

City of Portland
Permitting and Development Bureau – Land Use Services

REVISED Application For:
Portland General Electric Company (PGE)
Harborton Reliability Project

Prepared For:



Owner/Applicant:
Portland General Electric Company
121 SW Salmon Street
Portland, OR 97204

Prepared By:



DAVID EVANS
AND ASSOCIATES INC.

2100 S River Parkway, Suite 100
Portland, OR 97201

Originally Submitted: May 10, 2024

Revised Submittal: October 28, 2024

Executive Summary

The Portland Metropolitan Region, like so many urban areas throughout our nation, is facing numerous challenges to our aging infrastructure. One of the most critical infrastructure needs is updating and strengthening our interconnected system of electrical generation, transmission, storage, and delivery, which is known as our electrical grid. Updating the electrical grid is especially important because efforts to electrify our lives and economy are fundamental to moving towards a clean energy future that will help address the human impacts and environmental challenges of climate change.

Much of the region's future economic and environmental planning depends on a strong and reliable electrical grid. Demands for electricity continue to grow during the increasingly warm summer months. Additionally, our region is responding to national and state demands for increased industrial growth and diversification. On top of this, our community is moving away from fossil fuel sources in preference of electricity from clean energy sources. Portland General Electric Company (PGE) is working to assist with this transition to clean energy that may be used to power cars, industrial applications, heating, and appliances. All these changes are happening while the regional population is growing. According to Metro, from 2020 to 2045, the combined populations of Clackamas, Multnomah, and Washington counties are expected to increase by more than 26% (2023).

While the State of Oregon is promoting commercial and industrial growth strategies, it is also requiring the transition to clean energy, which is energy generated from renewable power sources, such as wind, hydro, and solar facilities. In 2020, Governor Brown issued Executive Order 20-04 directing state agencies to take actions to reduce greenhouse gas emissions to address climate change, including directives to decarbonize our energy system. In 2021, the Oregon State Legislature passed the Clean Energy Targets bill (House Bill 2021), which requires PGE and other electricity service suppliers to reduce greenhouse gas emissions by 80% below baseline emission levels from the electricity they provide in Oregon by 2030 and 100% below baseline emissions levels by 2040.

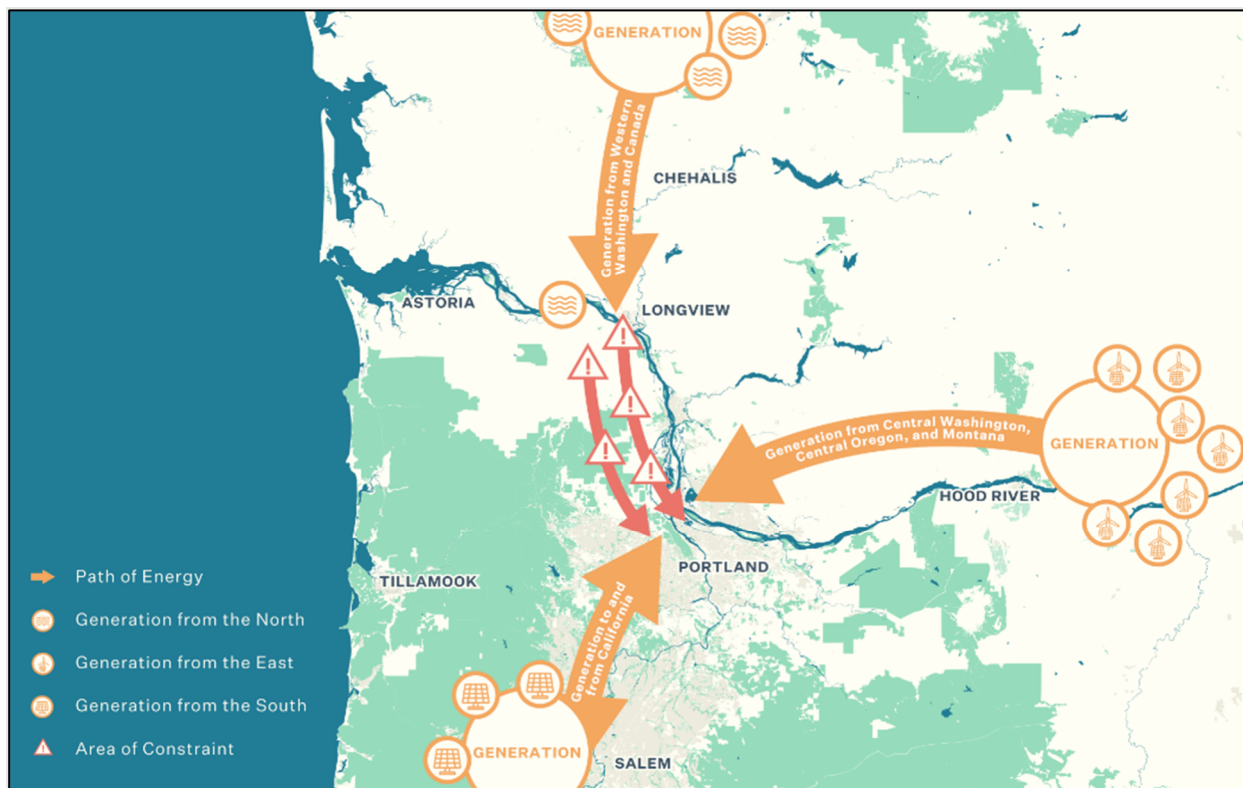
PGE has been working hard to meet this challenge and has developed or contracted with a substantial array of renewable energy sources, including wind, solar, and hydro facilities. Most of these renewable energy generation facilities are outside of PGE's service territory, primarily in areas east of the Cascade Mountains. Delivering this clean energy to PGE's customers is dependent on a reliable transmission system. The existing transmission system is outdated and under capacity, and it contains significant system constraints that result in outage vulnerabilities during periods of peak demand. One of the primary constraints in the regional transmission infrastructure is located between northwest Oregon (where bulk renewable power is

Designed for Approval

- ❖ The proposed Harborton Reliability Project meets a demonstrated need to provide for growing electricity use, protect against future power outages, and reduce greenhouse gas emissions.
- ❖ The project offers significant opportunities to improve forest health and reduce wildfire risk both within the management unit and throughout Forest Park.
- ❖ By working within existing utility right of way, the proposed project offers the least impact to habitat and property, at a lower cost to customers, and is the only viable alternative.

brought into the state near Rainier, Oregon) and the Portland Metropolitan Region (see **Figure ES-1**). Addressing this transmission “bottleneck” is a top priority for our community.

Figure ES- 1. Power Supply Pathways to Portland and Area of Constrained Transmission



PGE is taking urgent action to address these challenges and constraints and has worked with Oregon community stakeholders to develop system-wide plans for an improved and resilient electrical grid. Certain steps can be taken to upgrade the current transmission system by updating existing powerline infrastructure, with little to no environmental impact. However, to address the key transmission bottleneck, transmission line routing improvements are necessary in Northwest Portland, west of PGE’s Harborton Substation, in a section of Forest Park where there is existing transmission Utility Right of Way (Utility ROW).

The Bonneville Power Administration (BPA) initially began installing transmission lines in its current Utility ROW in the 1940s, before Forest Park was established in 1948. The existing PGE Utility ROW was created in the early 1970s, prior to the 1995 Forest Park Natural Resources Management Plan (FP NRMP). PGE obtained easements from private property owners and the City of Portland (City) in the early 1970s and installed transmission infrastructure on both BPA and PGE property interests as part of its transmission system. The existing transmission lines in the Utility ROW are now undersized to meet current peak electricity demand and lack the necessary transmission capacity to serve the region’s needs in the 21st century. This lack of capacity can be vastly improved through a relatively small area of routing updates that would occur within existing Utility ROW.

PGE has been working to address the needed improvements to the regional power grid for several years. The Harborton Reliability Project began in 2017 as a multi-phase effort to provide enhanced regional

transmission, storage, and distribution capacity to address the key constraints present within the power grid. Phase 1 of the Harborton Reliability Project has already been completed. That phase rebuilt the Harborton Substation to allow for restoration of wetlands and wildlife conservation improvements at a former fossil fuel generation site. It also added additional 230 kilovolt (kV) infrastructure to the substation during the rebuild. Another active phase (Phase 2) of the project is rebuilding 115 kV power lines from Harborton Substation along U.S. Highway 30 to better serve industrial and urban customers in Northwest Portland. The next proposed phase, Phase 3 of the Harborton Reliability Project (this “Proposed Project”), involves transmission line routing updates that are needed to address known transmission constraints, increase transmission capacity, and deliver additional 230 kV power sources into and out of Harborton Substation to support regional growth and electrical reliability. Phases 4 and 5 are in the earliest planning stages for work that would take place by 2030 and may include additional transmission line improvements within existing Utility ROW in Forest Park. While each subsequent phase would build upon the prior phases, Phases 4 and 5 are separate projects with independent utility; i.e., Phase 3 will meet its project objectives even in the absence of Phases 4 and 5.

The Proposed Project objectives are to:

- Provide reliable electricity to homes and businesses, meeting the needs of the Portland Metropolitan Region today and for future generations.
- Increase transmission capacity to meet projected demands and reduce the likelihood of interruptions in electrical service that will become increasingly likely in 2028 unless the Proposed Project is constructed.
- Increase the safety of the electrical grid.
- Enable PGE to meet mandatory federal standards for load capacity improvement by 2028, when current forecasts show demand exceeding transmission capacity on peak demand days.

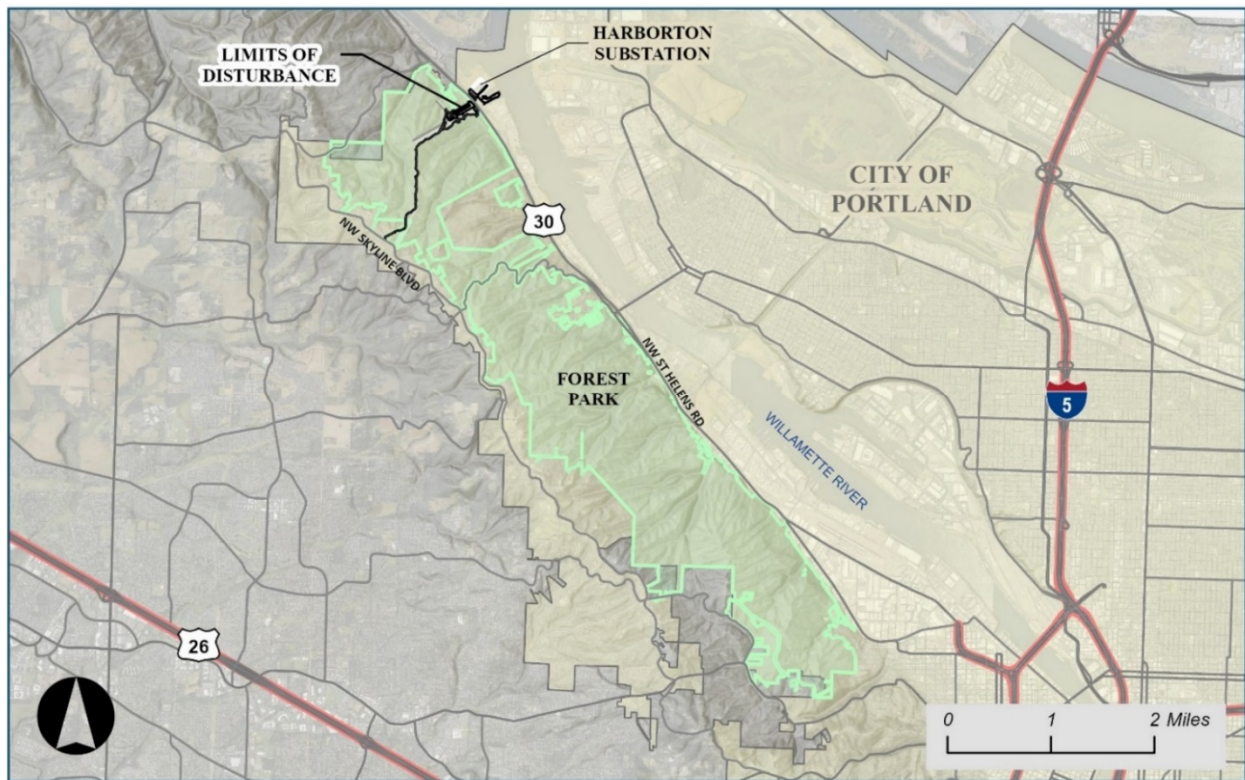
After a thorough review of over 20 alternatives, PGE selected a design option that meets all of these needs and can be built quickly to meet federal and PGE reliability requirements by making the project operational within three years. In the selected alternative (the Proposed Project), PGE proposes to replace and move one existing steel pole and construct a new 1,400-foot-long segment of transmission corridor in Forest Park. The new segment of transmission corridor will require two new steel monopoles that would be built within existing Utility ROW and tie into an existing transmission corridor. This work would include rewiring the new pole structures (reconductoring) and reconfiguring the current wire routing into the Harborton Substation. Following an initial early assistance meeting with the City and PGE in 2022 (EA 22-142445) (see Appendix A), the Proposed Project was revised and designed to minimize tree removals and reduce the area of forest and riparian habitat impacts to the maximum extent practicable, while creating safe vegetation setbacks around the new and existing transmission wires in Forest Park. An overview of the Proposed Project is provided below in **Figure ES-2**.

Unfortunately, there is no feasible means of achieving the needed routing improvements without removing trees in a portion of an existing stand of mature conifer and broadleaf deciduous forest that is contained within existing Utility ROW and surrounded and bisected by existing BPA and PGE transmission corridors. The proposed routing improvements are associated with and tie into powerlines that are presently in Forest Park within Utility ROW. The Proposed Project will need to remove tall trees within approximately 4.7 acres of an existing forest patch to maintain the physical separation from energized wires required by safety codes, including Oregon Public Utility Commission (OPUC) regulations (see

Oregon Administrative Rules [OAR] 860-024-0016) on minimum vegetation clearance requirements and PGE’s vegetation management policy. The existing forest patch is surrounded by transmission corridors; therefore, the proposed tree removal will not increase fragmentation of forest stands outside of the Utility ROW.

Measures will be taken to minimize soil disturbance, avian impacts, and impacts to the existing shrub understory. These minimization measures will be achieved through construction site best management practices, seasonal work restrictions, and ongoing avian monitoring to avoid effects on nesting wildlife. In response to the City’s June 5, 2024 incompleteness notice, PGE has incorporated additional impact reductions , including the refinement of access road design and the height and placement of structures. Further, PGE has identified a suite of priority site restoration measures and other ecological improvements that can be implemented locally to mitigate the loss of forest habitat resource values, enhance the biodiversity of the area, and help reduce the risk of wildfire.

Figure ES-2. Proposed Project Location and Limits of Disturbance



City of Portland Ordinance 191314 authorized an in-lieu mitigation fee program in 2023 that references a need for mitigation to allow for utility projects within Forest Park. The ordinance acknowledges the difficulties inherent with individual, project-specific mitigation plans. Specifically, Portland City Code (PCC) Chapter 430 of Title 33 (environmental overlays) typically requires applicants to plant trees as the primary source of mitigation to meet the requirements for resource replacement within the affected Forest Park management unit. However, due to the nature of Forest Park and its abundance of forest canopy, revegetation with only trees does not always meet the highest ecological need for the park. Instead, as stated in the Impact Statement for Ordinance 191314, “comprehensive restoration over large

areas, including the removal of invasive species and revegetation with shrubs and forbs, is mitigation more readily needed in the park.”

Following this guidance, PGE has identified the following restoration actions to provide meaningful mitigation to compensate for the loss of approximately 4.7 acres of forest habitat:

- Work with Portland Parks & Recreation Department (PP&R) to enhance habitat availability for a population of northern red-legged frogs that occur in Forest Park by creating breeding habitat within the park that may be used in lieu of breeding habitat east of U.S. Highway 30, which requires an unsafe highway crossing for the frogs.
- Within affected tree removal areas, install a mixture of shorter-stature tree and shrub species, including Oregon white oaks (*Quercus garryana*), an Oregon Conservation Strategy Habitat species that is present in the area and is identified by the City as a “desired future condition” habitat in Forest Park (PP&R 2011a).
- Retain up to 10% of cut trees to place trunks onsite in a dispersed, fire-safe manner to provide nutrients, slope/streambank stability, habitat niches for wildlife, and flow dispersal.
- Seed disturbed herbaceous areas, including access road edges, with a native seed mix that contains pollinator support species that are consistent with the Pollinators and Powerlines Project, which is a partnership effort of the City of Portland, BPA, and Metro.
- Remove and control existing populations of noxious weeds within the Proposed Project’s limits of disturbance, including Himalayan blackberry (*Rubus armeniacus*), shining geranium (*Geranium lucidum*), English ivy (*Hedera helix*), and Scotch broom, (*Cytisus scoparius*) through multiyear site maintenance.
- Pay the in-lieu fee authorized by Ordinance 191314 to fund mitigation, monitoring, and maintenance by PP&R within Forest Park consistent with the goals of the ordinance. This fee will include funds that PP&R may use for the removal of noxious weeds and native planting projects throughout dozens of acres of the park’s North Management Unit. This work will improve ecological conditions and remove ladder fuels (e.g., English ivy) to decrease wildfire risk, thus providing mitigation for the long-term forest habitat impacts associated with the Proposed Project. Additionally, funds may be used by PP&R for a variety of ecological enhancements outside of the North Management Unit to address short-term impacts associated with the Proposed Project.
- Offset the loss of stand density and associated carbon sequestration by working with conservation partners to plant 100 native trees in areas of Portland that have been identified as “heat islands,” which are areas that are up to 10 degrees warmer on hot weather days due to a lack of tree canopy relative to well-shaded neighborhoods in Portland (Voelkel et al. 2018).

With this application, PGE presents the purpose and urgent need for this phase of the Harborton Reliability Project, the analysis of over 20 alternatives that was undertaken, a description of the proposed development plan, steps taken to avoid and minimize habitat impacts, proposed habitat mitigation, and a detailed description of how the Proposed Project complies with all applicable sections of PCC Title 33, Planning and Zoning. PGE recognizes that the Proposed Project is a large undertaking in a unique and cherished part of Portland. PGE looks to partner with the City and other community organizations so that the Proposed Project meets the needs of the community as well as the intent of the PCC.

As this application and associated exhibits will show, the legal framework and the energy needs of the Portland Metropolitan Region necessitate the approval of the Proposed Project. In summary, **the Proposed Project should be approved for the following reasons:**

1. The power infrastructure of the Portland Metropolitan Region is rapidly approaching capacity. Without intervention, energy demands will exceed the capacity of existing Forest Park transmission lines, causing blackouts, increasing fire hazards due to overloaded power lines, and hindering the region's economic growth. Updating PGE's transmission lines in Forest Park is the only viable option to prevent these outcomes and continue delivering reliable, safe electricity to our region's hospitals, schools, businesses, and residents. The Proposed Project addresses the crucial and unavoidable need to upgrade the electricity grid in the Portland Metropolitan Region in advance of blackouts expected as early as 2028 with the current grid, thereby avoiding potentially disastrous impacts to the region's health, safety and economy.
2. Substantial evidence shows that the Proposed Project meets all applicable approval criteria and is the least impactful practicable alternative that meets project objectives while minimizing unavoidable impacts on park resources.
3. PGE's proposed habitat mitigation plan provides ample site restoration actions and funding for both short- and long-term upgrades to conservation values in the park, ultimately resulting in no net loss of protection for the park's native plant and animal communities, soil, and water resources.
4. Forest Park is above all a forest, and forest health is declining worldwide due to rising temperatures associated with climate change. An enhanced grid offers clean energy options to help reduce greenhouse gas emissions and protect regional forest health by slowing, and possibly reversing, the trend of warming temperatures. Additionally, adapting to climate change will require greater species biodiversity to allow for the replacement of species that are succumbing to climate change with those that are more drought tolerant. The Proposed Project will increase biodiversity and expand sensitive woodland resources that are better suited to a warming climate. In this manner, because of the effects of climate change, approval of the Proposed Project will ultimately lead to the protection of forest resources in Forest Park.
5. On March 8, 1971, PGE purchased from the City a 200-year Electric Transmission Line Easement to "erect, operate, maintain, repair, rebuild, and patrol one or more electric power transmission lines and appurtenant signal lines, poles, towers, wires, cables, and appliances necessary in connection therewith, in, upon over, under, and across [the described easement and rights of way within Forest Park]." It is reasonable to conclude that the City and PGE understood at the time that updates to PGE's transmission lines would be required over the course of 200 years.
6. On February 8, 1995, the City adopted the FP NRMP to protect and enhance park resources. The function of existing utility easements and development of transmission lines was not raised as a significant policy consideration during the development of the FP NRMP. However, "Utility Corridor Management" is listed as a high priority for the North Management Unit, which includes managing fire hazard risks, minimizing invasive non-native plants, and maximizing diversity of native plant species.
7. The FP NRMP outlines approval criteria for the Proposed Project within Forest Park, which includes mitigation efforts. Recognizing the mitigation challenges associated with existing utility easements through Forest Park, such as PGE's 1971 easement, the City adopted Ordinance

191314 on June 7, 2023. This ordinance authorizes PP&R to collect fees in lieu of mitigation activities and apply such fees within five years, with the ability to extend this duration. PGE is committed to paying these in-lieu mitigation fees.

8. PGE's easement, the FP NRMP, and Ordinance 191314 all consider the need to continually maintain and improve PGE's power infrastructure within Forest Park and provide a path to approve the Proposed Project. These authorities all are based on a vision for the future condition of Forest Park and expressly recognize the need for the City to work with utilities that have existing easements.
9. Approval respects the property rights held by PGE and BPA for the Utility ROW, much of which predates even the existence of Forest Park and acknowledges that co-location of utility facilities in the park has been recognized since the inception of both the park and the FP NRMP.
10. Approval avoids possible conflicts with the preemptive nature of BPA's obligation to generate, market, and distribute electric power in the Pacific Northwest, which PGE is furthering through the Proposed Project.

Table of Contents

Executive Summary.....	i
List of Figures.....	ix
List of Tables.....	ix
A. Introduction and Project Proposal.....	1
Applicant Team Members.....	2
Application Request.....	3
Property and Zoning Summary.....	3
Required Submittal Items Checklist.....	5
Applicant’s Written Statement.....	7
Land Use History for Affected Tax Parcels.....	35
B. Applicable City of Portland Planning and Zoning Codes.....	37
Chapter 33.910 Definitions.....	37
Chapter 33.920 Descriptions of the Use Categories.....	38
Chapter 33.100 Open Space Zone.....	39
Chapter 33.140 Employment and Industrial Zones.....	40
Chapter 33.815 Conditional Uses.....	40
Forest Park Natural Resources Management Plan (FP NRMP).....	43
<i>Chapter 8. Implementation Procedures, Section B: Exceptions to the Plan.....</i>	<i>43</i>
Chapter 33.563 – Northwest Hills Plan District, Forest Park Subdistrict.....	54
Chapter 33.440 Greenway Overlay Zones.....	57
D. References.....	69
E. Exhibit Drawings.....	70
Exhibit A. Application.....	70
Exhibit B. Site Vicinity Map.....	70
Exhibit C. Overall Site Plan and Tree Table.....	70
Exhibit D. Existing Condition Plan.....	70
Exhibit E. Proposed Development Plan.....	70
Exhibit F. Construction Management Plan.....	70
Exhibit G. Mitigation Site Plan and Planting Details and Notes.....	70
F. Appendices.....	71
Appendix A. Early Assistance Summary (EA 22-142445)	

- Appendix B. Arborist Report/Tree Protection Plan**
- Appendix C. Alternatives Analysis**
- Appendix D. Mitigation Plan**
- Appendix E. Site Photos**
- Appendix F. PGE’s Existing Utility Easement in Forest Park**
- Appendix G. Request for Update to Prior Greenway Review LU 18-151725 GW**
- Appendix H. Tree Mortality data**
- Appendix I. Joint Letter of Support**
- Appendix J. Geotechnical Investigation Report**

List of Figures

Figure ES- 1. Power Supply Pathways to Portland and Area of Constrained Transmission.....	ii
Figure 1. Existing PGE Transmission Line Routing Configuration in Forest Park	8
Figure 2. Proposed PGE 230 kV Transmission Line Configuration (Preferred Alternative, Plan View).....	9
Figure 3. Proposed PGE 230 kV Transmission Line Configuration (Preferred Alternative, Cross-section View)	11
Figure 4. Recent Growth of PGE’s Peak Summer Electricity Loads	13
Figure 5. Live Tree Removals Proposed in Forest Park.....	30

List of Tables

Table 1. Summary of Alternatives for the Proposed Project.....	19
Table 2. Approximate Construction Schedule and Associated Equipment (listed in sequence).....	25
Table 3. Summary of Permanent and Temporary Construction Activity Areas.....	31
Table 4. Summary of Proposed Mitigation Planting Areas in Project Site	34

A. Introduction and Project Proposal

Applicant Team Members

Application Request

Property and Zoning Summary

Required Submittal Items Checklist

Applicant's Written Statement

Land Use History for Affected Tax Parcels

Applicant Team Members

Listed below is a summary of the team members involved in the preparation of this land use application for the Portland General Electric (PGE) Harborton Reliability Project.

