

1.0 PURPOSE OF ACTION AND NEED FOR POWER

On August 26, 2004, Portland General Electric (PGE) filed an application for a new license for the existing 173-megawatt (MW) Clackamas River Hydroelectric Project (Project) (FERC No. 2195-011) located in the Clackamas River Basin in Clackamas County, Oregon (Figures 1.0-1, 1.0-2 and 1.0-3).¹ The current license for the Project expired on August 31, 2006.

1.1 PURPOSE OF ACTION

The Federal Energy Regulatory Commission (Commission), under the authority of the Federal Power Act (FPA), may issue licenses with terms from 30 to 50 years for the construction, operation, and maintenance of jurisdictional hydroelectric projects. The Commission is considering whether to issue a new license to PGE for the Project. The purpose of the proposed action is to provide continued, uninterrupted, low cost electrical energy generation for the benefit of governmental, industrial, and residential customers of the Project, while balancing the needs of resources and other public interests in the area.

In deciding whether to issue a license for a hydroelectric project, the Commission must determine that the project will be best adapted to a comprehensive plan for improving or developing a waterway. In addition to the power and developmental purposes for which licenses are issued (e.g., flood control, irrigation, water supply), the Commission must give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Therefore, in determining whether and under what terms and conditions a new license should be issued to PGE for the Project, the Commission must weigh and balance all relevant economic, engineering, and environmental factors involved in the decision.

Commission staff (staff) prepared this Final Environmental Impact Statement (FEIS) to ensure that the Commission makes an informed licensing decision and to comply with the National Environmental Policy Act of 1969 (NEPA), as amended, the Council on Environmental Quality (CEQ) guidelines implementing NEPA, and the Commission's regulations.

¹ On June 18, 2003, the Commission issued an Order Amending License (103 FERC ¶ 62,161) that combined the licenses of the Oak Grove Project (formerly Project No. 135) and the North Fork Project (formerly Project No. 2195) and designated the combined projects as the Clackamas River Project No. 2195.

In this FEIS, we assess the effects of operating the Project: 1) with no changes or enhancements to the current facilities or operation (No-Action Alternative); 2) operating the Project as proposed by PGE in the Settlement Agreement (Proposed Action); and 3) operating the Project as proposed by PGE with staff-recommended modifications (Staff Alternative). Other alternatives considered, but eliminated from detailed analysis, include: 1) federal government takeover and operation of the Project; 2) issuance of a non-power license upon expiration of the current Project license; 3) retiring the Project; and 4) increasing Timothy Lake levels for water providers downstream.

Specifically, this FEIS evaluates the potential natural resource benefits, the environmental effects, and the development costs associated with relicensing the Clackamas River Hydroelectric Project. The principal issues addressed in the FEIS include: 1) erosion and sedimentation control; 2) water quality and quantity; 3) fish resources and habitat protection and enhancement; 4) fish passage; 5) terrestrial resources, including barriers to wildlife movements and terrestrial habitat connectivity; 6) potential effects on threatened, endangered, or rare fish, wildlife, and plant species; 7) cultural resources; 8) recreation; 9) land use; 10) aesthetic resources; and 11) socioeconomics.

1.2 NEED FOR POWER

According to the *Biennial Energy Plan* of the Oregon Department of Energy (ODE, 2005), the two major sources of Oregon's electricity in 2003 were hydropower (44 percent) and coal (42 percent), with natural gas accounting for 7 percent, and other sources (e.g., nuclear, wind, biomass) the balance. For PGE, the distribution of electricity generation sources during that same period was coal (38 percent), hydropower (31 percent), natural gas (28 percent), and other (3 percent) (OOE, 2002).

The power generated at the 173-MW Clackamas River Hydroelectric Project is fed into PGE's electrical transmission and distribution system for use within its service area to help serve its customers. PGE is part of the Western Electricity Coordinating Council (WECC), which is comprised of generators and suppliers in 12 western states, Canada, and Mexico. PGE and its resources are located within the northwest subregion of the WECC.

PGE provides power to over 733,000 customers, representing approximately 40 percent of the electric power supplied in Oregon. In 2001, PGE's own resources and long-term contracts for specific projects served 72 percent of its load, with the remainder relying on a regional mix of other power sources in Oregon, Washington, Idaho, Montana, Utah, and Wyoming (OOE, 2002).

