route alternatives and impacts. It contains a detailed analysis of six route segments and seven route options within those segments. The Phase 2 DEIS analyzes three different routing options in the Central Bellevue Segments. Attachment B compares environmental impacts of each of the three Central Bellevue Segment alternatives. Ultimately, PSE chose to move forward with a plan to build its proposed system upgrades in the existing transmission line corridor. This route is the least impactful (particularly because it minimizes *new* environmental impacts) and prioritizes safety by limiting the potential for interactions with Olympic's petroleum pipelines.

The Final EIS was issued on March 1, 2018 and built upon the previous Phase 1 DEIS and Phase 2 DEIS, released in January 2016 and May 2017, respectively. The Final EIS assessed PSE's project-level Proposed Alignment, as described in Section 1.5 and Chapter 2. Based on the results of the Phase 2 DEIS analysis, PSE has refined the proposed route of the transmission lines and associated project components, as evaluated in greater detail in the Final EIS.

Project opponents appealed, but were unsuccessful in challenging the adequacy of the project EIS through the King County Superior Court after which they abandoned their appeal. See *Coalition of Eastside Neighbors for Sensible Energy v. City of Bellevue and Puget Sound Energy, Inc.* (Attachment E).

## 5.0 Conclusion

The City of Bellevue has previously assessed the project during its review of the South Bellevue Segment. That assessment included an ASA that was submitted with those applications. The City critically reviewed this document and determined that it complied with ASA criteria. Additionally, a decision, upheld on appeal by the King County Superior Court, held that “the ASA contains sufficient information regarding the methodology employed, the alternative sites analyzed, the technologies considered, and the community outreach undertaken to satisfy the requirements of LUC 20.20.255.D.” See Attachment E at pp. 8-9; 15-16.

This North Bellevue Phase ASA follows the same methodologies and contains analogous information as the South Bellevue Segment ASA. Following extensive study over a number of years, PSE has and continues to conclude that its existing system does not comply with federal reliability planning criteria and that under current summer demand conditions on the Eastside, North Bellevue customers are at risk of outages. PSE evaluated a full range of wire and non-wire alternatives, but PSE ultimately determined that installing a new 230 kV to 115 kV transformer and upgrading the existing 115 kV lines to 230 kV lines between 230 kV substations in Redmond and Renton is the least impactful and best solution to meet the identified need.

The new 230 kV – 115 kV transformer will be placed at the new Richards Creek substation and the 230 kV transmission lines will be within the Willow 1 (existing) transmission line corridor - the site for the Project. To summarize, the new lines will bring 230 kV power from the Sammamish substation in Redmond and the Talbot Hill substation in Renton to the Richards Creek substation in Bellevue. This will take electrical load off of the existing 230-115 kV transformers at those substations. For the Project to meet the intended objective, a 230 kV power is required from both the north and the south source and must connect to the new transformer at the Richards Creek substation.

The Willow 1 route has been selected and uses an existing transmission line corridor that has been in operation since late 1920s and early 1930s. By using this corridor, additional easements or properties are not required. Even though the existing vegetation within the corridor is managed, which includes trimming and periodic removal, conversion of the existing transmission lines from 115 kV to 230 kV requires removal of taller growing tree species in order to meet federal vegetation management standards (NERC FAC-003). By using the existing corridor, the fewest number of trees will need to be removed. The use of the Willow 1 route combined with optimized transmission line design and 230/230 kV operation, allows for the lowest potential AC interaction with the two petroleum pipelines that share the corridor. These are the key factors that make the Willow 1 transmission line route the preferred alternative for the Project.