Owner/Applicant:

Portland General Electric

121 SW Salmon Street
Portland, OR 97204
Contact: Randy Franks (Senior Project Manager)
Phone: 503.464.2174
Email: randy.franks@pgn.com

Legal Counsel:

Tonkon Torp LLP

888 SW 5th Avenue #1600
Portland, OR 97204
Contact: Dave Petersen (Partner)
Phone: 503.802.2054
Email: david.petersen@tonkon.com

Environmental Planning:

David Evans and Associates, Inc.

2100 S River Parkway, Suite 100
Portland, OR 97201
Contact: Noah Herlocker (Project Manager)
Phone: 503.499.0407
Email: noah.herlocker@deainc.com

Application Request

PGE proposes to:

- Install two new steel poles and construct a new 1,400-foot-long segment of transmission corridor in a portion of Forest Park within existing PGE (Appendix F) and BPA easements, and on BPA and PGE fee-owned property, which are collectively referred to in this application narrative as “Utility ROW.”
- Replace one existing pole with a new pole that would be approximately 30 feet south of the existing pole to allow wires to cross from Forest Park into PGE’s Harborton Substation.
- Reconfigure three existing lattice towers in Forest Park to allow the new and modified existing routes to tie into an existing PGE transmission corridor in Forest Park within Utility ROW.

All new infrastructure will be located within existing Utility ROW. These transmission line routing updates require tree removals in a patch of forest that is located completely within existing Utility ROW and that is surrounded on all sides by existing electric transmission corridors. PGE is requesting the following reviews:

- Type III Environmental Review
- Type III Conditional Use Review
- Type II Greenway Review

Property and Zoning Summary

Site Address:	12500 NW Marina Way (substation) and PGE corridor across U.S. Highway 30 and in a portion of the City of Portland’s Forest Park; see Exhibit B, Vicinity Map
Tax Lots and Acreage:	Multiple; see table below.

Multnomah County Tax Map	Tax Lot	R No.	Parcel (acres)	Base Zone	Overlays	Districts	Owner
2N1W34CB	00800	R175903	5.40	OS	p - Environmental Protection	Northwest Hills; Forest Park	City of Portland
2N1W34CB	00900	R175902	0.64	OS	p - Environmental Protection	Northwest Hills; Forest Park	City of Portland
2NW134CB	01000	R175905	1.57	OS	p - Environmental Protection	Northwest Hills; Forest Park	City of Portland
2NW134CB	01100	R175906	1.70	OS	p - Environmental Protection	Northwest Hills; Forest Park	City of Portland
2N1W34	00101	R714233	24.00	IH IH OS	g, k, q - River General, Prime Industrial, River Water Quality i, k - River Industrial, Prime Industrial n, q - River Natural, River Water Quality	n/a	PGE
2N1W34	00500	R325471	1.80	OS	p - Environmental Protection	Northwest Hills; Forest Park	United States of America (Bonneville Power Administration)
2N1W34	00400	R325475	15.79	OS	p - Environmental Protection	Northwest Hills; Forest Park	City of Portland
2N1W34	01900	R504044	9.74	OS	p - Environmental Protection	Northwest Hills; Forest Park	City of Portland

Zoning: Base Zones: Open Space (OS); Heavy Industrial (IH)

Overlay Zones: Environmental Protection (p); River General (g); Prime Industrial (k); River Water Quality (q); River Industrial (i); Prime Industrial (k); River Natural (n); River Water Quality (q)

Neighborhoods: Forest Park, contact Jerry Grossnickle at: landuse@forestparkneighbors.org
Linnton, contact Sarah Taylor at: sarahsojourner@mac.com

Business District: None

District Coalition: Neighbors West/Northwest, contact: admin@nwnw.org

Plan District: Northwest Hills – Forest Park

Other Designations: *Forest Park Natural Resources Management Plan; Northwest Hills Natural Areas Protection Plan; Lower Willamette River Wildlife Habitat Inventory*

Required Submittal Items Checklist

SUBMITTAL REQUIREMENTS (Per Sections 33.730.060.C and 33.430.240)	EXHIBIT/SHEET #
1. Two copies of the completed application form bearing an accurate legal description, tax account number(s), and location of the property. The application must include the name, address, and telephone number of the applicant, the names and addresses of all property owners if different, the signature of the applicant, and the nature of the applicant’s interest in the property.	Exhibit A
2. One copy of a written statement that includes the following items:	--
• A complete list of all land use reviews requested;	Herein
• A complete description of the proposal including existing and proposed use(s) or change(s) to the site or building(s);	Herein
• A description of how all approval criteria for the land use review(s) are met. As an alternative and where appropriate, this information may be placed on the site plan; and	Herein
• Additional information needed to understand the proposal, or requested at the pre-application conference, if applicable.	Exhibits B–H
3. Four copies of a site or development plan. At least one complete copy must be 8-1/2 inches by 11 inches, suitable for photocopy reproduction. The site or development plan must be drawn accurately to scale and must show the following existing and proposed information:	Exhibit B
• All property lines with dimensions and total lot area;	Exhibit B
• North arrow and scale of drawing;	All Figures
• Adjacent streets, access (driveways), curbs, sidewalks, and bicycle routes;	Exhibits C and D
• Existing natural features such as watercourses including the ordinary high water line and top of the bank;	Exhibit D
• The location, size, and species of all trees 6 inches and larger in diameter. On sites where the development impact area option for large sites in Chapter 11.50 will be used, only trees within that area must be shown;	Exhibits C and D, Appendix B
• Trees proposed to be preserved, including protection methods meeting the requirements of Chapter 11.60, and trees proposed to be removed;	Exhibits E and G, Appendix B
• Easements and onsite utilities;	Exhibits D–F
• Existing and proposed development with all dimensions;	Figures 2 and 3, Exhibit E
• Building elevations;	Not applicable
• Location of adjacent buildings;	Exhibit B, Figure 2
• Distances of all existing and proposed development to property lines;	Exhibit D

SUBMITTAL REQUIREMENTS (Per Sections 33.730.060.C and 33.430.240)	EXHIBIT/SHEET #
<ul style="list-style-type: none"> Types and location of vegetation, street trees, screening, fencing, and building materials; 	Exhibits G and H and Appendix D
<ul style="list-style-type: none"> Percentage of the site proposed for building coverage, and landscaping coverage; 	Not applicable
<ul style="list-style-type: none"> Motor vehicle and pedestrian access and circulation systems, including connections offsite; 	Exhibits B and F
<ul style="list-style-type: none"> Motor vehicle and bicycle parking areas and design, number of spaces, and loading areas; 	Exhibit F
<ul style="list-style-type: none"> Bus routes, stops, pullouts or other transit facilities on or within 100 feet of the site; and additional requirements of the specified land use review. 	Not applicable
<ul style="list-style-type: none"> Additional requirements of the specified land use review. 	Section B
<p>4. In the case of a land use review that requires a pre-application conference, a copy of the completed pre-application conference summary or proof of participation, if available.</p>	Appendix A
<p>5. A transportation impact study, if required by the Office of Transportation at a pre-application conference.</p>	Not applicable
<p>6. In the case of a zone change within the boundaries of a school district that has an adopted school district facility plan that has been acknowledged by the City, the application must include verification from the school district that there is adequate enrollment capacity to serve the zone change site.</p>	Not applicable
33.430.240 Supplemental Application Requirements	
<p>A. Supplemental site plans required. One copy of each plan must be at a scale of at least 1 inch to 100 feet. The following supplemental site plans are required:</p>	--
<p>1. The existing conditions site plan must show the following for the entire site:</p> <ul style="list-style-type: none"> a. Special flood hazard area and floodway boundaries; b. Boundaries of the resource area and the transition area. These boundaries may be scaled in relation to property lines from the Official City Zoning Maps; c. Topography shown by contour lines at 2-foot vertical contours in areas of slopes less than 10% and at 5-foot vertical contours in areas of slopes 10% or greater; d. Drainage patterns, using arrows to indicate the direction of major drainage flow; and e. Existing improvements such as structures, or buildings, utility lines, fences, etc. 	Exhibits C, D, and G
<p>2. The proposed development site plan must show the following:</p> <ul style="list-style-type: none"> a. In areas of the site that have been or will be part of the permanent disturbance area, distribution outline of shrubs and groundcovers, with a list of most abundant species; b. In areas of the site that are and will remain undisturbed: Tree crown cover outline and generalized species composition; c. A grading plan showing proposed alteration of the ground at 2-foot vertical contours in areas of slopes less than 10% and at 5-foot vertical contours in areas of slopes 10% or greater; d. Trees six or more inches in diameter, identified by species, with trees proposed to be preserved and removed indicated. In the case of violations, also indicate those that were cut or damaged by stump diameter and species; e. Proposed development, including proposed buildings, walkways, decks, retaining walls, bridges, garages, utility lines, stormwater management systems; and f. Proposed planting areas. 	Exhibits E–H

SUBMITTAL REQUIREMENTS (Per Sections 33.730.060.C and 33.430.240)	EXHIBIT/SHEET #
<p>3. A construction management site plan must show the following:</p> <ul style="list-style-type: none"> a. Areas that will be temporarily or permanently disturbed, including equipment maneuvering areas, and perimeter controls; b. Areas where existing topography and vegetation will be left undisturbed; c. Location of site access and egress; d. Equipment and material staging and stockpile areas; e. Erosion control measures; and f. Measures to protect trees and vegetation. Tree protection must meet the requirements of Chapter 11.60, Technical Specifications. 	<p>Exhibit F</p>
<p>4. A mitigation or remediation site plan must show the following:</p> <ul style="list-style-type: none"> a. Dams, weirs, or other in-water structures; b. Distribution outline, species composition, number, and percent cover of groundcovers to be seeded or planted; c. Distribution outline, species composition, size, number, and spacing of shrubs to be planted; d. Location, species, number, and size of each tree to be planted; e. Stormwater management features, including retention, infiltration, detention, discharges, and outfalls; f. Water bodies to be created, including depth; g. Water sources to be used, including volumes; and h. Information showing compliance with Section 33.248.090, Mitigation and Restoration Plantings. 	<p>Exhibits G and H; Appendix D</p>

Applicant’s Written Statement

A1. Proposal Summary:

PGE is requesting approval to construct a 1,400-foot-long segment of transmission corridor and shift one pole in an existing transmission corridor in a portion of Forest Park. The term “transmission corridor” is used to denote areas that are, or are proposed to be, managed in perpetuity to keep vegetation at safe distances from overhead transmission wires. These are generally 125 feet in width for a 230 kilovolt (kV) transmission line and centered on the transmission structures. The 1,400-foot-long segment of new transmission corridor would require the installation of two new steel poles. The existing transmission corridor shift would require the replacement and slight relocation of one existing pole in Forest Park. All proposed utility infrastructure in Forest Park will be constructed within existing Utility ROW.

These proposed wiring configurations also require the removal of three wood poles and their replacement with three new steel poles along the western fence of PGE’s Harborton Substation. This replacement would occur in a gravel parking area on PGE’s property. PGE would then reconfigure existing transmission lines and add new lines between Harborton Substation and existing transmission towers in Forest Park, which connect to an existing transmission corridor in the park. The project will address system vulnerabilities and provide the power supply and system redundancy needed to reliably accommodate near-term power demands. This proposed work is Phase 3 of PGE’s Harborton Reliability Project and is referred to herein as the “Proposed Project.” This written statement was prepared to address the standards and criteria for the following requested land use reviews for the Proposed Project:

- Type III Environmental Review
- Type III Conditional Use Review

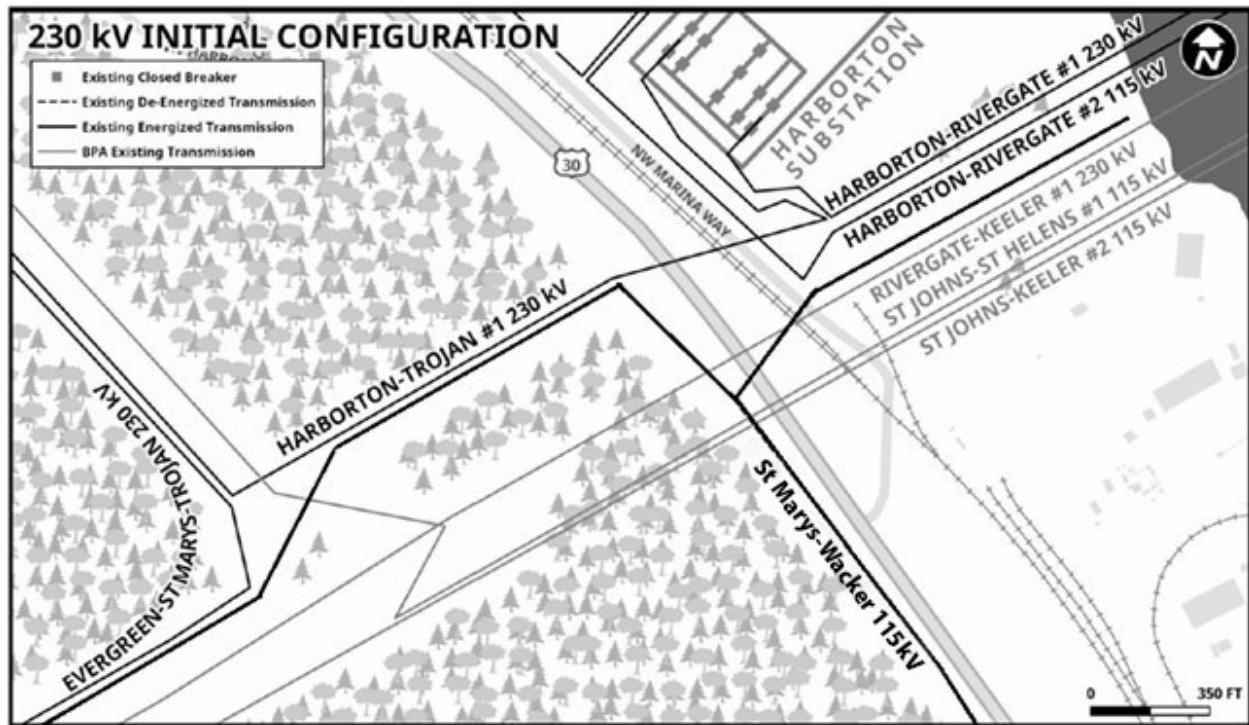
- Type II Greenway Review

As shown in

Figure 2 and Figure 3, within Forest Park, the Proposed Project proposes to:

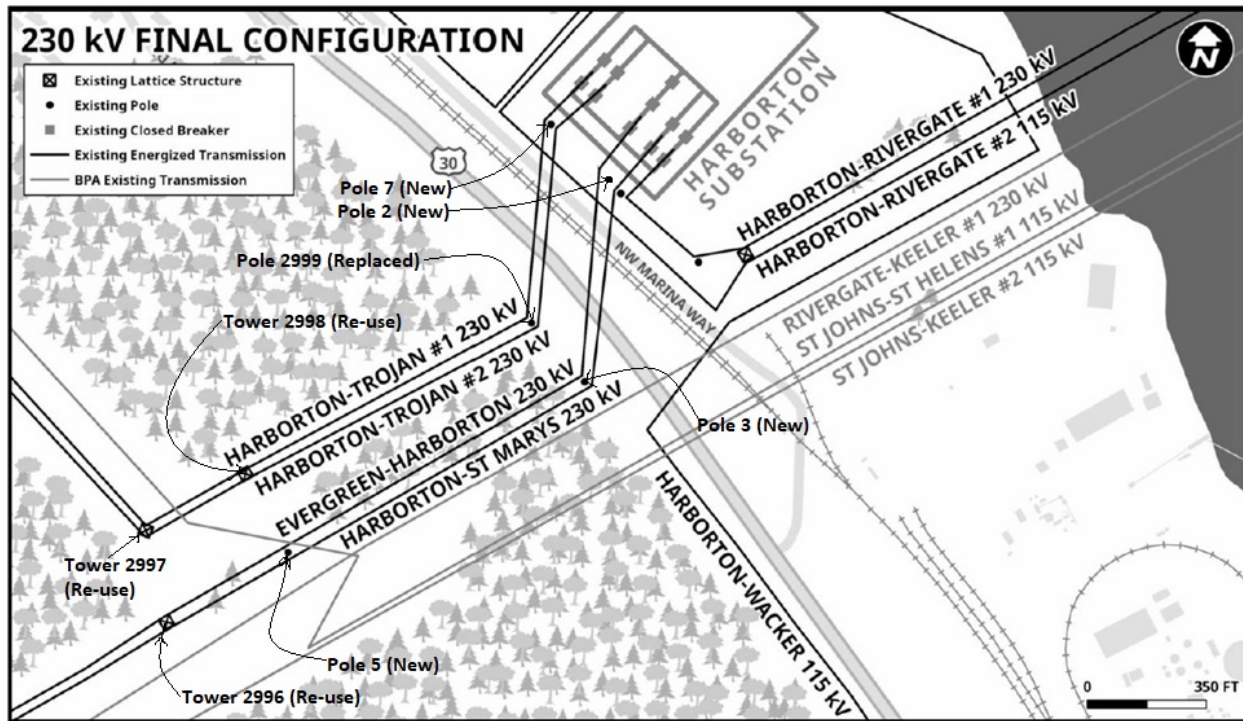
- Remove the existing 115 kV St Marys-Wacker line, and then cut the current Horizon-St Marys-Trojan (three-terminal) 230 kV line in Forest Park at existing Tower 2997 and use the empty transmission corridor between that tower and the Harborton Substation to route a second line from Trojan into Harborton. This rerouting will require that the existing Transmission Pole No. 2999, which currently supports the Horizon-Trojan No. 1 line, be moved slightly south to allow all crossings into the Harborton Substation to remain within PGE’s existing easement.
- Remove vegetation needed to construct a new segment of transmission line between the Harborton Substation and existing Tower 2996. This segment would be approximately 1,400 feet long within Forest Park and would utilize existing PGE and BPA easements or fee owned property. This segment would require two new transmission poles within Forest Park. On the hillslope above U.S. Highway 30, Steel Pole (SP)-5 would be constructed at the top of the hill to tie the segment into Tower 2996, and SP-2 would be constructed at the bottom of the hill to tie the segment into the Harborton Substation (see **Figure 3**).
- String new transmission wire between Harborton Substation and Tower 2996 to create new Harborton-St Marys and Harborton-Evergreen 230 kV transmission lines on the existing transmission towers that extend west from Tower 2996 beyond Forest Park. This will require the establishment of temporary work areas for construction access, temporary soil storage, line-pulling, and equipment turnaround space.

Figure 1. Existing PGE Transmission Line Routing Configuration in Forest Park



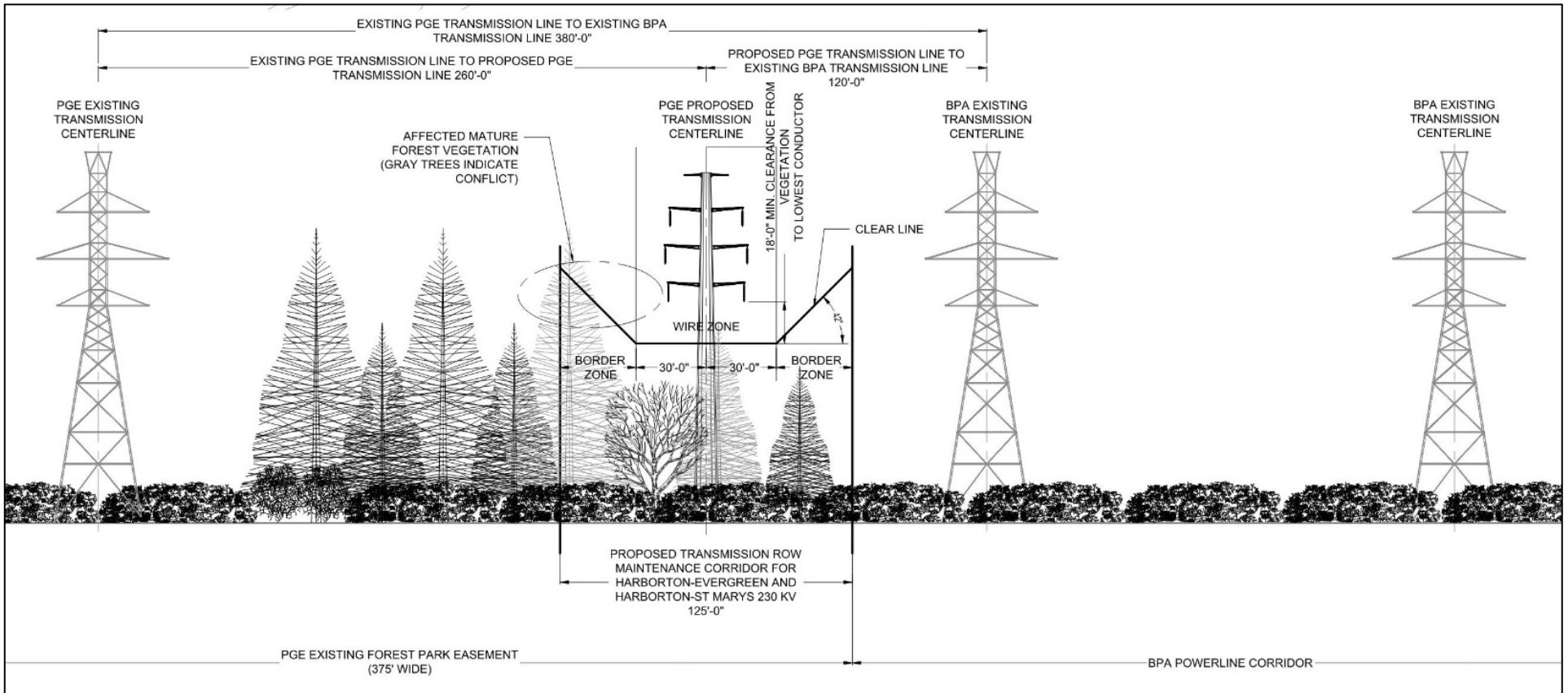
The Proposed Project represents Phase 3 of the Harborton Reliability Project. The initial phase, which was completed in 2021, included substation and transformer improvements at the Harborton Substation and line reconfiguration to tie PGE’s Rivergate Substation into its recently enhanced Harborton Substation. Phase 2 is underway, rebuilding existing 115 kV circuits along U.S. Highway 30 between Harborton Substation and customers in Northwest Portland. The next phase, the Proposed Project, will implement transmission configuration improvements to meet federal, regional, state, and PGE electrical transmission reliability standards and to improve power supply to meet projected demands. Phases 4 and 5 are in the earliest planning stages for work that would take place by 2030. The Proposed Project will address existing transmission vulnerabilities between the Trojan Substation and PGE’s Portland, Beaverton, and Hillsboro substations resulting from the current three-terminal configuration. Because the Trojan Substation receives bulk power from BPA’s interstate transmission system and PGE’s Beaver and Port Westward Generation Plants, connections between the Trojan Substation and the Portland Metropolitan Region are vitally important to the reliability of the region’s power grid. These connections are part of BPA’s South of Alston (SOA) transmission path, which furthers BPA’s statutory obligations to produce, market and distribute electricity in the Pacific Northwest. PGE has identified an increased risk of outages, particularly during peak demand days during hot summer weather, if the current power supply constraints and configuration vulnerabilities are not resolved quickly. This additional power supply is also expected to alleviate some of the current constraint in the SOA path, including between PGE’s Trojan Substation and Portland.

Figure 2. Proposed PGE 230 kV Transmission Line Configuration (Plan View)



The Proposed Project siting is intended to minimize impacts to Forest Park resources to the fullest extent possible, while still achieving the objectives of the Proposed Project and meeting all safety standards. The Proposed Project would affect mature mixed conifer and broadleaf deciduous forest, which includes stream and riparian resources. A Habitat Mitigation Plan to address and mitigate these impacts is included as part of this land use application (see Appendix D).