The Northwest Power and Conservation Council (NWPCC) prepares analyses of anticipated growth in demand for electricity in the State of Oregon (and surrounding states). These analyses are established under the *Pacific Northwest Electric Power Planning and Conservation Act* (commonly referred to as the Northwest Power Act).

The NWPCC (2005) estimates that electricity demand in the region will grow over the 25-year period (i.e., 2000 to 2025) from 20,080 average megawatts (MW) to 25,423 MW, or by about 27 percent (based on a medium forecast). This latest estimate projects an average annual growth rate of just under one percent per year for the 25-year period, with an average annual increase in electricity demand of 214 MW. This estimate has been revised downward from the results of the prior Power Plan, which had forecast the annual rate of growth in electricity at 1.3 percent per year.² The downward revision reflects new assumptions about industrial electricity demand and, in particular, demand from the energy-intensive aluminum industry in the region. The NWPCC now estimates that four of the region's remaining eight aluminum plants will continue to operate in the future on a sustainable basis (NWPCC, 2003a).

Energy demand for Oregon must be viewed within a regional context. Both imports and exports of energy among the Northwest states significantly affect the ability of each system to meet its demands. The *Biennial Energy Plan* (OOE, 2002) points out that while Oregon sited and placed six power plants into service during the 1990s, several plants approved in California and Washington that could have provided electricity to Oregon were not built. In addition, the region's high proportion of energy generation from hydropower introduces some instability into the matching of supply and demand of electrical power (over 60 percent of the Northwest Power Pool's resource capability is hydropower, according to Western Electricity Coordinated Council's (WECC) *2004-2005 Winter Assessment*). For example, in the late 1990s, a regional drought created a reduced water supply for hydropower. As a further example, during the energy crisis experienced in California in the winter of 2000/2001, Northwest states were not able to rely on customary winter electricity imports from California.

In its 10-year Coordinated Plan Summary for the period 2005-2014, the WECC estimates that its peak summer demand will increase by an average annual compound rate of 2.5 percent to about 181,000 MW by 2014. For the 10-year period, the region projects the addition of a net amount of about 25,000 MW of

² The *2005 Northwest Regional Forecast*, prepared by Pacific Northwest Utilities Conference Committee, projects an upcoming deficit of 184 MWa, based on a total demand of 20,711 MWa. This estimated deficit accounts for some 900 MW under construction as well as 19,300 MW in various stages of planning.

new resources, 88.3 percent of which is combustion turbine capacity fueled by natural gas. With these additions, WECC projects adequate capacity to meet its estimated summer load, including a 15-percent reserve margin, through 2014.

The California Independent System Operator (CAISO) organization reports an increase in the system's ability to meet base and peak demand. An index used by the CAISO to evaluate market competitiveness indicates that the short-term energy market in California stabilized in late 2001, resulting in fairly competitive conditions since then (*California ISO 2004 Annual Report on Market Issues and Performance*, April 2005). According to CAISO, the peak hour reserve margin dropped for the first time in three years, from 22.8 percent (2003) to 15.3 percent (2004). The overall reserve margin in 2004 is still highly dependent on imported energy to meet system demands.

In summary, the electric power provided by the Clackamas Project supplies can provide a net generating capacity in excess of 173 MW of power, roughly four percent of the PGE system, for the term of the next license. This amount of capacity, and associated annual energy production, would help meet local and regional needs with a clean source of energy, thereby avoiding the use of a like amount of fossil-fueled generation and its associated atmospheric emissions.

1.3 INTERVENTIONS AND PROTESTS

PGE filed its Final License Application with the Commission on August 26, 2004. On October 22, 2004, the Commission filed an Acceptance Notice for the application. The notice established December 22, 2004 as the deadline for filing protests on the application or motions to intervene in the proceedings. The following parties filed motions to intervene:

<u>Intervenor</u>	<u>Date Filed</u>
City of Estacada	February 1, 2005
United States Department of Agriculture – Forest Service	December 22, 2004
Clackamas River Basin Council	December 20, 2004
Waterwatch of Oregon	December 20, 2004
Association of Northwest Steelheaders	December 20, 2004
Confederated Tribes of the Grande Ronde Community	December 20, 2004
American Rivers*	December 20, 2004
Alder Creek Kayak and Canoe	December 20, 2004
Confederated Tribes of the Warm Springs Reservation of Oregon	December 20, 2004
Confederated Tribes of Siletz Indians of Oregon	December 16, 2004
National Marine Fisheries Service	December 16, 2004
Clackamas Water Providers	December 14, 2004

<u>Intervenor</u>	<u>Date Filed</u>
Oregon Department of Justice**	December 13, 2004
Oregon Department of Fish and Wildlife	December 13, 2004
Oregon Department of Environmental Quality	December 13, 2004
Oregon State Marine Board	December 13, 2004
Oregon Water Resources Department	December 13, 2004
Oregon Public Utility Commission	December 13, 2004
Oregon Parks and Recreation Department	December 13, 2004
Oregon Department of Geology and Mineral Industries	December 13, 2004
United States Department of Interior	December 8, 2004

*American Rivers' filing was also made on behalf of Trout Unlimited, the Native Fish Society, and Oregon Trout.

**The Oregon Department of Justice was not an intervener, they filed the intervention on behalf of the state agencies.

All parties filed motions to intervene by the deadline except for City of Estacada. The Commission granted late intervener status to City of Estacada on February 1, 2005. Interventions by Waterwatch of Oregon and American Rivers were in opposition.

1.4 AGENCY CONSULTATION AND HISTORY OF THE COLLABORATIVE PROCESS

The USDA Forest Service, pursuant to a Memorandum of Understanding (MOU) signed in March of 1999 by the USDA Forest Service, PGE, and the Commission, cooperated with the Commission and PGE in a Third Party Contractor-Environmental Impact Statement (TPC-EIS) process. On December 22, 2004, the USDA Forest Service filed a Notice of Intervention, indicating that it was ending its cooperating agency status with FERC and PGE in the TPC-EIS process.

On March 15, 2005, the Commission declared PGE's License Application ready for environmental analysis and solicited comments, recommendations, terms and conditions, and prescriptions. Federal and state resource agencies and the Clackamas Water Providers submitted comments, recommendations, terms and conditions, and prescriptions to the Commission in July 2005 and August 2006. These comments, recommendations, terms and conditions, and prescriptions are incorporated into the Settlement Agreement and so are considered part of the Proposed Action for the purposes of analysis in this FEIS.

Section 18 Fishway Prescriptions

Pursuant to section 18 of the FPA, the Secretaries of the United States Department of Commerce and the United States Department of Interior filed preliminary section 18 Fishway Prescriptions in July 2005 and modified Fishway Prescriptions on August 22, 2006

Section 4(e) Conditions

The USDA Forest Service submitted draft section 4(e) of the FPA Terms and Conditions for the Clackamas Project on July 6, 2005 and filed modified FPA Terms and Conditions on August 16, 2006.

Section 401 Water Quality Certificate Conditions

PGE filed an extension request on their application for a Water Quality Certification for the Clackamas Project on August 23, 2006, as required under section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act). ODEQ has not responded to this application or submitted section 401 conditions at this time.

Section 10(j) Recommendations

Under section 10(j) of the FPA, each hydroelectric license issued by the Commission must include conditions based on recommendations provided by federal and state fish and wildlife agencies for the protection, mitigation, or enhancement of fish and wildlife resources affected by the project. The Commission is required to include these conditions unless it determines that they are inconsistent with the purposes and requirements of the FPA or other applicable law. The USFWS and NMFS filed draft recommendations pursuant to section 10(j) in July 2005 and August 2006. The ODFW filed preliminary recommendations pursuant to section 10(j) on July 8, 2005 and modified 10(j) recommendations on August 21, 2006.

<u>Entity</u>	<u>Date Filed</u>
United States Department of Agriculture - Forest Service	July 6, 2005 August 16, 2006
National Marine Fisheries Service	July 8, 2005 August 22, 2006
State of Oregon	July 8, 2005 and April 25, 2006 August 21, 2006
United States Department of Interior	July 11, 2005 August 22, 2006
Clackamas Water Providers	July 12, 2004 August 18, 2006

1.4.1 History of the Collaborative Process

PGE announced plans to seek a new license for the Project in March 1999 and began the relicensing process by initiating the Commission’s alternative licensing process pursuant to 18 C.F.R. § 4.34(i). This collaborative process brought interested parties (collectively referred to as stakeholders), particularly those that are involved in managing resources affected by the Project, together to identify key issues of concern in relicensing the Project. Issues identified at the first stakeholders meeting in March 1999 became the subject of a series of technical meetings with smaller workgroups to further define and clarify the issues, and to suggest the level of effort, purpose, and suggested scope of work of studies to address the issues.

PGE formed and facilitated four technical workgroups to identify and address issues related to their particular areas of concern. The four workgroups included: 1) Fisheries and Aquatics Workgroup, 2) Terrestrial Resources Workgroup, 3) Recreation, Land Use, and Aesthetics Workgroup, and 4) Cultural Resources Workgroup. Workgroup members total over 60 individuals representing State and Federal regulatory and resource management agencies such as the USDA Forest Service, USFWS, ODFW, Oregon Water Resources Department (OWRD), Oregon Department of Environmental Quality (ODEQ), Oregon State Historic Preservation Office (OHP), and National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NMFS), as well as representatives from non-government organizations, Native American interests, environmental advocacy groups, and members of the general public. Throughout the collaborative process over the last five years, stakeholders raised issues related to continued operation of the Project, participated in the design and evaluation of field studies to address the issues, reviewed information and data resulting from

the studies, and determined the appropriate level of analysis for the issues in the EIS.

Commission staff issued Scoping Document 1 (SD1) in January 2001. The FERC staff held two public scoping meetings in February 2001. Following the scoping meetings and the public comment period, the staff reviewed all oral and written comments received on SD1 and worked with the stakeholder groups to identify additional information and study needs based on the SD1 comments. Also during this time PGE and the stakeholders worked to further develop and refine Project alternatives.

Based on the scoping comments received on SD1, progress within stakeholder groups, and preliminary staff analysis, staff prepared and distributed Scoping Document 2 (SD2) in April 2003, which addressed comments received on SD1 and presented the issues and alternatives to be considered in the EIS. These issues include potential effects on: (1) geology and soils; (2) water quality and quantity; (3) aquatic resources; (4) terrestrial resources; (5) threatened and endangered species; (6) cultural resources; (7) recreation and land use; (8) aesthetic resources; and (9) socioeconomics.

Since April 2004, PGE and 32 other parties involved in this licensing proceeding (collectively referred to as the Settlement Working Group) have been engaged in settlement discussions intended to resolve all outstanding issues associated with Project relicensing. On March 29, 2006, PGE filed a Settlement Agreement that they reached with the 32 parties on proposed environmental measures to be implemented as part of any new license for the Project (PGE, 2006). The 32 settlement parties included federal, state, and local government agencies, Indian tribes and non-governmental organizations. The Settlement Agreement contains 55 proposed license articles that PGE and the settlement parties recommend the Commission incorporate into a new license. The proposed articles describe how PGE would operate the Project and PGE's responsibilities for certain environmental measures related to: geology and soils, aquatic resources, terrestrial resources, threatened and endangered species, cultural resources, recreation, and aesthetics. The Settlement Agreement serves as PGE's Proposed Action in this proceeding.

The Commission issued a draft EIS (DEIS) on June 18, 2006, and the U.S. Environmental Protection Agency's notice of availability was issued on June 23, 2006. Comments on the draft EIS were due August 22, 2006. The following entities filed comments:

Commenting Entity

Date Filed

Oregon whitewater boaters	August 10, 2006
Portland General Electric	August 16, 2006
United States Department of Agriculture - Forest Service	August 16, 2006
Clackamas Water Providers	August 18, 2006
State of Oregon – Hydroelectric Application Review Team	August 21, 2006
Oregon Department of Fish and Wildlife	August 21, 2006
Oregon Department of Environmental Quality	August 21, 2006
Oregon State Marine Board	August 21, 2006
American Rivers	August 22, 2006
American Whitewater	August 22, 2006
Clackamas River Basin Council	August 22, 2006
Confederated Tribes of the Grande Ronde Community	August 22, 2006
National Marine Fisheries Service	August 22, 2006
United States Environmental Protection Agency	August 22, 2006
United States Department of Interior	August 22, 2006

Appendix F contains the comments and our responses. This FEIS includes the changes as a result of our consideration of these comments.