Figure 3. Proposed PGE 230 kV Transmission Configuration (Proposed Project, Cross-section View, Looking Downhill)



A2. Approval Criteria:

To be approved, this proposal must comply with the applicable approval criteria of Title 33 of the PCC, which is the City's zoning code. Because the Proposed Project is located within Forest Park, land use is primarily governed by the Forest Park Natural Resources Management Plan (FP NRMP), and the approval criteria of the FP NRMP supersede the approval criteria of Chapter 33.430 *Environmental Zones*. As noted in the City of Portland Bureau of Development Services Pre-application Conference Facilitator Summary Memo (City of Portland, EA 22-142445) (see Appendix A) dated July 11, 2022, the Proposed Project requires the following land use applications:

- Type III Environmental Review
- Type III Conditional Use Review
- Type II Greenway Review

The following summarizes the applicable approval criteria by review type:

Environmental Review Approval Criteria (including Plan District Requirements):

- a. The “**Approval Criteria for Minor Amendments**” including criteria **A through D in Section A** on page 217 of the *Forest Park Natural Resources Management Plan*.
- b. The “**Approval Criteria for Exceptions**” including criteria **A through E in Section A.2** on page 217 of the *Forest Park Natural Resources Management Plan*.
- c. An alternatives analysis that satisfies Approval Criteria for Minor Amendments, Criterion C, and Approval Criteria for Exceptions, Criteria B and C, per above.
- d. Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District in PCC **Section 33.563.210 A, B, and C**.
- e. Description of potentially impacted natural resources within Resource Site FP2- Upper Harborton within the *Environmental Overlay Zone Map Correction Project, Volume 2, Part A1: Forest Park and Northwest District, Natural Resources Inventory and Protection Decisions*.
- f. Detailed Site Plans including an Existing Conditions Plan, a Proposed Development Plan, a Construction Management Plan, and a Mitigation/Planting Plan that clearly show the ordinary high-water line, mapped top of bank, and the Greenway Setback within the Proposed Project area. Description of geotechnical explorations (e.g., access installation, vegetation removal, borings) and how this work will be mitigated.
- g. The proposal is also subject to the prohibition of vegetation removal between October 1 and April 30 in PCC Section 33.563.200.

Conditional Use Review Approval Criteria:

- h. Approval Criteria in PCC Section **33.815.230 Rail Lines and Utility Corridors A and B**.

Greenway Review Approval Criteria:

- i. Approval Criteria in PCC Section **33.440.350.A**, including findings for each of the *Willamette Greenway Plan Design Guidelines*.
- j. Inclusion of potentially impacted natural resources within the *Lower Willamette River Wildlife Habitat Inventory*.

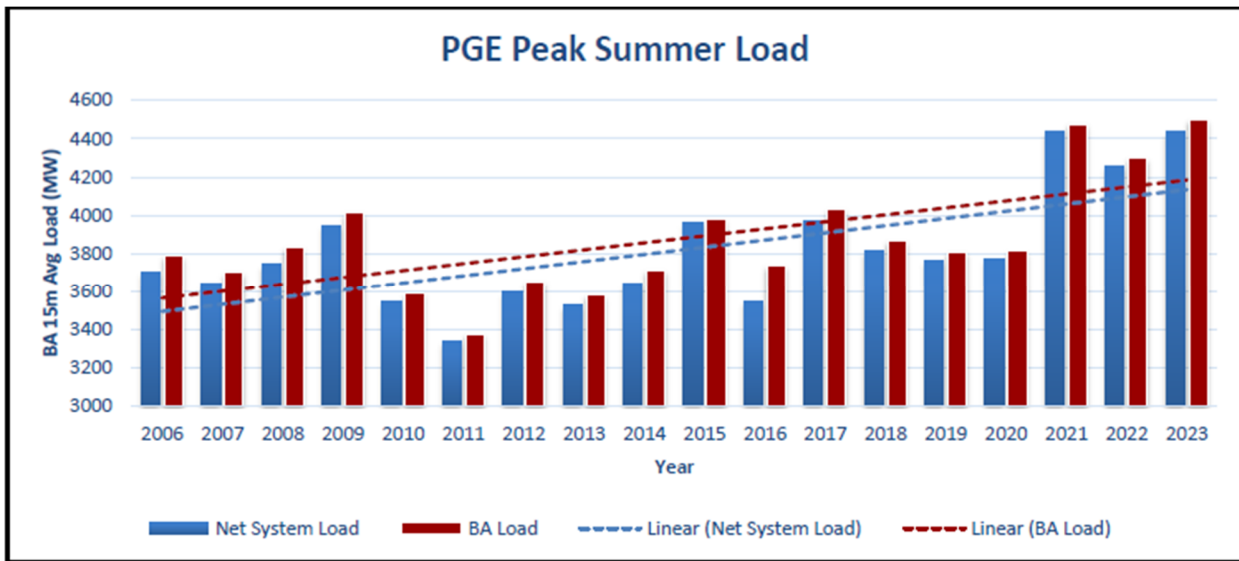
- k. Addressing how Greenway Development Standards will be met per PCC Section 33.440.230.

A3. Project Purpose and Need:

The primary purpose of the Proposed Project is to address urgently needed infrastructure improvements to maintain reliable power supply to the Portland Metropolitan Region by implementing transmission configuration improvements that address transmission vulnerabilities within PGE’s existing power grid around Northwest Portland. These improvements will meet the Portland Metropolitan Region’s growing need for electricity, particularly during increasingly warm summers; allow PGE to meet federal and PGE electrical transmission reliability standards; provide reliable electricity to homes and businesses; and reduce the likelihood of interruption in electrical service. Without these improvements, the need for rolling outages to protect the wider grid from instability will become increasingly likely every year.

Recently, electricity demand forecasts have increased substantially due to several factors, including vehicle electrification, peak summer temperature increases, increasing adoption of residential air conditioning, and industrial growth in the Portland Metropolitan Region. **Figure 4** below shows the growth in peak summer electricity loads in megawatts (MW) from 2006 to 2023 for the PGE system load and for the load that PGE is responsible for matching with generation and imported loads, which is known as PGE’s Balancing Authority (BA) load. Note that the actual loads served in the period from 2021 to 2023 are all 200 MW to 400 MW higher than those in any of the prior 15 years, including the prior peaks in 2009, 2015, and 2017.

Figure 4. Recent Growth of PGE’s Peak Summer Electricity Loads



Based on current power supply models, the current system configuration is insufficient to meet the peak demands forecast in 2028. Several recent articles highlight the concern with transmission capacity and the increasing peak power demand (Moore 2022). Due to the rapidly increasing demand for power, improvements are needed quickly to maintain a reliable grid and avoid highly detrimental power losses that are increasingly likely to occur during peak demand periods. Power disruptions can have substantial negative effects on the local community due to adverse impacts on the health, safety, wellbeing, and

economic productivity of the region—making reliable power a critical component of the regional infrastructure.

The Proposed Project updates are also needed for ongoing compliance with North American Electric Reliability Corporation (NERC) Standard TPL-001-5, which governs reliable transmission system requirements for U.S. electric utilities. Failure to comply with this standard would constitute a violation of a Federal Energy Regulatory Commission regulation, and PGE could be subject to penalties or sanctions assessed by FERC, NERC or WECC, the regional enforcement entity. FERC’s Office of Enforcement has consistently identified serious violations of the NERC Reliability Standards as one of its critical enforcement priorities. Since 2007, FERC has levied over \$850 million in civil penalties for violations of its regulations. Reconfiguration and reinforcement of PGE’s existing transmission system are necessary to relieve system stress, enhance capacity, and provide safe and reliable electric service to PGE customers in North and Northwest Portland and populations centers in the western Portland Metropolitan Region. This reconfiguration and reinforcement will further PGE’s ability to meet Oregon’s mandatory clean energy targets by 2030.

To address the above needs, PGE identified the following transmission and planning objectives:

1. Eliminate PGE’s current three-terminal transmission configuration, which constrains transmission capacity, limits the transfer capacity, and requires a Remedial Action Scheme¹ to maintain operation of the highly constrained transmission path between BPA’s Allston Substation and the Portland Metropolitan Region.
2. Increase operational and maintenance flexibility for scheduled outages or severe events.
3. Provide a redundant 230 kV power supply into the Harborton Substation to create a stronger and more reliable power source for several other Northwest Portland substations.
4. Resolve current constraints prior to 2028, when projected peak demands are anticipated to exceed current transmission capacity between PGE’s Trojan Substation and locations around the Portland Metropolitan Region. To prevent events that can cascade into widespread regional outages, NERC TPL-001-5 requires PGE to operate “reliably over a broad spectrum of System conditions and following a wide range of probable Contingencies.” If sufficient spare transmission capacity does not exist—for instance due to very high loads—and an unplanned outage occurred on key transmission equipment, one step PGE may need to take to protect grid reliability is forcing outages to customers (also called load-shedding, load curtailment, or rolling blackouts).

Further background and context for these objectives are provided in the Alternatives Analysis for the Proposed Project (see Appendix C).

The following criteria were developed to evaluate alternatives for their ability to meet the four planning objectives described above (referred to herein as “Criteria 1 through 7”):

1. Project must deliver secondary 230 kV power source to Harborton Substation to enable reliable, redundant supply of power for Northwest Portland.

¹ A scheme designed to detect predetermined system conditions and automatically take corrective actions, as defined by the Federal Energy Regulatory Commission.

2. Project must fully resolve transmission vulnerabilities associated with current three-terminal Horizon-St Marys-Trojan 230 kV line.
3. Project must minimize cost impact to PGE ratepayers.
4. Project should improve the regional transfer level and provide infrastructure necessary to support projected demands in the current (through 2030) and subsequent (2030–2040) planning horizons.
5. Project must utilize equipment that is consistent with PGE’s design standards and maintenance operations and that does not elevate the risk of catastrophic hazards.
6. Project must meet federal, regional, PGE, and state reliability standards and must be operational no later than the end of 2027, before the standards are projected to be violated.
7. Project must minimize the environmental impact to the extent practicable.

A4. Alternatives Considered:

David Evans and Associates, Inc. worked with E2I, an independent transmission planning consultant, to prepare an alternatives analysis for the Proposed Project, with the goal of identifying any feasible alternatives that would avoid or minimize impacts to Forest Park. The Alternatives Analysis (see Appendix C) began by defining the geographic limits of the analysis and the project-specific evaluation criteria (listed above in Section A3) that are tied to the purpose and need. Based on these criteria, multiple alternatives were evaluated and ranked to determine one or more alternatives to carry forward for further analysis. The following discussion summarizes the five alternatives that were assessed in detail for feasibility. The Alternatives Analysis (Appendix C) provides more detail on each of the alternatives. **Table 1**, below, is from the Alternatives Analysis. It summarizes the ranking of the five most practical alternatives against the evaluation criteria.

Alternative 1: Only Use Existing Towers: This alternative evaluated conversion of the idle St. Marys-Wacker 115 kV line to 230 kV and connection of the line to PGE’s Evergreen Substation at Springville Junction. However, a power flow analysis for this configuration showed that for the summer loading that is predicted by 2028, this alternative would result in heavier loading of the 115 kV system and would cause overloads on 230 kV/115 kV transformers at St Marys and on the local 115 kV lines that support loads, including critical loads such as those needed for public transit. A preliminary cost analysis suggests that the extra costs of upgrading transformer capability and 115 kV lines made necessary if a Trojan-Evergreen 230 kV line is not looped into Harborton Substation could be upwards of \$131 million. Alternative 1 would also require several tower replacements and a new conductor, thus adding cost and time to the schedule. While Alternative 1 might have the least impact to vegetation in Forest Park, it would worsen rather than improve the problems of overloading and limited capacity for electricity transmission. This alternative would limit the switching flexibility, reduce the capacity, and increase the impact of a common tower outage, and would not balance the flow on the circuits out of the Trojan Substation to the south. Alternative 1 does not meet Criteria 2, 3, 4, and 6 and is therefore not practicable.

- **Construction cost: Minimum of \$20 million - \$40 million and up to \$131 million**
- **Development and construction timeline: More than three years (i.e., likely violation of federal reliability standards)**
- **Area of vegetation impact: Approximately 1 acre**

Alternative 2: NW Marina Way/Forest Park Avoidance: As described in the Alternatives Analysis (Appendix C), a review of alternative alignments for 230 kV routes around Forest Park conducted by Toth and Associates in 2022 found substantial impediments with transmission line routing options outside of Forest Park in the vicinity of the Harborton Substation, making any alternatives outside of Forest Park highly challenging. These impediments include a lack of available path, easement/right of way limitations that would significantly delay these urgently needed improvements, and poor geotechnical conditions that could require specialized foundations and increase construction disturbance areas near sensitive resources. Identifying, designing, and securing easements for this route would be necessary before the 230 kV segment could be installed and would require siting an existing 115 kV transmission line along NW Marina Way in a different location, if one can be found. PGE commissioned a study to look at how a route that avoids some of the impacts to Forest Park could be established along NW Marina Way north of the City of Portland city limits. PGE went so far as to query landowners about their willingness to grant new easement for a new transmission line along NW Marina Way. Responses received by PGE’s Property Rights Group indicated strong community opposition to required tower construction through this area for this alternative, which would seriously delay the needed improvements.

Moving forward with this alternative would likely require PGE to condemn property, which would require PGE to seek a Certificate of Convenience and Necessity (CPCN) from OPUC. Obtaining a CPCN involves submission of an extensive filing and then the OPUC must conduct its own investigation to determine the necessity, safety, practicability, and public interest justification for the proposed transmission line. In the CPCN proceeding, PGE would need to show that the route is practicable and feasible, that the project benefits the public, and that the costs justify the project. Given PGE’s existing Utility ROW in Forest Park and because this alternative is more costly than the Proposed Project, impacts more property owners, and has environmental impacts that would extend beyond Forest Park, PGE has serious concerns about the likelihood OPUC would approve issuing a CPCN. This alternative would also still involve reconstructing portions of PGE’s existing transmission lines in Forest Park, so some impacts to park resources would still be necessary. Costs for this alternative include 1.38 miles of new double-circuit 230 kV line, removal of approximately 0.5 mile of existing 115 kV line, and construction of a new 115 kV line (assumed to be single-circuit overhead construction). Even if the route were to be approved by the OPUC, the cost would be approximately \$26 million and this estimate does not include land acquisition. This alternative does not meet Criteria 3 and 6 and provides very little, if any, reduction in environmental impact. It is therefore not practicable.

- **Construction cost: \$26 million (plus unknown property acquisition costs)**
- **Development and construction timeline: More than three years (i.e., likely violation of federal reliability standards)**
- **Area of vegetation impact: Approximately 3 acres to 4 acres**

Alternative 3: Use 4-circuit Structures: Although NERC and other standards permit 4-circuit structures for short distances, PGE’s internal design practices do not allow for this configuration for safety reasons. To maintain a 4-circuit structure, PGE must de-energize all lines associated with that structure which could result in significant power outages for a large number of power customers. A failure that removed all the supply from the north and west of the Harborton Substation would need to be addressed quickly, possibly resulting in severe outages and significant damage in the right of

way that could be long lasting or permanent. High impact, low probability events are recognized by the standards as “Common Structure” failures. PGE’s standards do not allow these risks of failure to be added to its power system. If developed, the higher risk associated with the 4-circuit structures would require substantially larger foundations and wider area of vegetation removal than conventional 2-circuit structures. The impact on the forest would not be reduced so substantially that it would warrant the higher impact on customers during any planned maintenance outage. Further, it is uncertain whether a 4-circuit structure can cross over the existing BPA/St. John’s transmission line with sufficient line separation, nor whether foundations can be designed without substantial hill cuts to meet geotechnical stability requirements. Alternative 3 does not meet Criteria 2, 5, and 6 and is therefore not practicable.

- **Construction cost: \$10 million**
- **Development and construction timeline: More than three years (i.e., likely violation of federal reliability standards)**
- **Area of vegetation impact: Approximately 2 acres**

Alternative 4: Use Tall Structures: BPA and PGE operate very tall lattice towers south of the Harborton Substation along the Willamette River shoreline supporting transmission crossings. The BPA lines avoid placing transmission structures in the forested lower hillslope near the east boundary of Forest Park by connecting directly to towers at the top of the hill. This configuration reduces the need for frequent tree removal in the lower hillside in Forest Park. While this high span works well in the case of BPA’s lines, the arrangement is more complicated for PGE because wires need to descend to connect at Harborton Substation, which sits only a few feet above river elevation. New taller structures at the top of the hill in Forest Park would have much larger basal footprints and the civil infrastructure to access and build these taller structures would be larger than what would be needed for tubular steel pole construction. The impact of very tall structures would ripple down the existing transmission line to the west in Forest Park, necessitating replacement or raising of additional existing structures to gradually bring the wires back to a conventional height. Looking east, down the hill, PGE’s transmission easement is aligned to the river crossing, not for direct connection into Harborton Substation. Therefore, crossing directly into Harborton from the top of the hill in Forest Park would require new easements from the City. This would require vegetation removal for construction and tree removal in the upper half of the hill. The area subject to tree removal would be wider than existing corridors, because longer spans also sway further laterally in the wind. It is also not clear that sufficient land exists at the substation to accommodate new very tall towers and step-down structures. The cost of very tall towers is substantial. Existing cost metrics are unavailable due to the unique nature of these structures, but it is presumed that costs would be at least double that of an alternative that used more conventional steel poles to achieve the same routing configuration (i.e., \$20 million). Alternative 4 does not meet Criteria 3, 5, and 6 and has very limited, if any, reduction to the acres of forest habitat alteration that would be required compared to Alternative 5. Therefore, this alternative is not practicable.

- **Construction cost: \$20 million**
- **Development and construction timeline: More than three years (i.e., likely violation of federal reliability standards)**
- **Area of vegetation impact: Approximately 3 acres to 4 acres**

Alternative 5: Reconfigure Harborton 230 kV Routing within Utility ROW in Forest Park: This alternative would reconfigure the existing three-terminal line by redirecting the line at Tower 2997 in Forest Park and routing the line from Trojan Substation into Harborton Substation, thus providing an additional 230 kV power supply to Harborton Substation. To accomplish this change, the existing but idle St Marys-Wacker 115 kV line would be removed, and the lower pole in this existing segment would be replaced and its location shifted south to allow the new and existing Harborton-Trojan 230 kV lines to angle into Harborton Substation. This alternative would then use the existing Utility ROW to add a new 1,400-foot-long segment of transmission corridor in a portion of Forest Park. This new 1,400-foot segment would be aligned parallel to, and between, existing PGE and BPA transmission lines. It would contain two new steel poles that would carry two separate 230 kV transmission lines. The 1,400-foot segment would connect the Harborton Substation with PGE's existing 230 kV transmission corridor within Utility ROW in Forest Park west of existing Tower 2996 (see

Figure 2 above). The existing transmission line and associated towers would be repurposed to serve two dedicated, two-terminal lines between the Harborton Substation and PGE's St Marys Substation in Beaverton and PGE's Evergreen Substation in Hillsboro. The alternative would result in three new two-terminal lines: (1) Harborton-Trojan 230 kV No. 2 line, (2) Harborton-Evergreen 230 kV line, and (3) Harborton-St Marys 230 kV line.

This configuration is a minimization alternative that sought to reduce habitat impacts in Forest Park relative to the initial proposal presented in PGE's application for an Early Assistance meeting (EA-22-142445). After reducing the scale of the proposal to only one new 1,400-foot-long transmission corridor segment, PGE consulted with an arborist to review each tree for opportunities to minimize forest impacts. This alternative would provide greatly enhanced reliability, redundancy, maintenance/outage flexibility, and routing options for load levelling, thus addressing the identified capacity and system vulnerability deficiencies. Because this alternative would construct all utility infrastructure entirely within existing Utility ROW, no additional land acquisition would be required, and the timeline for providing the needed upgrades to the grid would be expedited. Keeping the construction work for this alternative within existing Utility ROW would also confine vegetation impacts to a forest patch that is contained within existing transmission corridors and would, therefore, avoid further fragmentation of forest habitat to the north and south of existing Utility ROW. PGE further refined the design of this alternative to use two rather than three new poles for the new 1,400-foot segment, and to design a taller pole, which creates space for taller short-stature but high-value native woodland habitat in the Utility ROW. Finally, because the related work would be kept within a relatively small area inside existing Utility ROW, this alternative could be constructed for a fraction of the cost of several other alternatives evaluated. Alternative 5 best meets all the project criteria and is the Proposed Project.

- **Construction cost: \$10 million**
- **Development and construction timeline: Within the next three years**
- **Area of vegetation impact: Approximately 4.7 acres**

Table 1. Summary of Alternatives for the Proposed Project

Criteria	Alternatives				
	1. Use Existing Towers	2. NW Marina Way/Forest Park Avoidance	3. Use 4-Circuit Structures	4. Use Tall Structures to Minimize Forest Impact	5. Reconfigure Routing in Existing Utility ROW in Forest Park
1. Project must deliver additional 230 kV power source to Harborton	Yes	Yes	Yes	Yes	Yes
2. Project must fully resolve transmission vulnerabilities associated with current three terminal Horizon-St Marys-Trojan 230 kV line	No	Yes	No	Yes	Yes
3. Project must minimize cost impact to PGE ratepayers. Alternatives should cost similarly or less than preferred alternative to score for this criterion	No (\$131M)	No (\$26M)	Yes (~\$10M)	No (~\$20M)	Yes (\$10M)
4. Project should improve the regional transfer level and provide infrastructure necessary to support projected demands in current planning horizon	No	Yes	Yes	Yes	Yes
5. Project must utilize equipment that is consistent with PGE design standards and maintenance operations	Yes	Yes	No	No	Yes
6. Project must be operational in three years to meet demand and federal reliability standards; standards are projected to be violated in 2028	No	No	No	No	Yes
7. Minimize the Environmental Impact (Measured as acres of vegetation removal)	~ 1 acre (possibly more depending on number of towers to be replaced)	3-4 acres	2-3 acres	2-3 acres	4.68 acres
NOTE:	Meets Criterion	Does Not Meet Criterion			

Conclusion

Alternative 5 (Reconfigure Harborton 230kV Routing within Utility ROW in Forest Park) best meets all required evaluation criteria and is the only feasible alternative that will allow a solution to be implemented in time to prevent negative repercussions on grid reliability.

A5. Existing Site Conditions:

The total project site² contains 16.15 acres, which includes a portion of the Harborton Substation property. Of this, 11.72 acres of the project site occur within existing Utility ROW within Forest Park. Within Forest Park, the Proposed Project will affect approximately 4.7 acres of existing forest habitat.

² This narrative refers to areas within the limits of proposed disturbance as the “project site” and refers to the local vicinity of the project site (e.g., Resource Site FP2- Upper Harborton within *Volume 2, Part A1: Forest Park and Northwest District, Natural Resources Inventory and Protection*) as the “project area.” The limits of disturbance for the Proposed Project site boundaries are depicted on land use application Exhibits D through G.

The Proposed Project will use and repair 16,530 linear feet (5.94 acres) of existing roads within the park. The Proposed Project will construct 2,998 linear feet (1.21 acres) of temporary access roads and temporary work areas during construction, in areas both inside and outside of Forest Park.

Zoning:

The project site is within Portland’s Open Space (OS) and Heavy Industrial (IH) base zones. Overlay zones include: Environmental Protection (p), River General (g), Prime Industrial (k), River Water Quality (q), River Industrial (i), and River Natural (n), as well as the Northwest Hills Plan District. The Project is also within Portland’s FP NRMP area, which has specific environmental and open space regulations unique to Forest Park.

The **Open Space** base zone is intended to preserve public and private open and natural areas to provide opportunities for outdoor recreation and a contrast to the built environment, preserve scenic qualities and the capacity and water quality of the stormwater drainage system, and protect sensitive or fragile environmental areas. No new uses are proposed within the OS base zone, and the provisions of the zone do not apply to the proposal.

The **Heavy Industrial** base zone provides areas where all kinds of industries may locate, including those not desirable in other zones due to their objectionable impacts or appearance. Specific allowable uses include: manufacturing, warehouse and freight movement, wholesale sales, industrial service, railroad yards, and utility corridors.

The **Prime Industrial overlay zone** is intended to protect land that has been identified in the Comprehensive Plan as Prime Industrial, and to prioritize these areas for long-term retention. The regulations protect these areas by preventing, or requiring an off-set for, conversion of the land to another zone or use that would reduce industrial development capacity.

Environmental overlay zones protect environmental resources and functional values that have been identified by the City of Portland as providing benefits to the public. The environmental regulations encourage flexibility and innovation in site planning and provide for development that is carefully designed to be sensitive to the site’s protected resources. They protect the most important environmental features and resources while allowing environmentally sensitive urban development where resources are less sensitive.

Greenway overlay zones include River General (g); River Water Quality (q); River Industrial (i); River Natural (n); and River Water Quality (q).

The Greenway regulations are intended to:

- Protect, conserve, enhance, and maintain the natural, scenic, historical, economic, and recreational qualities of lands along Portland’s rivers.
- Establish criteria, standards, and procedures for the development of land, change of uses, and the intensification of uses within the greenway.
- Increase public access to and along the Willamette River for the purpose of increasing recreational opportunities; providing emergency vehicle access; assisting in flood protection and control; providing connections to other transportation systems; and helping to create a pleasant, aesthetically pleasing urban environment.

- Implement the City’s Willamette Greenway responsibilities as required by Oregon Revised Statutes 390.310 to 390.368.
- Implement the water quality performance standards of Metro’s Title 3, which are intended to protect and improve water quality to support designated beneficial water uses, and to protect the functional values of the water quality resource area, which include: providing a vegetated corridor to separate protected water features from development; maintaining or reducing stream temperatures; maintaining natural stream corridors; minimizing erosion; minimizing nutrient and pollutant loading into water; providing for filtering, infiltration, and natural water purification; and stabilizing slopes to prevent landslides contributing to sedimentation of water features.

The **River General (g) overlay zone** allows for uses and development that are consistent with the base zoning, which allow for public use and enjoyment of the waterfront and which enhance the natural and scenic qualities of the river.

The **River Industrial (i) overlay zone** encourages and promotes the development of river-dependent and river-related industries, which strengthen the economic viability of Portland as a marine shipping and industrial harbor, while preserving and enhancing the riparian habitat and providing public access where practical.

The **River Natural (n) overlay zone** protects, conserves, and enhances land of scenic quality or of significant importance as wildlife habitat.

The **River Water Quality (q) overlay zone** is designed to protect the functional values of water quality resources by limiting or mitigating the impact of development in the setback.

The **Northwest Hills Plan District** includes the Balch Creek Watershed and the Forest Park Subdistrict, which contain resources and functional values that require additional protection beyond that of the environmental overlay zones, and there are related regulations that provide the higher level of protection necessary for the plan district. Compliance with these regulations is addressed in this application.

The **Forest Park Natural Resources Management Plan** presents a set of goals and actions designed to guide management of natural resources and recreational uses of the park. The plan recognizes that Forest Park is threatened by overuse unless recreational activities are actively managed and directed. The plan is a multipurpose plan designed to identify and assess Forest Park natural resources; identify impacts to Forest Park natural resources; prescribe how to protect and enhance Forest Park natural resources; identify appropriate forms and levels of recreation and education for Forest Park; monitor natural resources and provide day-to-day management and public information; and satisfy the City’s criteria for natural resource management plans.

Environmental Resources:

Forest Park is on the eastern edge of the Western Hemlock Vegetation Zone, the most extensive vegetation zone in western Oregon and Washington (PP&R 2011a). Although it is not considered a climax species, Douglas fir (*Pseudotsuga menziesii*) often dominates forests in this zone, even in old-growth stands. Forest Park has a significant history of disturbance by fires, logging, and development. The project area, and most other areas of Forest Park, are typical of second-growth Douglas fir forest in the

region (PP&R 2011a). Ninety-nine percent of the park is forested, and three-quarters of the park is composed of mixed conifer-deciduous forest, while one-quarter of the park is dominated by conifers. Oregon white oak (*Quercus garryana*) and other species more typical of the Willamette Valley Vegetation Zone are also present but account for less than 1% of total forest cover. These species are largely restricted to areas adjacent to the project site that are outside the utility corridor on the eastern edge of the park.

The Proposed Project will impact areas located in Resource Site FP2 – Upper Harborton, described within the Forest Park and Northwest District Natural Resources Site Inventory (2022) as follows:

The vegetative community is predominantly second growth forest with representative stands of each seral stage of the western hemlock upland forest community. Structural diversity of the forest is generally high, though certain areas along the power line right-of-way and Newton Road lack development of multi-layered canopies. The conifer-topping hardwood and mid-aged conifer stages of forest succession are widespread; climax species such as western hemlock, western red cedar and pacific yew are well established. Forest cover protects watershed resources, serves as habitat for wildlife and provides open space, scenic and recreational resources. Snags, downed logs, and woody debris found at the site are critical structural and functional components of the watershed ecosystem. English ivy has spread into the maples and firs near Highway 30.

*This resource site includes some Oregon white oak woodland/mixed forest, which is an infrequent habitat type in the city. It includes species such as *Viburnum ellipticum* and *Toxicodendron diversilobum* as dominant shrub layer components, as well as numerous less common herbaceous species. Other rare plant species found within the site include *Cirsium brevistylum*/Indian thistle, *Cirsium edule*/Edible thistle, *Clarkia amoena*/Farewell-to-spring (PP&R City Nature staff observations, using “Urbanizing Flora of Portland, Oregon 1806-2008”).*

The site inventory’s description of Site FP2 generally matches what was observed within the project site during field surveys conducted by David Evans and Associates, Inc. in 2023, except that very few western hemlocks, snags, or downed woody debris were observed in the forest stand that would be affected by the Proposed Project. Site FP2 provides food, water, and cover habitat for a broad range of birds including Oregon junco, rufous hummingbird, bushtit, stellar jay, and robin. The site provides feeding and breeding habitat for red-tailed hawks and osprey, which occasionally nest nearby along the river and use tall trees in the resource area for perching. Interspersion between forest habitat and shrub-dominant and herbaceous areas within the Utility ROW results in ecotones, which are transitional areas between different structural habitat types that support a larger and more diverse assemblage of wildlife. Because of this interspersion of habitats, the area likely supports a diverse assemblage of native wildlife.

Site FP2 includes free-flowing seasonal creeks that feed wetland areas northeast of U.S. Highway 30. The site consists of approximately 119 acres, of which approximately 87% (104 acres) is open space. Of this, approximately 107 acres of the site are vegetated (82.2 acres forested and 24.9 acres woodland). Of the approximately 119 acres of Site FP2, nearly 90% of it is considered to be ranked Class I/A quality for natural resource function, which correlates to high quality wildlife and riparian areas according to Metro Title 13 Goal 5 criteria. It should be noted that the Site FP2 inventory generally categorizes the maintained utility lines as “woodland.”

A6. Construction Management Plan:

Impact Minimization

In general, the goal during construction is to disturb as little ground as practical, stabilize any disturbed area as quickly as possible, manage fire risk, control drainage through the area, and contain sediment and other construction debris onsite. The Proposed Project would be implemented over the smallest footprint practicable, and work would occur only within clearly defined limits of disturbance. The size of proposed staging areas has been minimized as much as practical while still providing adequate area away from streams or drainages to park equipment (including vehicle fueling equipment) and store materials.

Forest Park is the largest natural area within a city in the continental United States, and it provides for recreational activities, environmental research, and educational discovery. As such, PGE understands that it is important to tread lightly when completing necessary infrastructure maintenance and upgrades. The Proposed Project has been designed such that the location of the most disturbance-intensive activities is within an area isolated by existing electrical transmission lines on all sides, which is already regularly maintained to keep vegetation low-growing. This placement of activities avoids further habitat fragmentation outside of the existing Utility ROW. Specifically, the following items will be included as part of the Proposed Project's Construction Management Plan:

- The Proposed Project limits of disturbance will be clearly marked on construction plans and in the field to delineate areas where no work, storage of materials, or disturbance will occur. This will include tree protection markers/signage placed on stakes 6 feet in height and placed every 40 feet along the boundary of the disturbance limits around forested areas.
- Public access, signage, and traffic control plans will be submitted.
- Potential impacts to surface and drainage conditions of access roads will be evaluated and mitigated for, and best management practices (BMPs) will be maintained throughout the duration of Proposed Project construction. While rehabilitating existing roads, PGE will include water bars to minimize destructive drainage scour that has affected existing roads. This will improve access conditions for emergency park vehicles over the long term.
- BMPs for heavy equipment diapering and storage and containment of petroleum products will be implemented, including observation of a required minimum buffer of 50 feet between such activities and water bodies.
- A Proposed Project-specific Fire Prevention Plan and fire protection measures will be developed and implemented in coordination with PP&R. Typical wildfire BMPs will include:
 - Work planning and scheduling based on actual forecast fire conditions (daily and hourly), including wind speed, relative humidity, and temperature.
 - Fire suppression equipment for all crew members on vehicles.
 - Water trailers and hoses staged onsite.
 - Special controls on the use of spark-generating equipment and activities.
 - Water tanks onsite and pumps for fire suppression.
- Construction crews will carpool from outside of Forest Park to the jobsite in order to reduce traffic within the park as much as practical.
- To minimize soil compaction, equipment will be staged on existing access roads, matting, or brush pile roads.

- Where access must cross over exposed tree roots, 6 inches of mulch or similar buffering material will be placed over roots to avoid root damage for preserved trees.
- In areas affected by logging or grading where slopes are greater than 2:1, a bonded fiber matrix with tackifier and native erosion control seed will be placed over unvegetated soils to provide slope stability and reduce erosion. This fiber matrix allows for infiltration but prevents the development of scour or slope failure on steep slopes.

In addition, the Proposed Project design will use tall utility monopoles, in part to minimize impacts to the park. Using utility monopoles that are slightly taller than the existing towers will reduce the number of poles needed, avoid ground disturbance that would otherwise be required for installation of more poles or towers, and allow for the establishment of taller trees than would otherwise be allowed to continue growing in the margins of the utility corridor. Additional impact minimization and mitigation measures are outlined below and in Appendix D (Habitat Mitigation Plan). See **Table 2** for a general timeline of construction and restoration efforts and the associated equipment used.

Construction will comply with and implement the City of Portland guide, *Protecting Nesting Birds: Best Management Practices for Vegetation and Construction Project (2022)*. Per the Northwest Hills Plan District, activities that expose soil to direct contact with stormwater between October 1 and April 30 are prohibited in Forest Park. Due to this moratorium, the construction window in the park is limited. As a result, PGE will need to work within all available construction windows, including those that occur within the bird nesting season (April to August). Nesting bird surveys will be conducted within the proposed work areas before any construction occurs. If nests are observed, ongoing monitoring will be conducted, and coordination with the U.S. Fish and Wildlife Service/Oregon Department of Fish and Wildlife and the City will occur to confirm the appropriate buffer distances and allowable actions. The Proposed Project will follow and comply with PGE's Fire Hazard Reduction Standards and the City's Fire Safety Restrictions for Staff and Contractors. PGE will work with PP&R so that required construction activities and fire danger levels are monitored and activities are adjusted as needed throughout site preparation and construction activities.

To provide long-term improvement in wildfire risk reduction, PGE will manage timber debris to minimize fuel sources, particularly for combustible materials (e.g., all brush piles will be removed). Wood left onsite to provide ecological benefits will be delimited and placed in contact with the soil at dispersed sites throughout the disturbance limits/revegetation area. To reduce fuel sources, habitat logs will not be stacked or placed in groups. Dead trees in the wire zone will be removed, thus additionally reducing fuel sources. The Proposed Project will improve highly degraded existing gravel access roads, resulting in improved access conditions for fire crews to all areas served by the BPA road. Additionally, the area will continue to be actively monitored over the long-term using PGE's existing 360-degree artificial intelligence-enabled camera network, which can spot smoke early and share location information with local fire agencies in real time.

Some construction-related activities, such as maintenance of gravel access roads and work pads, as well as line work (setting poles, modifying towers, installing conductor, removing conductor and structures) will go through multiple cycles as work continues and planned outages (de-energizations) are taken on different lines. This work is scheduled to occur within the allowed construction window of May 1 to September 30. For work on towers, including wiring, work may occur outside of that construction

window using established access roads and work pads because no soil disturbance would occur. The approximate sequence of construction would be as follows:

1. Make access road improvements for tree removal/topping.
2. Conduct forestry work.
3. Build access roads and work pads.
4. Install foundations (excavation and concrete pouring).
5. Install steel poles on foundations.
6. Reinforce existing lattice towers.
7. Remove existing conductor and structures.
8. Install new conductor.

Table 2. Approximate Construction Schedule and Associated Equipment (listed in sequence)

Year 1 Construction Season: May 1 – September 30, 2025	
Construction Activity Sequence	Construction Equipment Used
All construction phases	<ul style="list-style-type: none"> • 500-gallon mobile water tank for fire suppression within 400 feet of any active work site. • Portable toilet on mobile trailer parked on gravel roads near active work area. • Equipment trailer. • Pickup truck for contractor (2), inspector (1), and PGE (up to 2).
Logging road improvements	Bulldozer; logging excavators (2), tractor, long-bed truck for log hauling (50-foot trailer), contractor 4x4 pickup trucks (2)
Tie/anchor treetops for safe felling	Pickup trucks (2)
Forestry work (tree topping, felling, logging, processing, grubbing, and haul out)	Bulldozer, bucket truck, crane, excavator, flatbed truck, wood chipper, single feller buncher, bobtail dump trucks, shovel logger
Improve existing gravel roads to address ruts and other water damage	Bulldozer, excavator, flatbed truck, dump truck, front loader, 1-ton truck, side-by-side/4-wheeler
Grade work pads around future work sites	Bulldozer, excavator, flatbed truck, dump truck, front loader, 1-ton truck, side-by-side/4-wheeler
Excavate hole for foundation	Excavator, drill, boom truck/crane, digger derrick, flatbed truck, dump truck, front loader, 1-ton truck, side-by-side/4-wheeler, equipment trailer, vac truck, spoils pan, forklift
Set/pour foundations	Bulldozer, excavator, drill, boom truck/crane, concrete truck, concrete pump truck, flatbed truck, dump truck, front loader, 1-ton truck, side-by-side/4-wheeler, equipment trailer, vac truck, spoils pan, forklift, helicopter
Site stabilization (complete by September 30) and revegetation (planting work is not considered “development” and may extend from October to February using hand tools)	Excavator, material trailer, quads (2), pickup trucks (2), hand tools

Table 2. Approximate Construction Schedule and Associated Equipment (listed in sequence)

Year 2 Construction Season: May 1 – September 30, 2026	
Construction Activity Sequence	Construction Equipment Used
Bolt on/construct new steel poles	Crane, flatbed truck, side-by-side/4-wheeler, 1-ton truck, material trailer, digger derrick/boom truck, bucket truck, helicopter, water truck/buffalo if needed
Pull wire, including wire work in Harborton Wetland (south of substation)	Crane, flatbed truck, side-by-side/4-wheeler, 1-ton truck, material trailer, digger derrick/boom truck, bucket truck, conductor reel trailer, V-groove puller, wire tensioner, helicopter, drone, water truck/buffalo if needed
Tension/tie	Crane, V-groove puller, wire tensioner, side-by-side/4-wheeler, 1-ton truck, material trailer, bucket truck, water truck/buffalo if needed
Reinforce existing lattice towers; remove existing conductor and structures; install new conductor	Crane, flatbed truck, side-by-side/4-wheeler, 1-ton truck, material trailer, digger derrick/boom truck, bucket truck, conductor reel trailer, V-groove puller, wire tensioner, helicopter, drone, water truck/buffalo if needed
Site stabilization (complete by September 30) and revegetation (planting work is not considered “development” and may extend from October to February using hand tools)	Excavator, material trailer, quads (2), pickup trucks (2), hand tools

Staging Plan

In general, large equipment construction materials will be staged outside of Forest Park and only brought into the park when needed. Wood chipping equipment and resulting wood chips will also be staged outside of the park. Some of the woodchips would be used for the Proposed Project in Forest Park for erosion control, root protection, and mulching associated with revegetation efforts. Within Forest Park, staging of materials during active construction will occur on existing roads or within the limits of grading areas identified in the Construction Management Plan (Exhibit F). Overnight staging will be required for larger equipment (such as the drill rig needed for excavation/boring).

Logging Plan

Due to the type and size of trees, and proximity to high voltage powerlines, the use of mechanized logging equipment is necessary. Manually climbing, cabling, and lowering log sections involves serious worker and public safety risks. Instead, cable-assisted tether machines will secure trees and lower them to the ground, and a feller buncher will move logs around the site. These machines are the smallest and lightest weight equipment practical, and are well suited for the steep terrain compared to the challenges of securing and supporting heavier equipment.

Access to the logging work area will be provided by existing utility access roads above and below the logging area within the existing Utility ROW. Two southwest-northeast heavy logging equipment haul routes will be established along the outsides of the logging area (see Exhibit E, Proposed Development Plan). These 20-foot-wide logging haul routes will be constructed as brush pile roads in order to limit soil disturbance. Brush or “slash” will be generated from freshly cut small limbs and similarly sized vegetation and used to cover soil for the logging haul routes. From the heavy equipment haul routes, lighter trucks

will circulate in the central forest stand using two temporary circulation routes to tie and chain felled trees. This lighter circulation traffic will require two temporary stream crossings and will cross the otherwise unaffected central forest stand that will remain after logging (and that is noted as a “No Work Area” on Exhibits E (Proposed Development Plan) and Exhibit F (Construction Management Plan)). Circulation and stream crossings are necessary so that logging equipment can maneuver safely on the steep terrain. To avoid impacts to trees, the north-south circulation routes in the forest preservation area will be aligned in the field to avoid trees (i.e., field fit), and 6 inches or more of bark mulch will be placed over all exposed roots.

Log decking areas will be established at the top and bottom of the slope adjacent to existing roads (see Exhibits E and F). Felled logs will be pulled up and down to the decking areas for processing. Timber bridges will be installed over the stream for temporary access. Felling will be accomplished by hand crews and a single feller buncher, which can cut and move the trees, thus limiting the amount of extra handling. Felled trees then will be processed by a shovel logger, which will transport and swing logs to the temporary forest road, reducing the need for skidding or unnecessary ground disturbance. For material that will not be retained onsite, bobtail dump trucks will be used to transport logs and slash from the work area to the staging area at the bottom of the slope or across U.S. Highway 30 to the Harborton Substation for final loading and chip processing. Ten percent of the felled trees will be limbed and moved back up the slope and placed throughout the affected area, including approximately 38 logs in total having a 12- to 20-inch diameter at base and a 20-foot length. Of these, four to six logs would be placed along the streambanks in dispersed locations and the remainder spread throughout the affected area, also in dispersed locations (no stacking). These logs would be placed in contact with soils for habitat enhancement purposes (e.g., nurse logs, slope stability, flow dispersal, and habitat niches). By placing it in contact with soils and spread out, this woody material is unlikely to result in an increased fire hazard. Last, the temporary brush pile haul routes and timber bridge planks will be removed and made ready for native revegetation. Brush will be hauled offsite to reduce fire hazards.

Access Road and Powerline Construction

As noted elsewhere, PGE’s use of monopoles rather than new lattice towers avoids the impacts associated with the wider base of lattice steel towers of the same height. Monopoles have a much smaller footprint and are created by stacking sections together to reach the final structure height. To contain construction traffic to existing access roads and help reduce work area sizes (i.e., staging pole sections and crane size), PGE will use shorter than typical bolted flange-style monopoles rather than a more common slip joint-style pole. A slip joint-style pole requires longer individual sections that overlap with preceding sections for structural integrity. These longer sections need a longer turning radius for trailers, which would result in more road work and associated tree removals to haul the longer pole sections to the site, particularly at tight bends in the existing roads. The bolted flange sections will be further optimized for section weight so smaller cranes can be used to hoist them into position. These design modifications will allow for work to occur primarily on existing access roads, thus minimizing adjacent tree removals.

The steep and varied terrain is a challenge to creating access to the new structure locations and safe work areas around them. From U.S. Highway 30, construction access will be established along BPA Road to the lower two poles (new SP-3 and relocated SP-2999). Intermittent lane closures on the highway will be needed as equipment is delivered to the area and unloaded. The closures will be permitted and

coordinated with the Oregon Department of Transportation (ODOT) per normal practice. The route along BPA Road involves a hairpin turn in the vicinity of several large oak trees. PGE's initial land use application proposed remaining within the limits of the existing BPA Road, which would have required removal of two oak trees to create clearance for equipment and materials to negotiate this sharp turn. Based on feedback from PP&R and working closely with City staff, PGE revisited this plan and determined the roadway could be widened away from the mature oaks to avoid their removal. The widening does not impact other large trees but does impact a disturbed herbaceous area. These temporary impacts will be restored and the roadway returned to its existing configuration at the end of Proposed Project construction.

Access to the upper work areas will also use BPA Road, but entry to Forest Park would come from Skyline Boulevard to the west. The existing roadway is well maintained and wide enough for construction vehicle access. There are existing wider areas along the road that will be used as pullouts to allow construction vehicles to pass safely. These pullouts are within the existing road corridor and would not involve any additional forest impact (e.g., currently maintained low shrubs and herbs). Near the upper work locations, existing roads will be used to create a circulation path for construction traffic around work locations to avoid the need for larger work areas or greater disturbance area designated for safely maneuvering large vehicles.

A section of BPA Road between the upper and lower pole installation work areas may be used by light construction vehicles (e.g., pickup trucks), but could not otherwise be used as-is for heavy construction traffic due to very steep grades and very tight turns. Making this section safe for construction access would involve extensive realignment of the road. Therefore, entry from both sides of BPA Road (NW Skyline Boulevard to the west and U.S. Highway 30 to the east) in Forest Park is necessary. This access plan will use existing roads alignments (except as noted to eliminate removal of oak tree) and does not require removal of any trees.

PGE's use of BPA Road is subject to a license agreement with BPA. One part of this agreement is that any modification PGE makes to BPA Road must conform with BPA design standards, ensuring the road is safe and durable. The road section and other appurtenances will improve drainage and stability of the driving surface for all park users including emergency responders. PGE will replace an existing culvert below PL-2999 that is failing and causing erosion of the hillside. As part of the circulation route near SP-5, PGE will address sinkholes currently present at a bend in the road by placing coarse, engineered road fill that will allow subsurface drainage without eroding the existing access road.

The work areas themselves require grading to create flat surfaces. The flat area includes the location of the new pole foundations, as well as space for construction equipment. Foundation construction involves drilling through soil and rock layers, to depths up to 50 feet, using heavy equipment, dump trucks, and a crane. Installing the concrete foundations also involves a crane to hoist a reinforcing steel cage, concrete pumper, and concrete trucks.

The pole-setting and power line installation tasks require large cranes and line trucks or a second crane to be positioned in the area at the same time. For example, erecting the monopoles requires a truck and trailer to deliver the monopole section, a crane to hoist the pole section, and a second crane with a worker platform and/or line truck for workers to join the pole sections together. These operations are much larger than typical utility pole replacement work, which generally involves wood poles 18 inches to 24 inches in diameter and between 40 feet and 60 feet tall and set directly in holes drilled into soil. By

contrast, the steel poles for the Proposed Project are 6 inches to 8 inches diameter, over 150 feet tall, and are bolted to rods encased in steel-reinforced concrete foundations.

The grading and foundation drilling will create excess material that must be hauled offsite. The work area around SP-5 is large and far from the access point on Skyline Boulevard, so PGE proposes to minimize the need for dump truck trips by stockpiling soil in a flat area nearby that is already cleared for powerline operation. The stockpile will remain for one winter, in a stabilized condition. Upon completion of construction, these stockpiled soils will be used to regrade part of the SP-5 work area, creating a long-term stable slope replanted with native seed mixture, and allowing an area large enough for future maintenance activities that would occupy less space than initial construction.

Adjoining work areas around the poles or tower structures and under the powerlines are necessary to allow for the removal and installation of wires. The placement of these work areas depends first upon the function of the transmission structure. In-line structures (not at a bend in the line) support the weight of the wire vertically, while towers at bends in the line also support the substantial horizontal force needed to hold the wire in place and counterbalance the line pull from two directions. Work areas near in-line structures are usually smaller, because less equipment is needed to access the wire attachment points for suspending the wires. For structures at a bend in the line, work areas are needed on both sides of the structure so that equipment can release tension and lower existing wire or pull in and tension the new wire.

A7. Unavoidable Impacts:

Tree Removal

Removing trees is unavoidable given the need to utilize a portion of PGE's existing Utility ROW to make the needed routing updates. The Utility ROW contains approximately 6.5 acres of mature conifer and broadleaf deciduous forest dominated by Douglas fir and bigleaf maple (*Acer macrophyllum*). This forest is surrounded by maintained transmission corridors on all sides. The Proposed Project design selected tall monopoles in order to reduce the number of trees that must be removed; however, tall trees must be removed within approximately 4.7 acres of forest habitat to allow for safe operation of the transmission lines.

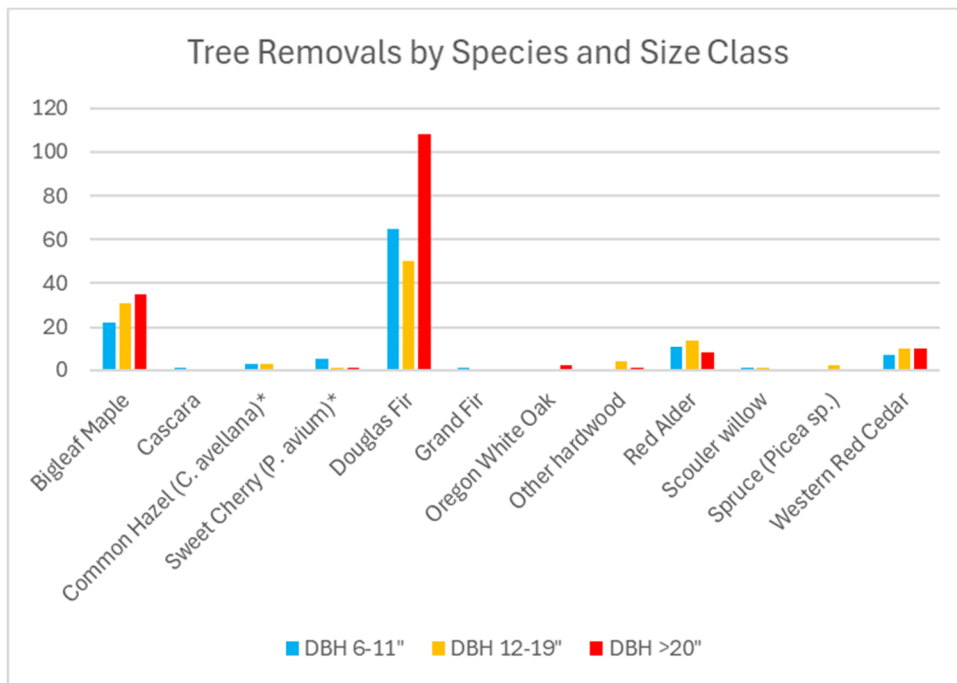
Based on a tree survey conducted by Integrated Arboricultural Services (IAS), including recent surveys updated in Forest Park in July 2024, 1,038 trees were documented within or adjacent to the project site (see complete tree table in Exhibit C, Overall Site Plan and Tree Table) and Appendix B (Arborist Report/Tree Protection Plan). Following the complete tree inventory, IAS, the consulting arborist, worked with PGE's Forestry Department to apply International Society of Arboriculture and PGE vegetation management standards to the inventoried trees and determined which trees would need to be removed to provide safe electrical transmission. Specific criteria for the removal of each tree are described in the tree table included with Exhibit C and Appendix B. Generally, trees directly within the wire zone will need to be removed. Additionally, trees within the wire border zone will need to be removed where they exceed a height threshold that would result in a potential fall hazard. The wire and border zone vegetation management areas are depicted above on **Figure 3** for reference.

Of the 1,038 trees, 375 living trees and 21 dead trees are proposed for removal. The other 642 trees will remain unaffected. The number of trees to be removed has been adjusted to include several additional small trees that have recently become 6 inches in diameter at breast height (DBH). However, the removal

of an older oak tree along the BPA access road that was previously proposed for removal has been reclassified as “pruning” rather than removal (assuming the City’s approval of minor grading in in the park to create a temporary access turn lane away from this tree).

Figure 5 summarizes the Proposed Project’s proposed tree removals by species and DBH size class. The DBH classes are those used by PP&R for its in-lieu fee mitigation program. Twenty-six (26) other dead trees will be retained uncut onsite to provide habitat value. Lastly, up to 22 of the 375 living tree removals occurring along the edge of the proposed powerline corridors will be topped rather than completely removed. These trees are expected to live; however, they will be counted as removals at the direction of PP&R. Trees proposed for topping range from 9 inches to 43 inches in DBH, with an average DBH of 17 inches.

Figure 5. All Tree Removals Proposed in Forest Park



Outside Forest Park, an additional 20 trees in the U.S. Highway 30 ROW will be removed in coordination with ODOT. Because these trees are outside of Title 33 environmental land use criteria, they are not included in the tree removal totals in this application. Affected trees in the ODOT ROW include a mix of bigleaf maples, cottonwoods (*Populus trichocarpa*), and one western redcedar (*Thuja plicata*) tree. Several of these trees have been cut and pruned previously, apparently in association with routine road/railroad ROW maintenance.

At Harborton Substation, four young Douglas fir trees will be removed from the edge of the parking area to accommodate the new wire routing into the substation. Within the cottonwood forest south of Harborton Substation, temporary access routes and work pads, which are needed to adjust the wiring on the existing tall towers, have been sited to avoid all tree impacts. Due to the presence of wetlands in this area and to avoid root damage, matting will be used for construction access in this area.

Habitat Impacts

Forest Park is home to at least 104 bird, 50 mammal, and 7 amphibian species (Forest Park Conservancy and Forest Park Alliance 2013). Many of these species rely, at least in part, on trees that will be removed by the Proposed Project. The Proposed Project will implement BMPs from the City of Portland guide, *Protecting Nesting Birds: Best Management Practices for Vegetation and Construction Projects (2022)* to limit these impacts to the fullest extent practical; however, tree removal and construction activities could still directly affect these species. Changes in the vegetative community or species population would be measurable within the project site, but mobile organisms (amphibians, birds, and mammals) should be able to relocate to unaffected portions of the park. The Proposed Project will not remove or alter any habitats or vegetation assemblages that are rare within the park. There is no evidence that populations of any native species are limited by available Douglas fir-bigleaf maple habitat in the park, which suggests that there should be ample appropriate habitat for organisms forced to relocate from the work zone. In the long term, the Proposed Project would have moderate beneficial effects from the increase in biodiversity, oak woodland habitat, increased downed woody debris, removal of invasive species, increases in pollen and nectar sources, and increased instream complexity.

The majority of the tree removals will take place within Forest Park Vegetation Unit 283, as defined in the City of Portland’s Natural Areas Vegetation Surveys conducted from 2003 to 2008. This area is a regenerating Douglas fir-dominated forest. PP&R rated the Ecological Health of Unit 283 as “fair,” with 80% canopy cover and 5% non-native cover.

Table 3 summarizes permanent and temporary impacts of Proposed Project construction and work areas. Detailed information on upland, riparian, and tree restoration communities can be found in Exhibit G (see Planting Details and Notes).

Table 3. Summary of Permanent and Temporary Construction Activity Areas

Project Area/Activity	Area (acres)	Linear Feet	Permanent	Temporary
Construction				
Existing access roads to be used (including pullouts)	5.94	16,530	Not applicable	Not applicable
Temporary (new) construction/logging access roads	1.21	2,998	No	Yes
Staging area (gravel lot at Harborton Substation)	2.64	Variable	No	Yes
Staging area in Forest Park (to be revegetated)	0.45	Variable	No	Yes
Existing forest conversion to powerline corridor	4.68	Variable	Yes	No
Vacated powerline corridor conversion to restored forest habitat	0.53	Variable	Yes	No

A8. Proposed Mitigation:

PGE performed mitigation sequencing for the Proposed Project. This means that PGE first evaluated the Proposed Project for opportunities to avoid and minimize habitat loss. Secondly, a variety of mitigation measures were developed to compensate for unavoidable losses of resource values as a result of the Proposed Project. These measures are shown in further detail in the Habitat Mitigation Plan (Appendix D).

Impact Minimization

PGE has spent considerable effort and time designing the Proposed Project so that impacts to the existing forest habitat are minimized. In addition, the evaluation of trees went beyond general removal plans based on distances from wires and instead considered each tree for its potential to remain. Selected individual trees will be topped to create snags that will provide valuable habitat niches, and up to 10% of cut trees will remain onsite as downed wood to provide nutrients, slope/streambank stability, habitat niches for wildlife, and flow dispersal. Through these efforts, the Proposed Project's potential environmental impacts have been reduced substantially compared to the initial project proposal that PGE introduced to the City at the Early Assistance Pre-Application Conference in 2022 (see Appendix A). Since filing an initial application on May 6, 2024, PGE has evaluated proposed Oregon white oak tree removals and has identified one mature oak tree (Tree #80) that can be preserved by temporarily realigning the BPA access road away from the tree at key road intersection and large vehicle turning area.

With respect to bird species, PGE would implement BMPs (City of Portland 2022) and secure appropriate permitting from the U.S. Fish and Wildlife Service before work begins to mitigate impacts on migratory birds. In addition, timing the Proposed Project construction during periods when onsite streams are dry and using BMPs will minimize potential for direct effects to Endangered Species Act-listed aquatic species downstream of the Project area in the mainstem Willamette River.

Compensatory Mitigation

After minimizing the Proposed Project's habitat impacts, PGE reviewed available habitat management plans and assessments for Forest Park to identify state, regional, and City of Portland goals and priorities for restoration actions in the park. PGE proposes to mitigate all long-term impacts to habitat resources within the North Management Unit of Forest Park at ratios of mitigation acres to impact acres that are intended to compensate for the temporal loss of forest habitat for the period of at least 10 years between the time when the proposed habitat impacts occur and the time when woody plantings develop a canopy and provide habitat niches. The area of proposed mitigation will be at least seven times larger than the area of impact.

Shorter-term resource impacts, including shrub removals, soil disturbance/compaction, recreation access, and herbaceous vegetation impacts, that require mitigation are not bound to the North Management Unit. Therefore, enhancements to the park intended to compensate for these short-term habitat impacts may be funded by PGE, through the fee in-lieu mitigation ordinance, to occur in areas outside of the North Management Unit at the discretion of PP&R. This additional opportunity for mitigation complements PGE's proposed long-term mitigation proposed within the North Management Unit and will allow for robust mitigation that benefits the overall ecological health of Forest Park.

PGE identified the following long-term mitigation elements, which meet several City priorities for restoration and enhancement actions in Forest Park. Together, these actions will compensate our community for the conversion of 4.7 acres of conifer forest habitat to woodland and shrub habitat, including the time it will take for the revegetated areas to establish. These actions will benefit the overall ecological condition of the North Management Unit of Forest Park (see Appendix D for additional detail on the following mitigation actions):

1. Within the Utility ROW, PGE will remove and control dense areas of noxious weeds observed within the project site, including Himalayan blackberry, shining geranium, English ivy, and Scotch broom. This control would include ongoing, multiyear site maintenance. Dense noxious weed population areas are mapped in Exhibit D (Existing Condition Plan) and Exhibit G (Mitigation Site Plan). Beyond the Utility ROW, PP&R has identified up to 75 acres of habitat within the North Management Unit of Forest Park that can be enhanced by removing noxious weeds that also pose fire hazard risks and replanting those areas with native vegetation. This activity improves habitat quality, reduces fire risk, and allows for natural forest regeneration to occur without being constrained by dense noxious weed populations. PGE plans to fund PP&R to enable the forest habitat enhancement work to be completed outside of the Utility ROW.
2. PGE will work with PP&R to enhance breeding habitat availability for a sensitive population of frogs that occur in Forest Park and face high annual mortality rates when attempting to cross U.S. Highway 30 as part of their annual migration activity. Northern red-legged frogs (*Rana aurora*) are an Oregon Conservation Strategy species, Oregon State-listed “Sensitive” species, and a Federal Species of Concern. Breeding populations of these frogs travel annually from Forest Park, in the drainage area north of the project site, to ponds in PGE’s Harborton Natural Area wetlands located on the east side of U.S. Highway 30 and NW Marina Way. This annual migration requires crossing through a highly dangerous, high traffic corridor. PGE proposes to fund PP&R to support ongoing efforts to site and to design, construct, and monitor alternate breeding pond habitats within Forest Park. Alternatively, PGE will lead these breeding habitat pond creation efforts. These ponds would provide habitat to support breeding functions that would not require the crossing of U.S. Highway 30. In addition to providing support for northern red-legged frogs, the work would expand and enhance wetland habitat to compensate for the loss of the wetland habitat that has formed on PGE’s Pole 2999 access road in Forest Park.
3. Within affected tree removal areas and temporary work/staging areas, PGE will install a mixture of shorter-stature native tree and shrub species, including Oregon white oak, which is an Oregon Conservation Strategy Habitat species that is present in the area and is identified by the City of Portland as a “desired future condition” habitat in Forest Park (PP&R 2011a). The selective removal of native conifers is a typical element of an oak release or oak woodland establishment project. Oak woodland is an Oregon Conservation Strategy habitat due to its rapid decline over the last few centuries. Because Oregon oak grows to a shorter height than native conifers, it is often shaded out over time and historically has benefited from periodic burning to maintain open understory and canopy conditions. With the necessary removal of taller conifers, the Project will create an opportunity to establish additional Oregon oak trees at the outer periphery of the proposed transmission corridors. PGE is committed to the long-term maintenance of this oak community to help meet City, state, and regional goals for improved biodiversity and expansion of oak woodland communities. This long-term maintenance is anticipated to include weed control, occasional pruning, and replanting as necessary.

Altogether, the Proposed Project will revegetate more than 7.4 acres of native upland forest, upland shrub habitat, and riparian habitat within the disturbance limits in Utility ROW. In addition, the Proposed Project will reseed all planting areas with a native seed mix to provide soil stabilization and support for pollinators, as shown in **Table 4**.

Table 4. Summary of Proposed Mitigation Planting Areas in Project Site

Project Area/Activity	Area (acres)
Invasive species removal	0.66
Mitigation woody planting areas, total	7.44
Upland forest with oaks	4.22
Riparian forest	0.23
Upland shrubs	2.20
Riparian shrubs (including Greenway Plantings)	0.79
Native pollinator seeding	7.63*
Wetland restoration seeding	0.33

**Total native pollinator seeding area includes all forest and shrub planting areas, as well as an additional 0.53 acre of roadside seeding area. This total does not include revegetation that PP&R would lead outside of the Utility ROW.*

4. PGE will seed disturbed areas, including affected forest areas, staging areas, pole construction sites, and access road edges, with a native seed mix that contains pollinator support species consistent with the ongoing City of Portland, BPA, and Metro Pollinator Powerline Project, which has been working to establish native pollinator support species in the BPA transmission corridors in Forest Park for the last four years. The seeding of a diverse array of native flowering plants will increase available pollen sources for a variety of native insects, which has the potential to enhance ecosystem functions within Forest Park and beyond. Early flowering plants are crucial in helping springboard pollinator populations throughout the season, in particular for bumblebees, as they establish new colonies. Because some of the early season floral resources for early emerging pollinators are flowering trees and shrubs, PGE will incorporate a planting mix that will provide pollen and nectar in the shoulder seasons of late fall and very late winter/early spring.
5. Shorter stature trees will allow PGE to modify Utility ROW maintenance activities such as tree cutting and thereby substantially reduce habitat losses from Utility ROW maintenance. Habitat losses can also be mitigated by pruning or topping of trees in the future, rather than cutting down trees, or trees can be topped and ringed to become snags, which provide an especially valuable wildlife habitat component. PGE is committed to the maintenance of the installed woodland habitat within the outer periphery of the affected powerline corridors in Forest Park. The proposed mitigation is designed to avoid any increase in safety hazards while maximizing the habitat benefits in maintained transmission corridors.
6. PGE plans to offset the loss of stand density and provide enhanced carbon sequestration by working with conservation partners to plant native trees in areas of Portland that have been

identified as “heat islands.” Heat islands are areas that are up to 10 degrees warmer on hot weather days due to a lack of tree canopy than well-shaded neighborhoods in Portland. PGE plans to plant 100 trees in these heat islands in cooperation with regional conservation partners and/or PP&R. These additional tree plantings outside of the park will help with regional carbon sequestration and help offset the losses associated with the time that must pass until the new tree planting areas outside the park will achieve a similar level of habitat maturity as the trees that will be removed in the park as a result of the Proposed Project.

7. PP&R has identified a variety of other potential habitat restoration projects that may occur both within and beyond the North Management Unit in Forest Park. These opportunities for habitat restoration include degraded areas of dense noxious weeds that can be treated and planted to establish native forest conditions (e.g., Keilhorn Meadow) and stream corridors disrupted by trails and noxious weeds that can be enhanced to provide improved hydraulic processes and riparian conditions (e.g., unnamed stream south of BPA Road crossed by Newton Trail). PGE proposes to use the City’s In-lieu mitigation fee approach, established by City Ordinance 191314 in 2023, to fund several acres of habitat enhancement.

The mitigation plan included as Appendix D provides additional detail on affected resources, ecological functions lost, and proposed mitigation, and summarizes the ways in which the above suite of compensatory mitigation actions has the potential to compensate the Portland community for both short-term and long-term resource values in Forest Park.

Land Use History for Affected Tax Parcels

Below are relevant land use case reviews that the City of Portland has on record for the subject site:

- LUR 71-002944 (CU 076-71): Approval of a Conditional Use for diking and filling within the Willamette River and Multnomah Channel.
- LUR 73-002629 (CU 066-73): Approval of a Conditional Use to install turbine-powered generators.
- LUR 86-005301 (GP 003-86): Approval of a Greenway permit for stockpiling at PGE’s Harborton site.
- LU 04-008697 EN GW: Approval of an Environmental Review and a Greenway Review for a proposal to excavate a portion of the Olympic Pipeline for inspection and to install a temporary access route to the pipeline through a hardwood wetland forest.
- LU 16-239742 GW: Approval of a Greenway Review for tree removal and herbicide application associated with site preparation for habitat restoration.
- LU 16-259062 GW: Approval of a Greenway Review for construction of the following: Installation of cement deep soil mix soil stabilization to address soil liquefaction within the substation area; construction of a new power substation within a smaller development footprint in the west corner of the current PGE Substation facility; excavation of approximately 560 cubic yards of soil from the human-made levee area; and construction of new stormwater facilities.
- LU 18-151725 GW: Approval of a Greenway Review for a habitat restoration project at the PGE Harborton Property.
- LU 21-040550 RP: Approval of a replat to create two parcels from the existing historic lots of record within the site.

- EA 22-142445: A Pre-application conference with City of Portland agencies to discuss rerouting transmission lines to the recently constructed Harborton Substation. The project will install new steel monopoles, foundations, and overhead wires within existing Utility ROW and requires removing trees and shrubs within the Environmental Protection and Conservation overlay zones.

With one exception, past land use reviews have no effect on the current proposal. The one exception is noted below (quoted from LU 18-151725 GW):

The landowner shall maintain the required plantings for five years to ensure survival and replacement. The applicant must also restore the temporary haul road along the west, north, and east edges of Sub-Area 3 to native vegetation by the end of the five-year monitoring period. The landowner is responsible for ongoing survival of required plantings during and beyond the designated five-year monitoring period, and as allowed by the Monitoring and Adaptive Management Plan found in Exhibit A.1 Appendix H. After the 5-year initial establishment period, the landowner shall:

Obtain a Zoning Permit for a final inspection of plantings and of the Sub-Area 3 haul road removal. The applicant shall arrange to accompany the [Bureau of Development Services (BDS)] inspector to the site to locate mitigation plantings for inspection. The permit must be finalized no later than 5 years from the final inspection for the installation of mitigation planting, for the purpose of ensuring that the required plantings remain and that the west, north, and east portions of the temporary haul road in Sub-Area 3 is restored to native plant communities. Any required plantings that have not survived must be replaced.

At this time, the City is working to issue a Zoning Permit for remaining work required at the restoration site (Tax Lot 2N1W34 -00101) that is the subject of the condition above. However, the zoning permit review coordination was placed on hold during efforts to resolve the removal of the southern portion of the restoration area (Subarea 1) from the prior restoration project, which occurred after land use approval was received by PGE. Because the prior 18-151725 GW review included reference to work in Subarea 1 that was later dropped from the project proposal, the City has requested that the prior GW review be amended together with this application, so that the prior GW review can be made current and the zoning permit can be issued to close out that former land use review. To accommodate this request, this land use application includes Appendix G, which updates the former GW review to note the removal of Subarea 1.

PGE is in its fourth year of monitoring Subareas 2 and 3. The Year 5 condition will be addressed in 2025. It should be noted that this tax lot is no longer associated with the Harborton Substation tax parcel due to a lot division that occurred in association with PGE's Harborton natural areas restoration project per LU 21-040550 RP, described above.

Early Assistance Meeting: On June 9, 2022, PGE and the City of Portland met for an Early Assistance Pre-application Conference, and representatives from the following City of Portland bureaus were present:

- Bureau of Development Services
- Bureau of Environmental Services
- Portland Parks & Recreation

- Life Safety
- Fire Bureau
- Portland Bureau of Transportation
- Urban Forestry
- Site Development Section of the Bureau of Development Services

These representatives later provided feedback (EA-22-142445) that informed this land use application.

B. Applicable City of Portland Planning and Zoning Codes

The following information responds to applicable PCC zoning code standards for the **Type II and Type III land use applications (Type III Environmental Review, Type III Conditional Use Review, Type II Greenway Review)** associated with the **PGE Harborton Reliability Project**. The applicant's responses to individual sections are in **bold** for each applicable standard or criterion. Code and plan text is in *italics*.

Sections addressed are:

Chapter 33.910 – Definitions

Chapter 33.920 – Descriptions of the Use Categories

Chapter 33.100 – Open Space Zone

Chapter 33.140 – Employment and Industrial Zones

Chapter 33.815 – Conditional Uses

Chapter 33.430 – Environmental Zones

(Including the Forest Park Natural Resources Management Plan (FP NRMP))

Chapter 33.440 – Greenway Overlay Zones

Chapter 33.563 – Northwest Hills Plan District

Chapter 33.910 Definitions

33.910.030 Definitions

Disturbance Area. *The area where all temporary and permanent disturbance occurs. For new development the disturbance area must be contiguous. Native vegetation planted for resource enhancement, mitigation, remediation, and agricultural and pasture lands is not included. The disturbance area may contain two subareas, the permanent disturbance area and the temporary disturbance area:*

- ***Permanent Disturbance Area.*** *The permanent disturbance area includes all areas occupied by existing or proposed structures or exterior improvements. The permanent disturbance area also includes areas where vegetation must be managed to accommodate overhead utilities, existing or proposed non-native planting areas, and*

roadside areas subject to regular vegetation management to maintain safe visual or vehicle clearance.

- **Temporary Disturbance Area.** *The temporary disturbance area is the portion of the site to be disturbed for the proposed development but that will not be permanently occupied by structures or exterior improvements. It includes staging and storage areas used during construction and all areas graded to facilitate proposed development on the site, but that will not be covered by permanent development. It also includes areas disturbed during construction to place underground utilities, where the land above the utility will not otherwise be occupied by structures or exterior improvements.*

Applicant’s Response: There are two subareas of the disturbance area for this Proposed Project. First, the permanent disturbance area includes areas that will be occupied by new overhead utility structures (e.g., towers and transmission lines) and areas where vegetation must be managed to accommodate the new structures. Second, the temporary disturbance area includes areas where temporary access, staging, and storage for the construction will occur. Therefore, there are both permanent and temporary disturbance areas within the Proposed Project disturbance limits. Permanent and temporary disturbance areas can be seen on the Proposed Development Plan (Exhibit E).

Chapter 33.920 Descriptions of the Use Categories

33.920.400 Basic Utilities

- A. **Characteristics.** *Basic Utilities are infrastructure services which need to be located in or near the area where the service is provided. Basic Utility uses generally do not have regular employees at the site. Services may be public or privately provided. All public safety facilities are Basic Utilities.*
- B. **Accessory uses.** *Accessory uses may include food membership distribution, parking; control, monitoring, data or transmission equipment; and holding cells within a police station.*
- C. **Examples.** *Examples include water and sewer pump stations; sewage disposal and conveyance systems; **electrical substations**; water towers and reservoirs; Small Scale Energy Production, water quality and flow control facilities; water conveyance systems; water harvesting and re-use conveyance systems and pump stations; stormwater facilities and conveyance systems; telephone exchanges; mass transit stops or turn arounds, light rail stations, suspended cable transportation systems, transit centers; and public safety facilities, including fire and police stations, and emergency communication broadcast facilities. [emphasis added]*
- D. **Exceptions.**
 - ...
 - 4. **Public or private passageways, including easements, for the express purpose of transmitting or transporting electricity, gas, oil, water, sewage, communication signals, or other similar services on a regional level** are classified as Rail Lines And

Utility Corridors. [emphasis added]

33.920.550 Rail Lines And Utility Corridors

- A. **Characteristics.** This category includes railroad tracks and lines for the movement of trains. The land may be owned or leased by the railroad. The category also includes public or private passageways, including easements, for the express purpose of transmitting or transporting electricity, gas, oil, water, sewage, communication signals, or other similar services on a regional level.
- B. **Examples.** Examples include rail trunk and feeder lines; regional electrical transmission lines; and regional gas and oil pipelines. [emphasis added]

Applicant’s Response: The Proposed Project involves transmitting electricity via regional electrical transmission lines. The Proposed Project will improve the existing electrical transmission line configuration, thereby addressing power supply demands and transmission vulnerabilities identified within PGE’s existing grid. The proposed improvements will allow PGE to reliably transmit power within the Portland Metropolitan Region to and from PGE’s Harborton Substation, located at 12500 NW Marina Way, on the west bank of the Willamette River in Portland, Oregon. Therefore, the applicable use category is Rail Lines and Utility Corridors.

Chapter 33.100 Open Space Zone

33.100.040 Other Zoning Regulations

Table 100-1 Open Space Zone Primary Uses	
Use Categories	OS Zone
Institutional Categories	
Basic Utilities	L/CU [5]
Community Service	CU [4]
Parks And Open Areas	L/CU [2]
Schools	CU
Colleges	N
Medical Centers	N
Religious Institutions	N
Daycare	CU
Other Categories	
Agriculture	L[7]
Aviation And Surface Passenger Terminals	N
Detention Facilities	N
Mining	CU
Radio Frequency Transmission Facilities	L/CU [3]
Rail Lines And Utility Corridors	CU

Y = Yes, Allowed L = Allowed, But Special Limitations CU = Conditional Use Review Required
N = No, Prohibited

Applicant’s Response: Per Table 100-1, Rail Lines and Utility Corridors are Conditional Uses in the Open Space (OS) zone.

33.140.100 Primary Uses

Table 140-1 Employment and Industrial Zone Primary Uses						
Use Categories	EG1	EG2	EX	IG1	IG2	IH
Institutional Categories						
Basic Utilities	Y/CU [10]	Y/CU [10]	Y/CU [10]	Y/CU [11]	Y/CU [11]	Y/CU [11]
Community Service	L/CU [8]	L/CU [8]	L/CU [8]	L/CU [9]	L/CU [9]	L/CU [9]
Parks And Open Areas	Y	Y	Y	Y	Y	Y
Schools	Y	Y	Y	N	N	N
Colleges	Y	Y	Y	N	N	N
Medical Centers	Y	Y	Y	N	N	N
Religious Institutions	Y	Y	Y	N	N	N
Daycare	Y	Y	Y	L/CU [9]	L/CU [9]	L/CU [9]
Other Categories						
Agriculture	L [14]	L [14]	L [14]	L [14]	L [14]	L [14]
Aviation And Surface Passenger Terminals	CU	CU	CU	CU	CU	CU
Detention Facilities	CU	CU	CU	CU	CU	CU
Mining	N	N	N	CU	CU	CU
Radio Frequency Transmission Facilities	L/CU [12]	L/CU [12]	L/CU [12]	L/CU [12]	L/CU [12]	L/CU [12]
Rail Lines And Utility Corridors	Y	Y	Y	Y	Y	Y

Y = Yes, Allowed

L = Allowed, But Special Limitations

CU = Conditional Use Review Required

N = No, Prohibited

Applicant’s response: Per Table 140-1, Rail Lines and Utility Corridors are Allowed Uses in the Heavy Industrial (IH) zone. The project site has split zoning (OS and IH). On split zoned sites, if a use is a conditional use in one zone, proposals on the allowed site are also subject to conditional use review. Consequently, this Proposed Project requires conditional use review. The relevant criteria for this review are addressed below.

Chapter 33.815 Conditional Uses

33.815.230 Rail Lines And Utility Corridors

These approval criteria allow Rail Line And Utility Corridor uses where their location will not unduly interfere with other land uses and with the street system. The approval criteria are as follows:

A. The proposed rail line or utility corridor is sufficiently separated from nearby land uses so as to allow for buffering of the uses, especially in residential areas. In the case of railroad lines, separation distances should consider the expected number, speed, size, types, and times of trains; and

Applicant’s Response: Within Forest Park, the Proposed Project is located between existing PGE and BPA powerlines and is located entirely within an existing Utility ROW. As a result, the areas adjacent to

the Proposed Project are, themselves, utility corridors, and beyond those corridors is additional open space. As such the Proposed Project will have more than adequate buffers from uses such as residential that would be impacted. Outside of Forest Park, the Proposed Project will route into an existing substation property that has no adjacent residential land uses. Therefore, this criterion is met.

B. The rail line or utility corridor will not substantially impact the existing or planned street system, or traffic, transit, pedestrian, and bicycle movement and safety.

Applicant's Response: As discussed above and as shown in the site vicinity map (Exhibit B), the project site is well separated from nearby land uses other than other utility corridors and open space. BPA Road is the only and closest road near the utility corridor of this Proposed Project that will be the primary route for construction access and movement through the project site. BPA Road is locked and gated and only used for periodic utility maintenance access or park management by the City of Portland. Existing recreational trails that cross through the BPA Road will be managed during construction to ensure trail crossings are well marked for safety. The BPA Road, which is occasionally used for recreation access, will be temporarily closed during construction, but there are several alternative nearby trails that can accommodate recreational users during temporary closures. To address these closures and mitigate the impact on the public, PGE will maintain signage with scheduled closure information and also maintain a project website that provides details of trail impacts, construction schedules, and alternate recreational access routes. One lane of U.S. Highway 30 will be temporarily affected by construction access, but the impact will be limited to periods of large machinery ingress and egress lasting no more than a few hours, and construction access will be controlled in coordination with ODOT. Therefore, the Proposed Project will not substantially impact the existing or planned street system, or traffic, transit, pedestrian, and bicycle movement and safety.

Chapter 33.430 Environmental Zones

33.430.020 Environmental Reports

The application of the environmental zones is based on detailed studies that have been carried out within six separate areas of the City. The City's policy objectives for these study areas are described in reports. Each study identifies the natural resource features and describes the functional values within resource sites. Functional values are the benefits provided by resources. The values for each resource site are described in the inventory section of these reports. The City has adopted the following six environmental study reports:

- *Environmental Overlay Zone Map Correction Project*
- *Columbia Corridor Industrial and Environmental Mapping Project*
- *Johnson Creek Basin Protection Plan*
- *Northwest Hills Natural Areas Protection Plan*
- *Middle Columbia Corridor/Airport Economic, Social, Environmental and Energy (ESEE) Analysis*

33.430.030 Relationship To Other Environmental Regulations

Some of the six study areas discussed under Section 33.430.020 impose additional environmental regulations in Plan Districts. These additional regulations either supplement or supersede the regulations of this Chapter. Paragraph 33.700.070.E describes the hierarchy of regulations within the Zoning Code.

Additionally, Natural Resource Management Plans may contain regulations that supersede or supplement the regulations of this chapter. Whenever natural resource management plan provisions conflict with other provisions of this chapter, the natural resource management plan provisions supersede. Non-conflicting provisions supplement the provisions of this chapter. Maps 430-6, 7, and 8 show Natural Resource Management Plan areas.

The following Plan Districts and Natural Resource Management Plans have additional regulations that may supersede or supplement the environmental regulations of Chapter 430:

- ...*
- *Northwest Hills Natural Areas (see Chapter 33.563, Northwest Hills Plan District)*
- *Forest Park Natural Resources Management Plan (separate document)*
- *...*

Applicant’s Response: Additional regulations from the Northwest Hills Plan District (the Plan District) and FP NRMP apply to the Proposed Project. The applicant’s responses to the applicable Plan District and FP NRMP standards and criteria can be found below.

33.430.050 Subareas of Environmental Zones

Environmental overlay zones contain resource areas and transition areas. Resource areas contain significant resources and functional values. Transition areas surround the resource areas. Resources and functional values within transition areas are not significant, but they provide a buffer for the significant resources and functional values within the resource area. The transition area is measured as the first 25 feet inward from an environmental zone boundary. The remaining area is the resource area. See Figure 430-1. The following are three exceptions:

- A. Where part of an environmental zone boundary is also the City Limits or Urban Service Boundary, there is no transition area.*
- B. Where environmental zone boundaries are contained within other environmental zone boundaries, there is no transition area.*
- C. Where environmental zone boundaries abut other environmental zone boundaries, transition areas are only measured from the combined outer-most boundaries of the environmental zones.*

Applicant’s Response: There is no part of the affected environmental zone (p – Environmental Protection) boundary that is also the City Limits or Urban Service Boundary. The affected environmental zone areas are not contained within the boundaries of another environmental zone. Therefore, exceptions A. and B. do not apply. The area northeast of the affected Environmental Protection zone abuts another environmental zone boundary (c – Environmental Conservation). Transition areas are measured as 25 feet inward from the combined outermost boundaries of the environmental zones and mapped on Exhibits D, E, and F.

33.430.060 Where These Regulations Apply

*These regulations apply to all environmental zones, except those in the Columbia South Shore Plan District that are south of NE Marine Drive, those in the Cascade Station/Portland International Center Plan District, City-owned land within the **Forest Park Natural Resources Management Plan area**, and the Peninsula Drainage District No. 1 Natural Resources Management Plan area. See also Section 33.430.030, Relationship to Other Environmental Regulations.*

Applicant’s Response: The standards in PCC Chapter 33.430 do not directly apply to the proposal because all properties with environmental overlays are within the FP NRMP area.

The Proposed Project requires an Exception to the FP NRMP because the proposed disturbance exceeds 10,000 square feet. As per the Bureau of Development Services Pre-Application Conference Facilitator Summary Memo (City of Portland, EA 22-142445) dated July 11, 2022 (see Appendix A), the approval criteria of the FP NRMP supersede the approval criteria of PCC Chapter 33.430. These criteria are addressed below under “Forest Park Natural Resources Management Plan (FP NRMP)” in the order written in the EA 22-142445 summary notes provided to PGE by the City of Portland.

Forest Park Natural Resources Management Plan (FP NRMP)

Chapter 8. Implementation Procedures, Section B: Exceptions to the Plan

Approval Criteria for Exceptions to the Plan: The exception will be approved if:

(A). The proposal meets all the criteria for minor amendments.

Applicant’s response: The Proposed Project meets all the criteria for minor amendments. As per the FP NRMP, the approval criteria for minor amendments are as follows:

A. There is a demonstrated need for the proposal.

Applicant’s Response: As explained in greater detail in Section A4 of this application, the primary purpose of the Proposed Project is to maintain a reliable power supply to the Portland Metropolitan Region by implementing transmission configuration improvements that address identified transmission vulnerabilities. These improvements will enable PGE to meet federal and PGE electrical transmission reliability standards and assist with meeting system-wide plans for an improved and resilient electrical grid. Recently, demand forecasts for electricity have increased substantially due to several factors, including vehicle electrification, peak summer temperature increases, increasing adoption of residential air conditioning, and industrial growth in the Portland Metropolitan Region.

Phase 3 of the Harborton Reliability Project (the Proposed Project) has independent utility from future phases of the project. It is meant to direct an additional source of 230 kV power to the Harborton Substation and resolve the three-terminal line condition by creating three new two-terminal lines connected to Harborton Substation. Phase 4 anticipates a time when PGE’s existing transmission wires running through Forest Park west of existing Tower 2996 need to be replaced with larger wire. PGE is performing early studies to determine different alternatives to address this need by reusing existing towers and staying within the established Utility ROW. If the need can be demonstrated and alternatives are evaluated to show work in Forest Park is necessary, PGE would initiate a separate land use process. Phase 5 looks even further ahead to when additional energy will need to be transmitted from the north to the Portland area. Although PGE anticipates this need, no specific routes or designs have been developed at this time. Similar to Phase 4, if any work is proposed in Forest Park, PGE would initiate a separate land use process at that time.

Without the urgently needed Proposed Project, the existing transmission capacity concerns will result in rolling blackouts during forecast peak demand days by or before 2028. The need for this Proposed Project has been demonstrated.

B. The proposed action is consistent with the Forest Park Natural Resources Plan Goals and Strategies (found in Chapter 6 of the NRMP). Please provide responses to each of the Goals (Conservation and Recreational and Educational) and all 10 Strategies.

Applicant's response: According to *State v. Gaines*, 346 Or 160, 166, 206 P3d 1042 (2009) the primary rule for interpreting legislative language is to evaluate the plain meaning of its text and context. The plain meaning of consistency is to harmonize parts of a whole. The FP NRMP specifically considers utility corridor management and PGE holds an established easement for upgrading and maintaining a utility corridor. Thus, to be consistent with the FP NRMP by its plain meaning is to acknowledge natural resources in the park can be managed consistently with periodic maintenance and upgrades of existing utility corridors³.

That said, The Proposed Project is consistent with the FP NRMP, Chapter 6, Goals, Strategies and Actions, as follows:

Conservation Goal 1. Protect Forest Park's native plant and animal communities, its soil and its water resources while managing the forest ecosystem in order to grow a self-sustaining ancient forest for the enjoyment and benefit of future generations.

Applicant's Response: The Proposed Project will protect native animal communities and expand and diversify native plant communities, as well as protect soil and water resources during construction, during site restoration, and during ongoing future management of the affected Utility ROW in Forest Park to achieve an ancient, self-sustaining forest over time. This protection takes several forms, including: (1) increasing forest resilience to climate change; (2) increasing long-term biodiversity and habitat in the project area; and (3) implementing protection activities expressly recommended in the FP NRMP.

1. ***Climate Resiliency.*** A major concern for the future condition of Forest Park (and environmental resources broadly) is climate change-related drought and peak summer temperatures that have consistently exceeded average temperatures in the last five years. Appendix H (Tree Mortality Data) provides a summary of drought trends and tree mortality data and in PGE's service territory over the last several decades. These data indicate that drought conditions and associated tree mortality rates are increasing in severity. As the Oregon Department of Forestry notes in its 2021 Climate Change and Carbon Policy:

Climate change is threatening Oregon's forest and forest products industry through increased severity and incidence of wildfire, drought, and greater susceptibility to insects and diseases.

Without substantial behavior changes and mitigation efforts to limit global warming to less than 1.5°C (2.7°F) by 2030, the region and the world is likely to experience high levels of ecosystem degradation and species extinctions. Regionally, effects of climate

³ Please see Appendix I for a Joint Letter from former City of Portland Commissioners Charlie Hales and Earl Blumenauer.

change are already present, as there is a distinct upward trend in size and severity of wildfire in the state.

Large numbers of dead trees increase the risk of catastrophic wildfire, which would further damage environmental resources in the park and create serious public safety concerns from hazard trees. The ongoing damage and potential for serious future loss of resources cannot be addressed without addressing atmospheric carbon concentrations. A key strategy as set forth in Governor Brown's Executive Order 20-04 to address negative effects on Oregon's environmental resources due to climate change is electrification of energy uses and decarbonization of power generation. These efforts depend fundamentally upon the reliability of the transmission grid. In short, ensuring reliable electrical transmission supports climate change abatement goals and is a key strategy for protecting Forest Park's environmental resources. With improved electricity transmission reliability the region will have better access to clean energy to facilitate a reduction in fossil fuel use and, therefore, enhanced support for a reduction in the trend of increasing drought and tree mortality occurring as a result of climate change.

2. **Increasing Long-Term Biodiversity and Habitat in the Project Area.** To increase the reliability of the transmission grid in the Portland Metropolitan Region and make clean energy readily available, existing forest resources will be affected in Forest Park. However, over time and with proposed mitigation, the directly affected area is also anticipated to meet this goal by developing into a biodiverse and resilient ancient forest with woodland and shrubland components that, as they presently do, result in a variety of habitat niches that support a diverse assemblage of birds and terrestrial wildlife species. It is important to recognize that Conservation Goal 1 is not intended to describe current conditions in the park but, rather, an aspirational goal for future conditions that can be achieved through current and ongoing forest management. Specifically, the FP NRMP describes a vision for the North Management Unit of Forest Park that sees it as an intact forest approaching an old growth condition in the year 2195.

PGE intends to manage restored habitats within its Utility ROW in furtherance of Conservation Goal 1 by treating the Proposed Project as a disturbance that is rehabilitated over time to support a future self-sustaining, ancient forest condition that provides increased biodiversity and is less prone to the hazards of wildfire. PGE plans to re-establish unique and relatively rare woodland vegetation in the disturbance area to foster a diversity of native habitats and species, consistent with several state, regional, and local management objectives for Forest Park (see Chapter 6 of Appendix D, Habitat Mitigation Plan). PGE also plans to complement this site restoration work with funding for additional mitigation activities performed by PP&R outside of the Utility ROW. PGE will partner with PP&R to fund a variety of park restoration/ enhancement efforts in the North Management Unit, which will mitigate long-term impacts at a ratio of greater than 7:1. Additional funding will be available

for PP&R to conduct mitigation for short-term impacts in areas throughout Forest Park.

Mitigation that PP&R performs outside of the Utility ROW is anticipated to include the establishment of wetlands to support northern-red-legged frogs, the removal of noxious weeds, stream enhancement, and the planting of native forest habitat within the North Management Unit of Forest Park. The combination of vegetation restoration and habitat enhancements within the Utility ROW, together with these various additional park enhancements performed by PP&R, will result in a net benefit to ecological resources over time, consistent with Conservation Goal 1. Further detail on these various mitigation measures is provided in the Habitat Mitigation Plan (Appendix D).

- 3. Implementation of Recommended Protection Activities.** The management of natural resources during and after construction within the Proposed Project construction limits has been planned in accordance with the FP NRMP-recommended Project RE-8C/N: “Utility Corridor Management” (FP NRMP page 159). This recommended restoration project recognizes that ongoing utility maintenance and development will occur within existing utility corridors but directs PP&R to work with the utilities to seek opportunities for habitat enhancement while planning for such work. Specifically, Project RE-8C/N recommends that powerline corridors be managed to:

[M]aximize forest canopy, to maximize diversity of native plant species, to minimize invasive non-native plants, and to minimize disturbance and erosion. Allow large tree species to grow as close to powerlines as possible. Top conifers interfering with powerlines rather than removing them. Where conifers are not practicable, native small trees and shrubs should be grown. Remove non-native shrubs, notably Himalayan blackberry and Scot's broom, and replace with native conifers, small trees or shrubs.

Further, recommended Project RE-8C/N provides the following suggestion for design consideration:

[I]f taller, more substantial structures are built, the resulting additional line clearance would provide opportunities to restore forest canopy.

The Proposed Project design and the Habitat Mitigation Plan (Appendix D) have been developed in accordance with these recommendations of Project RE-8C/N. As such, it demonstrates consistency with the FP NRMP and Conservation Goal 1.

Lastly, Section 8 (Implementation Opportunities), of the FP NRMP notes that for utility companies, the City should “Cooperate on management and restoration of utility corridors.” In clear consistency with the FP NRMP, PGE is proposing to cooperate with the City on both the management and restoration of the existing utility corridor to achieve

Conservation Goal 1 over time. The FP NRMP directs the City to reciprocate. In consideration of the above rationale, this project is consistent with Conservation Goal 1.

Conservation Goal 2. Design management and restoration efforts to:

- *Maintain and enhance regional biodiversity*
Applicant's Response: Due to the limited opportunities for mitigating "in kind" (e.g., planting conifer-broadleaf deciduous forest) in the North Management Unit of Forest Park, PGE proposes a multifaceted mitigation approach that seeks to address key management priorities for Forest Park. This multifaceted approach is consistent with the rationale for the City's in-lieu fee program for Forest Park. Implementation of the Proposed Project's Habitat Mitigation Plan (Appendix D) will enhance native plant and animal communities, including Oregon white oak woodland habitat, which is an Oregon Conservation Strategy Habitat, as well as Oregon Special Status Species such as the northern red-legged frog. The proposed planting plan will include numerous native trees, shrubs, and herbaceous plants, including pollinator support species. These actions will maintain and enhance regional biodiversity. As such, the Proposed Project is consistent with this aspect of Conservation Goal 2.
- *Provide wildlife habitat and migration opportunities*
Applicant's Response: The Proposed Project will improve wildlife habitat as described above, and migration opportunities will be provided inherently through the Proposed Project's reforestation efforts. The Proposed Project will also support this goal through the removal of invasive species and replacement with native shrubs and forbs that foster greater habitat conditions for native wildlife. An important migration opportunity supported by the Proposed Project will include PGE's support for the design and construction of wetland pond habitat, which will provide alternate breeding habitat to support a sensitive population of northern red-legged frogs, an Oregon Special Status Species. These frogs migrate annually from their upland habitat in Forest Park down to and across U.S. Highway 30 to the PGE wetlands along the Willamette River. This highway crossing results in numerous annual frog mortalities despite impressive volunteer efforts to shuttle the frogs across the highway on wet evenings during peak migration periods. The availability of alternate breeding habitat within the North Management Unit of Forest Park can help create safer migratory conditions for this sensitive frog population. Therefore, the Proposed Project is consistent with this aspect of Conservation Goal 2.
- *Improve water quality and aquatic habitat*
Applicant's Response: The Proposed Project will include the following measures to improve water quality and aquatic habitat within the Proposed Project area:
 - Remove noxious blackberry and ivy in riparian areas to promote robust native shrubs and short trees that can better shade the stream.
 - Place felled wood in-stream for grade control, pool formation, reduced incision/erosion, microclimate, shade, and habitat (avoid fine limbs that could increase fire hazards).

- Replace failed culvert beneath access road to address a recreation hazard.
- Replace minimal wetland functions (water filtration through reed canarygrass) (*Phalaris arundinacea*) associated with two wetlands that have formed on an existing road cut by working with PP&R to fund the design and installation of one or more wetland ponds that provide ecologically important breeding habitat for northern red-legged frogs in Forest Park. The pond(s) would be constructed at a location that would offer alternate breeding habitat to reduce the number of frogs dependent upon crossing dangerous traffic conditions on U.S. Highway 30 to access their primary breeding habitat on the other side of the highway.

Therefore, the Proposed Project is consistent with this aspect of Conservation Goal 2.

- *Repair damaged and fragmented natural systems*
Applicant’s Response: The proposed work is located between existing transmission corridors; therefore, it will not expand fragmentation into the surrounding forest matrix. To support wildlife migration through the transmission corridors and reduce the effects of habitat fragmentation, PGE proposes to remove noxious weeds and install tall native shrubs and short-stature native trees. These impact minimization considerations are detailed in Appendix D (Mitigation Plan). In addition, the Proposed Project will minimize tree removals in areas where transmission clearance may remain sufficient to meet reliability and safety standards. Therefore, the Proposed Project is consistent with this aspect of Conservation Goal 2.

Recreational and Educational Goals. Parks and Recreation has two primary recreational and educational goals:

Recreational and Educational Goal 1: Protect and enhance the value of Forest Park as a regionally-significant recreational resource – a place that can accommodate recreational and educational use at appropriate seasons of the year without environmental damage. **The Proposed Project will have only temporary impacts on Recreational and Educational Goal 1. For public safety, BPA and PGE access roads will be closed temporarily. Also, the additional proposed transmission line will run parallel to and between existing BPA and PGE transmission lines and will not have a substantial effect on the landscape context as it is currently enjoyed by recreational users. After proposed tree removal, the Proposed Project will expand the existing native oak woodland habitat type that attracts unique species and will offer an interesting diversification of habitat structure for recreational park users. These proposed mitigation strategies are detailed in Appendix D (Habitat Mitigation Plan).**

During construction, BPA Road and affected trails will be temporarily closed to public access while heavy equipment is moved through the area. To minimize this impact, PGE will post notifications of closure ahead of construction and work with PP&R to provide notification updates for PP&R’s website. The Proposed Project will not have

any effects on existing trails or public access routes. Therefore, the Proposed Project is consistent with Recreational and Educational Goal 1.

Recreational and Educational Goal 2: Enhance the value of Forest Park as a regionally-significant educational resource- an urban laboratory for environmental research and resource enhancement and restoration.

Applicant’s Response: The Proposed Project involves a mitigation strategy that aims to restore forest, woodland, and shrubland habitats; increase the amount of pollinator support species; and support northern red-legged frogs with alternate breeding habitat support. All of these restoration actions provide increased opportunity for education and study. Ultimately, the Proposed Project will diversify habitats in the project area and enhance the value of Forest Park as a regionally significant educational resource. More detailed proposed mitigation strategies can be found in Appendix D (Mitigation Plan). Therefore, the Proposed Project is consistent with Recreational and Educational Goal 2.

Chapter 6: Management Plan Strategies:

Strategy 1. Implement Sustainable Resources Program.

Strategy 2. Divide Forest Park Into Management Units.

Strategy 3. Acquire and Protect Additional Land.

Strategy 4. Manage Recreation to Protect Natural Resources.

Strategy 5. Improve interpretive, educational, and research opportunities.

Strategy 6. Improve Public Access.

Strategy 7. Improve Park Safety.

Strategy 8. Develop Recreation Opportunities at Other Sites.

Strategy 9. Improve Park Staff and Funding.

Strategy 10. Continue Public Involvement.

Strategy 1: Implement Sustainable Resources Program.

Applicant’s Response: The Proposed Project furthers this strategy through proposed mitigation measures, including invasive vegetation removal and native plant restoration, establishment and expansion of native oak woodlands and shrub habitat, tree planting, support for the development of additional/alternate safe breeding ponds for a sensitive population of northern red-legged frogs, and maintenance of utility corridors for fire management. Interestingly, maintenance of a utility corridor requires the management of tall conifers through topping or removal, which, incidentally, is also a management strategy for maintaining Oregon white oak woodland. Therefore, the Proposed Project offers a unique strategy for implementing a sustainable resources program for native oak woodland. This Oregon white oak

habitat inclusion benefits the sustainability of Forest Park by providing a more drought-tolerant tree species to the forest matrix.

Strategy 2. Divide Forest Park into Management Units.

Applicant's Response: Not applicable. The Proposed Project does not affect the City of Portland's delineation of management units in Forest Park.

Strategy 3. Acquire and Protect Additional Land.

Applicant's Response: The Proposed Project does not affect the ability of the City of Portland to acquire and protect additional land. It will provide funding that may be used for this purpose at the City's discretion, likely with the Planning Director's approval of an extension to the 5-year period during which in-lieu fee mitigation money must be spent, as allowed by Ordinance 191314.

Strategy 4. Manage Recreation to Protect Natural Resources.

Applicant's Response: Aside from temporary access route closures during construction, the Proposed Project will have no permanent effect on the existing recreational access routes or the City of Portland's ability to manage recreation for the protection of natural resources.

Strategy 5. Improve Interpretive, educational and research opportunities.

Applicant's Response: As noted in the Habitat Mitigation Plan (Appendix D), the Proposed Project proposes to expand existing Oregon white oak habitat, remove invasive species, plant native shrubs, and increase pollinator support vegetation in the project area. All these actions could be of interest to the public community for educational and research opportunities. PGE would welcome opportunities to provide educational signage in coordination with PP&R. The Proposed Project does not impact the ability of the City of Portland to improve interpretive, educational, and research opportunities.

Strategy 6. Improve Public Access.

Applicant's Response: Not applicable. The Proposed Project does not adversely affect the ability of the City of Portland to improve public access.

Strategy 7. Improve Park Safety.

Applicant's Response: Managing the area beneath powerlines as native shrubland increases the diversity of habitats available for wildlife while allowing safe operating distances between transmission infrastructure and vegetation. New transmission routing and structural features will reduce wildfire risk by replacing older, under-capacity equipment with new, resilient equipment that is less likely to fail. Therefore, the Proposed Project furthers the strategy of improving park safety.

Strategy 8. Develop Recreation Opportunities at Other Sites.

Applicant's Response: Not applicable. The Proposed Project does not impact the ability of the City of Portland to develop recreation opportunities at other sites.

Strategy 9. Improve Park Staffing and Funding.

Applicant's Response: Not applicable. The Proposed Project does not impact the ability of the City of Portland to improve park staffing and funding.

Strategy 10. Continued Public Involvement.

Applicant's Response: PGE worked with regional stakeholders in preparing its Clean Energy Plan and Integrated Resource Plan that include the need for the Proposed Project. This effort included 30 roundtable meetings and seven Community Learning Labs held in 2023. PGE has also initiated public outreach measures to specifically alert stakeholder and community groups about: this Proposed Project; how the Proposed Project is crucial to address community needs and goals; and what PGE is doing to maintain safe, reliable transmission infrastructure and compensate for impacts to our community's forest resources. PGE has developed a website to educate and inform the public about the Proposed Project. The Proposed Project website was activated in June 2024, shortly after this application was first submitted to the City. It provides information about opportunities for participation in virtual public meetings and in-person community meetings as the application is being reviewed. To date, two of three planned public outreach meetings have taken place in the vicinity of the project area. The website also includes an email for submitting questions that are answered by PGE specialists. PGE will continue its proactive outreach to stakeholder and community groups to share updates and provide opportunities to engage.

Alternative locations and design modifications were evaluated to show that the proposal has the least significant detrimental environmental impact of the practicable alternatives.

Applicant's Response: A thorough Alternatives Analysis for the Proposed Project was conducted, and the Proposed Project was the only feasible alternative that both meets the required power and transmission needs and also minimizes environmental impacts to the greatest extent possible given the Proposed Project parameters (see Appendix C, Alternatives Analysis). Substantial efforts were made to minimize the Proposed Project impacts on resource values in Forest Park (see Appendix D, Habitat Mitigation Plan). This criterion is met.

- C. *A construction management plan and a mitigation plan will minimize impacts on resources and restore adjacent disturbed areas.*

Applicant's Response: As shown in the Construction Management Plan (Exhibit F) and the Mitigation Site Plan (Exhibit G), and the Habitat Mitigation Plan (Appendix D), the BMPs will be implemented, monitored, and maintained throughout the construction process. The Habitat Mitigation Plan proposes to restore resource functions in a robust manner and provides multiple avenues to enhance native species diversity, create habitat, and protect resources and connectivity. This criterion is met.

(B). The proposal is a park-related development, or no alternative locations exist outside of Forest Park for the proposal.

Applicant's Response: As discussed above, a thorough Alternatives Analysis was conducted (see Section A4 of this narrative document, above). The Alternatives Analysis found that, of the

alternatives considered, the Proposed Project is the most practicable, because it meets the required power and transmission needs within the next three years while also minimizing environmental impacts to the greatest extent possible given the Project parameters (see Appendix C). In this respect, the Proposed Project is analogous to the gas pipeline renovations approved in Forest Park in Bureau of Development Services Case No. LU 23-0121553 EN, for which the hearings officer concluded that locations outside Forest Park are not viable alternatives to the renovation of a pipeline already existing within Forest Park. It is impractical for PGE to need to seek new easements (potentially needing to condemn private properties) when the Utility ROW exists. Therefore, FP NRMP exception criteria (B) and (C) both have already been met. The Proposed Project goals cannot be met outside Forest Park. Therefore, this criterion is met.

(C). There are no practicable alternative locations within Forest Park suitable for the use in which the development will have less adverse impact on resource values.

Applicant's Response: As discussed in the Alternatives Analysis (Appendix C), there are no practicable alternative locations within Forest Park suitable for the use where the Proposed Project development will have less adverse impact on resource values. The Proposed Project would be located within an existing Utility ROW surrounded by two other existing transmission corridors. Placement in a different portion of Forest Park would require a much longer disturbance path to connect Harborton Substation with the existing 230 kV transmission corridor in Forest Park that leads to PGE's Evergreen and St Marys substations. Therefore, placement in a different portion of Forest Park would create a new area of habitat fragmentation and result in a larger area of forest disturbance. The Proposed Project was designed to minimize impacts on Forest Park resources to the maximum extent practicable and represents a scaled-down impact footprint compared to the initial development proposal submitted with the Early Assistance Meeting Request (see EA 22-142445, Appendix A). Therefore, this criterion is met.

(D). Any long-term adverse impacts of the proposed action on resource values are fully mitigated within the Management Unit.

Applicant's Response: There are limited tree replacement opportunities within the North Management Unit. However, the City of Portland Ordinance 191314 (which authorized an in-lieu fee program in 2023) acknowledges the difficulties inherent with individual, project-specific mitigation plans. Specifically, the City of Portland Zoning Code requires project sponsors to plant trees as the primary source of mitigation in order to meet the requirements for resource replacement within the affected management unit of Forest Park. However, due to the nature of Forest Park and its abundance of forest canopy, revegetation with only trees does not always meet the highest ecological need for the park. Instead, as stated in Ordinance 191314, "comprehensive restoration over large areas, including the removal of invasive species and revegetation with shrubs and forbs, is mitigation more readily needed in the park."

Per the attached Habitat Mitigation Plan (Appendix D), PGE proposes to mitigate the long-term impacts, including the loss of mature, mixed conifer and broadleaf deciduous forest habitat functions, by improving other habitat functions that are identified as restoration priorities for Forest Park in state, regional government, and City plans. Mitigation for long-term impacts would occur within the North Management Unit at a ratio of greater than 7 acres of restored or enhanced habitat for every 1 acre of mature conifer-dominated forest impact. Aspects of the Habitat Mitigation Plan include:

- Expansion and long-term management of the Oregon white oak (*Quercus garryana*) woodland (4.5 acres). In support of this Oregon Conservation Strategy habitat, PGE will prioritize this restoration action within the project area by enhancing and expanding oak woodland habitat in specific areas in the existing and proposed transmission corridors, while still maintaining a vertical clear zone between the wires and the top of mature oak tree heights to remain consistent with PGE’s vegetation management protocols.
- Red-legged frog migration support. Northern red-legged frogs (*Rana aurora*) are an Oregon Conservation Strategy species, Oregon State-listed “Sensitive” species, and Federal Species of Concern. Breeding populations of these frogs travel annually from the Forest Park area near the project site to ponds in PGE’s Harborton Natural Area wetlands located on the east side of U.S. Highway 30 and NW Marina Way. Through funding support, PGE proposes to support PP&R and the volunteer team working to create alternate “safe” breeding pond habitat for this species. This opportunity would address a known issue and will provide resilience to a climate-sensitive population of frogs that inhabit the North Management Unit.
- Invasive species removal (approximately 1 acre) and replanting of native species (5.2 acres). PGE proposes removal of invasive English ivy and Himalayan blackberry in preparation for new plantings. This removal will allow for expansion and replanting of native shrub habitat that exists beneath the existing PGE and BPA powerlines, which flank the impact area, and will provide important habitat for wildlife. These shrub and herbaceous habitats present an infrequent break in the homogeneous mixed conifer-deciduous forest habitat. Native shrub habitats provide important food sources for terrestrial wildlife, especially where interspersed within mature forest habitat.
- Pollinator support (7.29 acres). This mitigation includes implementation of the Xerces Society’s Roadside Best Management Practices that Benefit Pollinators as part of PGE easement maintenance activities, such as planting native wildflower and grass seed in the affected areas of transmission corridor, and planting and maintenance of Xerces Society’s recommended native early-season forbs, shrubs, and trees.
- Pay the in-lieu fee authorized by Ordinance 191314 to fund mitigation, monitoring, and maintenance by PP&R within Forest Park outside of the Utility ROW. This will include funds that PP&R may use for the removal of noxious weeds and native planting projects throughout dozens of acres of the North Management Unit. This work will improve ecological conditions and remove ladder fuels (e.g., English ivy) to decrease wildfire risk, thus providing mitigation for the long-term forest habitat impacts associated with the Proposed Project. Additionally, funds may be used by PP&R for a variety of ecological enhancements outside of the North Management Unit to address short-term impacts associated with the Proposed Project.

These summaries of proposed mitigation actions are further explained in the Habitat Mitigation Plan (Appendix D). Additional details on the proposed planting schedule and plants selected can be found in Exhibit G (Mitigation Site Plan).

(E). The proposal is consistent with the purpose of the Environmental Zones.

33.430.010 Purpose

Environmental zones protect resources and functional values that have been identified by the City as providing benefits to the public. The environmental regulations encourage flexibility and innovation in

site planning and provide for development that is carefully designed to be sensitive to the site's protected resources. These regulations also help meet other City goals, along with other regional, state, and federal goals and regulations. The environmental regulations also carry out Comprehensive Plan policies and objectives.

33.430.015 Purpose of the Environmental Protection Zone

The Environmental Protection zone provides the highest level of protection to the most important resources and functional values. These resources and functional values are identified and assigned value in the inventory and economic, social, environmental, and energy (ESEE) analysis for each specific study area. Development will be approved in the environmental protection zone only in rare and unusual circumstances.

33.430.017 Purpose of the Environmental Conservation Zone

The Environmental Conservation zone conserves important resources and functional values in areas where the resources and functional values can be protected while allowing environmentally sensitive urban development.

Applicant's Response: The purpose of the environmental zones is to provide the highest level of protection to the most important resources and functional values; however, even for these resources, the Environmental Overlay Zones recognize the need to provide flexibility for uses such as public utility crossings. This flexibility is offered through the Environmental Review process. This Proposed Project has been designed to minimize environmental resource impacts to the greatest extent practicable and to mitigate habitat impacts through a variety of habitat enhancements. After the Early Assistance Pre-Application Conference with the City of Portland in June of 2022, PGE reassessed the extent of tree removal proposed and reduced tree impacts from approximately 6 acres down to 4.7 acres within Forest Park. Based on a thorough alternatives analysis process, the Proposed Project has been determined to be the only practicable alternative and has been designed to provide the greatest protection of existing resource functions and values while meeting the regulatory and regional need-based requirements of the Proposed Project. The attached Habitat Mitigation Plan (Appendix D) has been designed specifically to enhance these functions and values over time. Therefore, this criterion is met.

Chapter 33.563 – Northwest Hills Plan District, Forest Park Subdistrict

33.563.200 Prohibition

In the Forest Park subdistrict, activities which expose soil to direct contact with stormwater between October 1 and April 30 are prohibited. An exception to this prohibition is planting of native plants with hand-held equipment, and emergency repair of existing structures.

Applicant's Response: To limit the number of cumulative construction phases, PGE seeks to maximize the construction window within each of the two construction years (2025 and 2026). However, construction is proposed to begin soon after April 30 and end by October 1 of each construction year in conformance with the prohibition. Activities proposed to occur prior to April 30 would be limited to installation of erosion control, tree fencing, and construction limit flagging activities. These activities

would not alter soils resources but would help set up a confined work area and introduce minimal disturbance sufficient to encourage wildlife to move out of the work area prior to construction.

33.563.210 Additional Approval Criteria

In addition to the applicable approval criteria of Section 33.430.250, an environmental review application will be approved if the review body finds that all of the following approval criteria are met:

A. Wildlife. The location, quantity, quality and structural characteristics of forest vegetation will be sufficient to provide habitat and maintain travel corridors for the following indicator species: pileated woodpecker, sharp-shinned hawk, Roosevelt elk, white-footed vole, and red-legged frog. Standards to meet [these] criteria are in the applicable Habitat Evaluation Procedure developed by the United States Fish and Wildlife Service [(USFWS HEP)];

Applicant's Response: While trees must be removed from within and along the transmission corridor as part of the Proposed Project, existing quantities, qualities, and structural characteristics of forest vegetation will continue to be sufficient to meet the habitat and connectivity requirements associated with the USFWS HEP for the listed indicator species. Further, through the conservation and enhancement measures described in the Habitat Mitigation Plan (Appendix D), additional habitat/wildlife benefits will be created and enhanced to provide opportunities for enhanced biotic diversity and improved migration corridor conditions for northern red-legged frogs in Forest Park. This criterion is met.

B. Parks and Open Space. Overall scenic, recreational, educational and open space values of Forest Park will not be diminished as a result of development activities; and

Applicant's Response: Because this work will be conducted largely in existing Utility ROW, the Proposed Project will not adversely impact the overall scenic, recreational, educational, and open space values of Forest Park. As discussed in the response to Conservation Goal 1 above, the Proposed Project will protect and expand native plant and animal communities, as well as protect soil and water resources, to the fullest extent possible, while also meeting the urgent and growing electricity needs of the Portland Metropolitan Region. The Habitat Mitigation Plan (Appendix D) is designed to not only minimize impacts to existing resources, but also create new habitat areas (e.g., shrub pollinator and bird habitats, Oregon white oak woodlands) where biodiversity will increase over time. These mitigation actions proposed for the Proposed Project, including others mentioned in the response to criteria from the FP NRMP, Chapter 8, Section B.(D)., will support the parks and open space values of Forest Park.

C. Miller Creek Subarea. Within the Miller Creek Subarea, shown on Map 563-1, development activities will not degrade natural water quality, quantity, and seasonal flow conditions, and will not increase water temperatures above 68°F. In addition, development activities will not decrease opportunities for fish and amphibian passage.

Applicant's Response: The Proposed Project is outside the Miller Creek Subarea. The Proposed Project will not impact the Miller Creek Subarea aside from PGE's commitment to enhance aquatic organism passage to benefit red-legged frog populations in this area. Therefore, this criterion is met.

Forest Park and Northwest District, Natural Resources Inventory and Protection Decisions – Resource Site FP2, Upper Harborton

Natural resources which have been identified by the City for protection in the Environmental Zones are listed in the *Environmental Overlay Zone Map Correction Project, Volume 2, Part A1: Forest Park and Northwest District, Natural Resources Inventory and Protection Decisions* within Resource Site FP2 – Upper Harborton. The following is a description of resources which will be impacted by the proposed development – specifically trees and waterbodies.

Applicant’s Response: Resource Site FP2 – Upper Harborton is a 119-acre site west of U.S. Highway 30, near Harborton Drive. The project site occupies approximately 6.8% of Site FP2. This site is classified as upland coniferous/broadleaf deciduous forest; riverine, intermittent streambed; and seasonally flooded habitats. The Forest Park and Northwest District Natural Resources Inventory and Protection Decisions describes Site FP2 as follows:

The vegetative community is predominantly second growth forest with representative stands of each seral stage of the western hemlock upland forest community. Structural diversity of the forest is generally high, though certain areas along the power line right-of-way and Newton Road lack development of multi-layered canopies. The conifer-topping hardwood and mid-aged conifer stages of forest succession are widespread; climax species such as western hemlock, western red cedar and pacific yew are well established. Forest cover protects watershed resources, serves as habitat for wildlife and provides open space, scenic and recreational resources. Snags, downed logs, and woody debris found at the site are critical structural and functional components of the watershed ecosystem. English ivy has spread into the maples and firs near Highway 30.

This resource site includes some Oregon white oak woodland/mixed forest, which is an infrequent habitat type in the city. It includes species such as *Viburnum ellipticum* and *Toxicodendron diversilobum* as dominant shrub layer components, as well as numerous less common herbaceous species. Other rare plant species found within the site include *Cirsium brevistylum*/Indian thistle, *Cirsium edule*/Edible thistle, *Clarkia amoena*/Farewell-to-spring (PP&R City Nature staff observations, using “Urbanizing Flora of Portland, Oregon 1806-2008”.)

This site provides food, water, and cover habitat for a broad range of birds including Oregon junco, rufous hummingbird, bushtit, Steller’s jay and American robin. The site provides feeding and breeding habitat for red-tailed hawk. Osprey nest nearby and use tall trees in the resource area for perching. Interspersion with surrounding habitat allows for free migration of wildlife to and from the site and increases the site’s value as habitat. The site includes free-flowing seasonal creeks that feed wetland areas northeast of U.S. Highway 30.

The Proposed Project will remove up to 395 conifer and broadleaf deciduous trees in Site FP2, including 21 dead trees. The affected area would be replanted with 912 smaller-stature trees, including 386 Oregon white oak trees. The one intermittent creek within the project site will not be adversely impacted by the Proposed Project. Although some vegetation will be removed near headwaters of the creek and it would be crossed by two temporary stream crossings, most of the

mature trees along the creek will remain, and the portion of the creek that would be affected by vegetation removal or temporary crossings would be revegetated. Further, the Proposed Project would include enhancement of the creek with native woody material to slow and disperse stream flows for increased aquatic habitat niche diversity and base flow support. In addition to helping terrestrial wildlife, this woody material placement will benefit aquatic macroinvertebrates that are important to the local food web.

Chapter 33.440 Greenway Overlay Zones

33.440.210 Development in the Greenway Setback

B. The setback areas.

3. Wetlands in the River Water Quality overlay zone. The greenway setback is 50 feet around the delineated edge of the wetland in addition to the setback from the top of the bank.

Applicant's Response: The Proposed Project may involve temporary work in the wetland and associated Greenway Setback areas in the River Water Quality overlay zone located on PGE's Substation property (Tax Lot R714233). This work will be outside of Forest Park. Existing Tower 3000 is located in a wetland south of the Harborton Substation. PGE anticipates that contractors will not be able to reach the wires attached to Tower 3000 from the existing gravel yard outside of the substation and will need to access the wires through the wetland via temporary access routes (matting). To account for this possibility, PGE has included temporary access routes in the wetland and associated Greenway setback areas. These routes have been set in the field to avoid and minimize impacts to cottonwood trees along the wetland edge. The greenway setback is 50 feet around the delineated edge of the wetland and the top of the Willamette River riverbank. In addition, the Drainage Reserve associated with an unnamed creek that flows through the affected wetland was determined as part of LU 18-151725 GW and Permit #18-260795-000-00-SD. This boundary has been added to the relevant site plans (Exhibits D through G).

C. Development regulations.

2. Development within the greenway setback.

b. Development that is not river-dependent or river-related.

(2) Exception. Within the River Water Quality zone, development, exterior alterations, excavations, and fills that are not river-dependent or river-related do not require a Greenway Goal Exception when located outside of the area that is within the first 25 feet landward of the top of bank.

Applicant's Response: The Proposed Project, which is not river-dependent or river-related, is located outside of the area that is within the first 25 feet landward of the top of bank for the Willamette River. Therefore, a Greenway Goal Exception is not required.

33.440.230 Landscaping

A. Required landscaping. *Landscaping must be provided to conserve or re-establish vegetative cover within or riverward of the greenway setback. The landscaping must comply with the standards specified below. This is in addition to any landscape requirements of other chapters of*

this Title. The greenway landscape requirements may be included in any overall percentage-of-site landscape requirements of the base zone. Landscaping is not required where it would significantly interfere with a river-dependent or river-related use or development, or where the Fire Marshal finds that it would pose a safety hazard.

Applicant's Response: The standards in Code Section 33.440.230 are applicable. There is a wetland in the River Water Quality (q) overlay zone with a greenway setback of 50 feet around the delineated edge of the wetland. It is anticipated that temporary access will be needed in the wetland and Greenway setback. Thus, landscaping is required to conserve or re-establish vegetative cover within the greenway setback.

B. Landscaping standards. Required greenway landscaping must comply with the standards stated below.

1. A minimum of one tree for every 20 feet of river frontage.
2. A minimum of one shrub for every two feet of river frontage. However, if the greenway trail is proposed to be wider than 12 feet, the shrub calculations will be based on a minimum of one shrub per 25 square feet of area within and riverward of the greenway setback that is not paved or reveted. Areas of high human use which provide public access to the river, such as a beach, are exempt from the shrub calculations.
3. Remaining areas which are not paved or reveted surfaces must have living ground cover.
4. All trees and shrubs are to be planted generally within and riverward of the greenway setback.
5. The standards are for calculation purposes only, and do not require or imply linear planting. Grouping of trees and shrubs is encouraged, particularly on the riverbank.

Applicant's Response: Within the affected parcel (R714233) that contains a Greenway Overlay Zone, the Greenway setback is characterized by a fill slope and the developed Harborton Substation yard above this slope. The wetland area is located at the base of the fill slope. A federally owned (BPA) parcel is located south of this parcel, and a natural area mitigation site contains the Willamette River shoreline located east of this parcel. Therefore, the Greenway setback area subject to landscaping standards is limited to the fill slopes to the southwest and northwest of the wetland. These slopes are already characterized by native tree plantings. However, portions of these slopes contain blackberry thickets in the understory beneath the native trees. Therefore, if temporary access is necessary through the Greenway setback area, the Proposed Project will remove these thickets and replant them with native vegetation, as shown on Sheet L327 of the Mitigation Site Plan (Exhibit G).

Transmission line routing improvements associated with Phase 2 of the Harborton Reliability Project are required in this area and are expected to occur in the next few years. Therefore, revegetation would occur following planned routing improvements anticipated to occur in 2025–2026. Shorter-stature trees and shrubs will be used beneath transmission lines and areas within 50 feet of the outer edge of transmission wires. The Proposed Project will comply with the landscaping standards above. Areas of blackberry removal will be planted with the Medium Riparian Plant Zone species and will use spacing and plant materials as described for that plant zone in Exhibit G.

C. Native plants. All landscaping must comply with the native plant requirement of the Willamette Greenway Plan.

Willamette Greenway Plan Section IV. C. Landscaping.

Native Plants. The Plan encourages the use of native plants when landscape plans are being developed. Where several plants meet the site's landscaping needs and one of them is native, the native plant is preferred. If, however, a native plant does not meet the criteria, then other plants may be used. The order for selecting a plant is: plants native to the lower Willamette River, first; native to the Pacific Northwest, second; introduced plants common to the Pacific Northwest, third; and other plants, fourth.

Landscape review. A review of landscape plans within the Greenway is required. The following criteria are to be considered when reviewing the plan to determine whether appropriate plants, including native plants, have been used.

The criteria to be considered are:

- 1. Topography, soils, and site constraints*
- 2. Erosion control*
- 3. Importance for wildlife habitat - The plants should provide cover for nesting, shading, and escape from the elements and predators, facilitating movement to and along the river, food, and diversity of structure, including providing different food types and shelter.*
- 4. Aesthetics - Site design may require certain shapes, textures, colors, or height of plants, particularly in association with buildings.*
- 5. Maintenance - Plants chosen should consider watering, moving, and pruning requirements, and resistance to pests. Sunlight requirements should also be considered.*
- 6. Resilience under human use - Many plants are not suitable to be planted in areas of intense human use, due to their low tolerance to disturbance.*
- 7. Compatibility with human use - There are many plants which are unsuitable for areas of intense human use due to harmful or obnoxious qualities of the plants.*
- 8. Shading and energy conservation considerations - Buildings designed for energy conservation may require year-round or summer shading or windblocks*

Recognition of the variation in human use and interaction along the river should be factored into the review as well. In areas that rated highly in the wildlife habitat inventory, such as Oaks Bottom, Harborton, and on the islands, wildlife habitat values should be the most important factors.

City of Portland Bureau of Planning and Sustainability Portland Plant List

Native plants are encouraged to be planted in the Greenway Overlay Zone. The plants identified on the Nuisance Plants List are prohibited from being planted within the Greenway Overlay Zone. Plants — trees, shrubs, and groundcovers — on the Nuisance Plants List may be removed in the Greenway Overlay Zone without a land use review.

2.2 Mixed Coniferous/Deciduous Riparian Forest

This community represents a mid–range between the narrow riparian areas and deep ravines characteristic of upper sections of streams in the west hills and the broad flood plains of the Columbia and Willamette.

2.4 Deciduous Forested Wetlands and Floodplains

Along the Willamette and the Columbia Rivers, the large floodplains and wetlands support a riparian community dominated by deciduous trees. This is a dynamic community that responds to periodic flooding and high disturbance; floods which can rip trees out of the ground or bury them with sediment. Plants are typically fast growing and can readily reestablish themselves after a disturbance.

Applicant’s Response: All landscaping of the Proposed Project will comply with the native plant requirement of the Willamette Greenway Plan and the native plant requirement of the Portland Plant List.

D. Exception for sites with an existing nonconforming use, allowed use, limited use, or conditional use. *The regulations of this subsection apply to sites with an existing nonconforming use, an allowed use, a limited use, or a conditional use. When alterations are made to a site that does not meet the standards of this section, and the alterations are over the threshold of Paragraph D.1, below, the site must be brought into conformance with the development standards listed in Subsections A, B, and C, above. The value of the alterations is based on the entire project, not individual building permits. The cost of the upgrades required by this chapter may be counted toward the cost of upgrades required by Subsection 33.258.070.D. However, the upgrades required by this chapter must be completed first.*

1. Thresholds triggering compliance. The standards of Subsections A, B, and C must be met when the value of the proposed alterations on the site, as determined by BDS, is more than \$347,000. Alterations and improvements stated in 33.258.070.D.2.a do not count toward the threshold.

Applicant’s Response: The value of the proposed improvements of the Proposed Project exceeds \$347,000. The Proposed Project must meet the standards of Subsections A, B, and C.

1. Area of required improvements. Except as provided in 33.258.070.D.2.c(2), Exception for Sites With Ground Leases, required improvements must be made to the entire site.

Applicant’s Response: There is no ground lease for the site where temporary work would occur in the wetland and Greenway setback area. Greenway setback areas contained within Parcel R714233 are proposed for enhancement with native landscaping.

2. Timing and cost of required improvements. The timing and cost of the required improvements is specified in 33.258.070.D.2.d. However, where 33.258.070.D.2.d refers to the standards listed in Subparagraph 33.258.070.D.2.b, the standards of Subsections A, B, and C, above, are also included.

33.258.070.D.2.d

The applicant may choose one of the following options for making the required improvements:

- (1) *Option 1. Under Option 1, required improvements must be made as part of the alteration that triggers the required improvements. However, the cost of required improvements is limited to 10 percent of the value of the proposed alterations.*
- (2) *Option 2. Under Option 2, the required improvements may be made over several years, based on the compliance period identified in Table 258-1. However, by the end of the compliance period, the site must be brought fully into compliance with the standards listed in Subparagraph D.2.b.*

Applicant's Response: Due to routing improvements required in Tax Lot 00101 (Parcel R714233) associated with Phase 2 of the Harborton Reliability Project, PGE chooses Option 2. Option 2 will allow flexibility to plan and implement needed routing updates together with appropriate riparian plantings and will avoid temporary construction work in recently planted areas.

33.440.350 Approval Criteria

The approval criteria for a greenway review have been divided by location or situation. The divisions are not exclusive; a proposal must comply with all of the approval criteria that apply to the site. A greenway review application will be approved if the review body finds that the applicant has shown that all of the approval criteria are met.

***A. For all greenway reviews.** The Willamette Greenway design guidelines must be met for all greenway reviews.*

Applicant's Response: The following discussion details the applicability of the Proposed Project and the applicant's response to the Willamette Greenway Plan Design Guideline requirements (effective January 1, 1988).

Issue A. Relationship of Structures to the Greenway Setback Area

Introduction

The Willamette Greenway Plan establishes a setback line for non river-dependent and non river-related uses of a minimum of 25 feet landward from the top of bank. The land within this setback is referred to as the Greenway Setback area. Many of the Willamette Greenway design guidelines are focused on this area.

Guidelines

- 1. Structure Design.** *The Greenway Setback area should be complemented and enhanced by designing, detailing, coloring, and siting structures and their entrances to support the pedestrian circulation system, including both the Greenway Trail and access connections.*

Applicant's Response: A setback line for non-river-dependent and non-river-related use established by the Willamette Greenway Plan is a minimum of 25 feet landward from the top of bank. The project site is about 800 feet landward from the top of bank. Therefore, this structure design guideline is not applicable. Note also that all restoration activities in Subarea 1, as described in former land use approval LU 18-151725 GW, were dropped from the restoration project proposal. Updates of that former land use review related to this change and a demonstration of ongoing consistency with the Greenway standards applicable to this former project, can be found in Appendix G.

2. Structure Alignment. *Where surrounding development follows an established block pattern, alignment with the block pattern should be considered in structure placement. Structure alignment should also take into account potential view corridors from existing public rights-of-way or acknowledged viewpoints. The pedestrian access system should be designed to take advantage of these alignments.*

Applicant's Response: Issue A applies to all but river-dependent and river-related industrial use applications for Greenway Approval, when the Greenway Trail is shown adjacent to the river on the property in the Willamette Greenway Plan. There is no Greenway Trail shown adjacent to the river on the Harborton Substation property, and no public pedestrian access will be permitted within the greenway setback. There is no established block pattern that establishes view corridors, and no buildings are proposed within the greenway setback. Therefore, this structure alignment guideline is not applicable.

Issue B. Public Access

Guidelines

1. Public Access. *New developments should integrate public access opportunities to and along the river into the design of the project. This includes the Greenway Trail, formal viewpoints, access connections to the Greenway Trail, and internal site pedestrian circulation.*

2. Separation and Screening. *The pedestrian circulation system, including Greenway trail, viewpoints, and trail access connections, should be designed to ensure adequate separation and screening from parking, loading, circulation routes, external storage areas, trash dumpsters, exterior vents, mechanical devices, and other similar equipment.*

3. Signage. *Access connections should be clearly marked.*

4. Access to Water's Edge. *Where site topography and conservation and enhancement of natural riverbank and riparian habitat allow, safe pedestrian access to the water's edge is encouraged as part of the project.*

Applicant's Response: Issue B applies to all but river-dependent and river-related industrial use applications for Greenway Approval, when the Greenway Trail is shown on the property in the Willamette Greenway Plan. The Proposed Project does not involve any alteration to the alignment of the existing Greenway Trail, and no proposed trails are shown on the Harborton Substation property and no public pedestrian access is permitted on the Harborton Substation property. Therefore, these guidelines are not applicable.

Issue C: Natural Riverbank and Riparian Habitat

Guidelines

Applicant's Response: Issue C, which applies to all applications for Greenway Approval where the riverbank is in a natural state, or has significant riparian habitat, as determined by the wildlife habitat inventory, applies to the Proposed Project. See responses to 1 and 2 below.

1. Natural Riverbanks. *The natural riverbank along the Willamette River should be conserved and enhanced to the maximum extent practicable. Modification of the riverbank should only be*

considered when necessary to prevent significant bank erosion and the loss of private property, or when necessary for the functioning of a river-dependent or river-related use.

2. Riparian Habitat. *Rank I riparian habitat areas, as identified in the wildlife habitat inventory, should be conserved and enhanced with a riparian landscape treatment. Other riparian habitat should be conserved and enhanced through riparian landscape treatments to the maximum extent practical. Conservation however does not mean absolute preservation. Some discretion as to what vegetation should remain and what can be removed and replaced should be permitted. Riparian habitat treatments should include a variety of species of plants of varying heights that provide different food and shelter opportunities throughout the year.*

Applicant's Response: The proposed improvements are approximately 800 feet from the riverbank. Issue C does not apply. Note also that any former improvements near the riverbank proposed within Subarea 1 of the completed Harborton Natural Areas Restoration Project (LU 18-151725 GW) were dropped from the overall project. Updates related to this change are provided in Appendix G to help update and close out that prior land use review file.

Issue D: Riverbank Stabilization Treatments

Guidelines

1. ***Riverbank Enhancement.*** *Riverbank stabilization treatments should enhance the appearance of the riverbank, promote public access to the river, and incorporate the use of vegetation where practical. Areas used for river-dependent and river-related industrial uses are exempted from providing public access.*

Applicant's Response: The proposed improvements are 800 feet from the riverbank. No modification of the riverbank is proposed. Issue D (*Riverbank Stabilization Treatments*) does not apply.

Issue E: Landscape Treatments

Guidelines

Applicant's Response: Issue E, which applies to all applications for Greenway Approval that are subject to the landscape requirements of the Greenway chapter of Title 33 Planning and Zoning of the Portland City Code, is applicable to the Proposed Project. See responses to 1 through 3 below.

1. ***Landscape Treatments.*** *The landscape treatment should create an environment which recognizes both human and wildlife use. Areas where limited human activity is expected should consider more informal riparian treatments. Areas of intense human use could consider a more formal landscape treatment. The top of bank may be considered a transition area between a riparian treatment on the riverbank and a more formal treatment of the upland.*

Applicant's Response: Areas of greenway setback on the Harborton Substation property are limited to wetland buffer that contains a fill berm and fill terrace slope supporting a mix of native deciduous trees and noxious Himalayan blackberry. The site is an area of limited human activity. All disturbed areas will be restored with native vegetation appropriate to the site conditions and elevations. The successful installation of native vegetation will require noxious weed removal, site preparation,

seeding, planting, and ongoing non-native species control. The planting plan is outlined in the Mitigation Site Plan (Exhibit G; see the Planting Details and Notes).

2. Grouping of Trees and Shrubs. In areas of more intense human use, trees and shrubs can be grouped. The grouping of trees and shrubs allows for open areas for human use, and has the secondary value of increasing the value of the vegetation for wildlife.

Applicant's Response: Human use of the Harborton Substation property is low. Any plant grouping would be done to benefit natural plant assemblages and habitat characteristics. For example, some shrub species, such as snowberry (*Symphoricarpos albus*) tend to have better survival when planted in groupings/clumps, rather than spaced 5 feet on-center. Typical plant arrangements are shown in Exhibit G, Sheet L326.

3. Transition. The landscape treatment should provide an adequate transition between upland and riparian areas and with the landscape treatments of adjacent properties.

Applicant's Response: The proposed plantings in the greenway setback will provide a riparian transition between the wetland below (south and east) and the developed, gravel surfaces that lie above the greenway setback within the Harborton Substation property.

Issue F. Alignment of Greenway Trail: This issue "applies to all applications for Greenway Approval with the Greenway trail shown on the property in the Willamette Greenway Plan." These guidelines provide direction for the proper alignment of the Greenway trail, including special consideration for existing habitat protection and physical features in the area of the proposed alignment.

Applicant's Response: The Proposed Project does not involve any alteration to the alignment of the existing Greenway Trail, and no proposed trails are shown on the Harborton Substation property in the Willamette Greenway Plan. Therefore, Issue F is not applicable.

Issue G. Viewpoints: This issue "applies to all applications for Greenway Approval with a public viewpoint shown on the property in the Willamette Greenway Plan and for all applications proposing to locate a viewpoint on the property." These guidelines provide direction about the features and design of viewpoints, as required at specific locations;

Applicant's Response: There are no public viewpoints on the Harborton Substation property, and the Proposed Project does not intend to locate one on the property. Therefore, Issue G is not applicable.

Issue H. View Corridors: This issue "applies to all applications for Greenway Approval with a view corridor shown on the property in the Willamette Greenway Plan." These guidelines provide guidance in protecting view corridors to the river and adjacent neighborhoods.

Applicant's Response: There is no public view corridor on the Harborton Substation property. Therefore, Issue H is not applicable.

B. River frontage lots in the River Industrial zone. In the River Industrial zone, uses that are not river-dependent or river-related may locate on river frontage lots when the site is found to be unsuitable for river-dependent or river-related uses. Considerations include such constraints as the size or dimensions of the site, distance or isolation from other river dependent or river-related uses, and inadequate river access for river-dependent uses.

Applicant's Response: The lot where the Project area is located is in the River Industrial zone, but it is not a river frontage lot. Therefore, this criterion is not applicable.

- C. *Development within the River Natural zone. The applicant must show that the proposed development, excavation, or fill within the River Natural zone will not have significant detrimental environmental impacts on the wildlife, wildlife habitat, and scenic qualities of the lands zoned River Natural. The criteria applies to the construction and long-range impacts of the proposal, and to any proposed mitigation measures. Excavations and fills are prohibited except in conjunction with approved development or for the purpose of wildlife habitat enhancement, riverbank enhancement, or mitigating significant riverbank erosion.*

Applicant's Response: The project site is not within the River Natural zone. Tax Lot 00101 (Property ID: R714233), where the project site is located, has various overlay zones. Only the northwest tip of the lot is within the River Natural zone, and the Project site is in the southeast portion of the lot. Therefore, this criterion is not applicable.

- D. *Development on land within 50 feet of the River Natural zone. The applicant must show that the proposed development or fill on land within 50 feet of the River Natural zone will not have a significant detrimental environmental impact on the land in the River Natural zone.*

Applicant's Response: As discussed above, the project site is not within the River Natural zone, and the location of the Project area is approximately 1,200 feet away from the River Natural zone. Therefore, this criterion is not applicable.

- E. *Development within the greenway setback. The applicant must show that the proposed development or fill within the greenway setback will not have a significant detrimental environmental impact on Rank I and II wildlife habitat areas on the riverbank. Habitat rankings are found in the Lower Willamette River Wildlife Habitat Inventory.*

Applicant's Response: The project site is not near the riverbank. It is approximately 800 feet away from the riverbank. The Proposed Project will not have any significant detrimental environmental impacts on wildlife habitat areas on the riverbank. Therefore, this criterion is met.

- F. *Development riverward of the greenway setback. The applicant must show that the proposed development or fill riverward of the greenway setback will comply with all of the following criteria:*

...

Applicant's Response: The project site is not riverward of the greenway setback. Therefore, this criterion is not applicable.

- G. *Development within the River Water Quality overlay zone setback. If the proposal includes development, exterior alterations, excavations, or fills in the River Water Quality overlay zone setback the approval criteria below must be met. River-dependent development, exterior alterations, excavations, and fills in the River Water Quality zone are exempt from the approval criteria of this subsection.*

1. *Streets, right-of-way dedications, driveways, walkways, outfalls, and utilities. For streets, right-of-way dedications, driveways, walkways, outfalls, and utilities, the applicant's impact evaluation must demonstrate that all of the following are met:*
 - a. *Proposed development or right-of-way (ROW) locations, designs, and construction methods have the least significant detrimental impact to the functional values of the water quality resource area than other practicable and significantly different alternatives including alternatives outside the River Water Quality overlay zone setback;*
 - b. *The location, design, and construction method of any outfall or utility proposed within a River Water Quality overlay zone has the least significant detrimental impact to the functional values of the water quality resource area than other practicable alternatives including alternatives outside the River Water Quality overlay zone setback;*
 - c. *Water bodies are crossed only when there are no practicable alternatives with fewer significant detrimental impacts. Where a water body is crossed, the location, design, and construction method of that crossing has the least significant detrimental impact to the functioning of the water body and considering practicable alternatives;*
 - d. *There will be no significant detrimental impact on functional values in areas designated to be left undisturbed within the River Water Quality overlay zone setback;*
 - e. *All significant detrimental impacts on functional values that cannot be avoided will be mitigated by meeting the requirements of Subsection 33.440.350.H; and*
 - f. *The mitigation plan ensures that the proposed development will not contribute to a cumulative loss of functional values over time.*

Applicant's Response: Proposed work in the greenway setback is limited to potential temporary access to adjust existing wiring, and there will be no change to the existing structures therein. As such, it does not appear that the Proposed Project involves "development." It is not anticipated that there will be any significant detrimental impact to the functional values of the water quality resources at the Harborton Substation property. The only work proposed within the water quality resource area (wetland) is related to temporary access for the potential wire adjustments at existing Tower 3000 (see Exhibit G, Sheet L327). This temporary work would involve access on matted routes to avoid vegetation impacts. The project site is about 800 feet away from the Willamette River top of bank. The proposed temporary work does involve temporary access in a wetland, but no permanent water body crossing. It does not involve any exterior alterations, excavations, or fills aside from temporary access matting and wire relocations, which does not alter the existing Tower 3000 structure. Because the proposed work is temporary and will avoid tree and vegetation impacts by use of matting and incidental soil disturbance will be reseeded with a native wetland seed mix (Exhibit G Sheet 326), no significant detrimental impacts on functional values are anticipated. Further, noxious weed control and native riparian plantings are proposed in the greenway setback so that the proposed temporary access will not contribute to a cumulative loss of functional values over time.

2. *Public safety facilities. For public safety facilities, the applicant's impact evaluation must demonstrate that all of the following are met:*

Applicant's Response: The Proposed Project is not related to public safety facilities. Therefore, this criterion is not applicable.

3. Resource enhancement projects. In the River Water Quality overlay zone setback, resource enhancement projects will be approved if the applicant's impact evaluation demonstrates that all of the following are met:

Applicant's Response: The Proposed Project is not a resource enhancement project. Therefore, this criterion is not applicable.

4. Public recreational facilities. Public recreational trails, rest points, view points, and interpretative facilities will be approved if the applicant's impact evaluation demonstrates that all of the following are met:

Applicant's Response: The Proposed Project is not related to public recreational facilities. Therefore, this criterion is not applicable.

5. Other development, excavations, and fills in the River Water Quality overlay zone setback. Where development, exterior alterations, excavation, or fill is proposed in the River Water Quality overlay zone setback, the applicant's impact evaluation must demonstrate that all of the following are met:

Applicant's Response: As discussed above, the approval criteria in Subsection 1 are applicable to the Proposed Project because it is for utilities. Therefore, the criteria in Subsection 5 are not applicable.

H. Mitigation or remediation plans. Where a mitigation or remediation plan is required by the approval criteria of this chapter, the applicant's mitigation or remediation plan must demonstrate that the following are met:

1. Except when the purpose of the mitigation could be better provided elsewhere, mitigation will occur:

- a. On site and as close as practicable to the area of disturbance;*
- b. Within the same watershed as the proposed use or development; and*
- c. Within the Portland city limits.*

2. The applicant owns the mitigation or remediation site; possesses a legal instrument that is approved by the City (such as an easement or deed restriction) sufficient to carry out and ensure the success of the mitigation or remediation plan; or can demonstrate legal authority to acquire property through eminent domain;

3. The mitigation or remediation plan contains a construction timetable and a minimum 1 year monitoring and maintenance plan that demonstrates compliance with Subsection 33.248.090.E and includes the following elements:

- a. Identification of the responsible party or parties that will carry out the mitigation or remediation plan;*
- b. Identification of clear and objective performance benchmarks that will be used to judge the mitigation or remediation plan success; and*
- c. A contingency plan that indicates the actions to be taken in the event that performance benchmarks are not met.*

Applicant's Response: The applicant's Habitat Mitigation Plan (Appendix D) includes the information listed above.

D. References

- BPS (Bureau of Planning and Sustainability). 2022. Environmental Overlay Zone Map Correction Project, Volume 2, Part A1: Forest Park and Northwest District Natural Resources Inventory and Protection Decisions (Resource Sites 1-20). Adopted by City Council May 25, 2022. Zoning Maps and Code Changes Effective October 1, 2022. Ordinance No. 190834.
- City of Portland, Bureau of Environmental Services. 2022. Protecting Nesting Birds: Best Management Practices for Vegetation and Construction Projects. City of Portland, Portland, OR. Available online at: <https://www.portland.gov/bes/documents/protecting-nesting-birds-best-management-practices-vegetation-and-construction/download>.
- Metro, Oregon. 2023. Metro Council Ordinance, Exhibit A to Ordinance No. 21-1457, 2045 Distributed Forecast of Population, Households, and Employment. Available online at: <https://www.oregonmetro.gov/sites/default/files/2021/03/26/2045-regional-population-housing-forecast-by-city-county.pdf>.
- Forest Park Conservancy and Forest Park Alliance. 2013. Greater Forest Park Conservation Initiative. R. Myers, principal author. Available online at: www.forestparkconservancy.org.
- Moore, E. 2022. Northwest states need to build new power lines, fast. Sightline Institute. October 13, 2022. Available online at: <https://www.sightline.org/2022/10/13/northwest-states-need-to-build-new-power-lines-fast/>.
- PP&R (Portland Parks & Recreation). 2011a. Forest Park Desired Future Condition, January 2011. Available online at: <https://www.portlandoregon.gov/parks/article/335638>. Accessed on: December 19, 2023.
- PP&R. 2011b. Forest Park Ecological Prescriptions, August 2011. Available online at: <https://www.portland.gov/parks/documents/forest-park-ecological-prescriptions/download>. Accessed on: December 19, 2023.
- PP&R. 2023. Natural Area Vegetation. Available online at: <https://www.portlandoregon.gov/parks/39872> and Forest Park Summary, available online at: <https://www.portlandoregon.gov/parks/44449?a=274085>. Accessed on: December 26, 2023.
- Voelkel, J., Hellman, D., Sakuma, R., and Shandas, V. 2018. Assessing Vulnerability to Urban Heat: A Study of Disproportionate Heat Exposure and Access to Refuge by Socio-Demographic Status in Portland, Oregon. International Journal of Environmental Research and Public Health. 2018; 15(4):640. Available online at: <https://doi.org/10.3390/ijerph15040640>.

E. Exhibit Drawings

Exhibit A. Application

Exhibit B. Site Vicinity Map

Exhibit C. Overall Site Plan and Tree Table

Exhibit D. Existing Condition Plan

Exhibit E. Proposed Development Plan

Exhibit F. Construction Management Plan

Exhibit G. Mitigation Site Plan and Planting Details and Notes

F. Appendices

Appendix A. Early Assistance Summary (EA 22-142445)

Appendix B. Arborist Report/Tree Protection Plan

Appendix C. Alternatives Analysis

Appendix D. Mitigation Plan

Appendix E. Site Photos

Appendix F. PGE's Existing Utility Easement in Forest Park

Appendix G. Request for Update to Prior Greenway Review LU 18-151725 GW

Appendix H. Tree Mortality data

Appendix I. Joint Letter of Support

Appendix J. Geotechnical Investigation Report