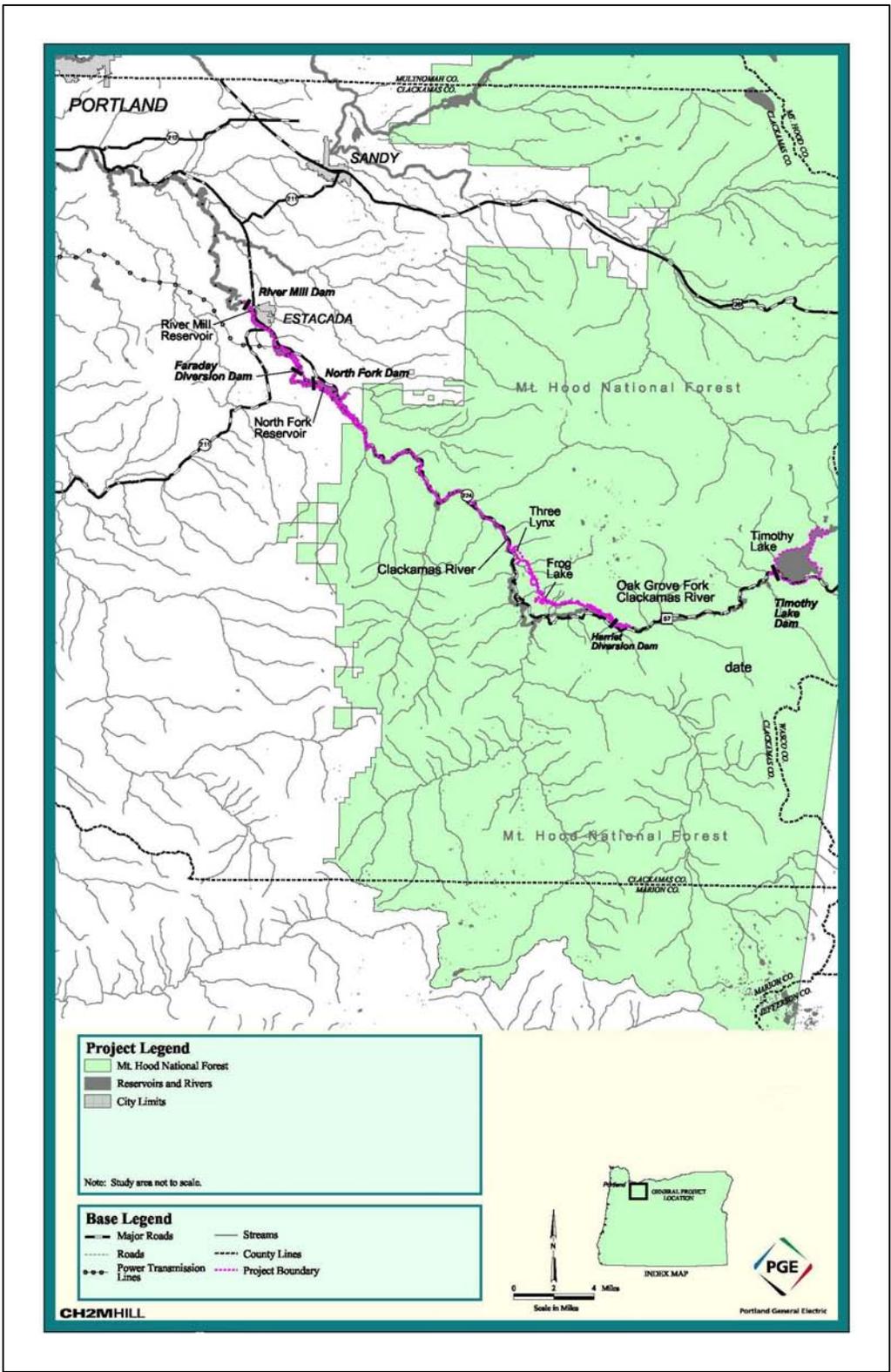


Figure 1.0-1. Location Map – Clackamas River Hydroelectric Project

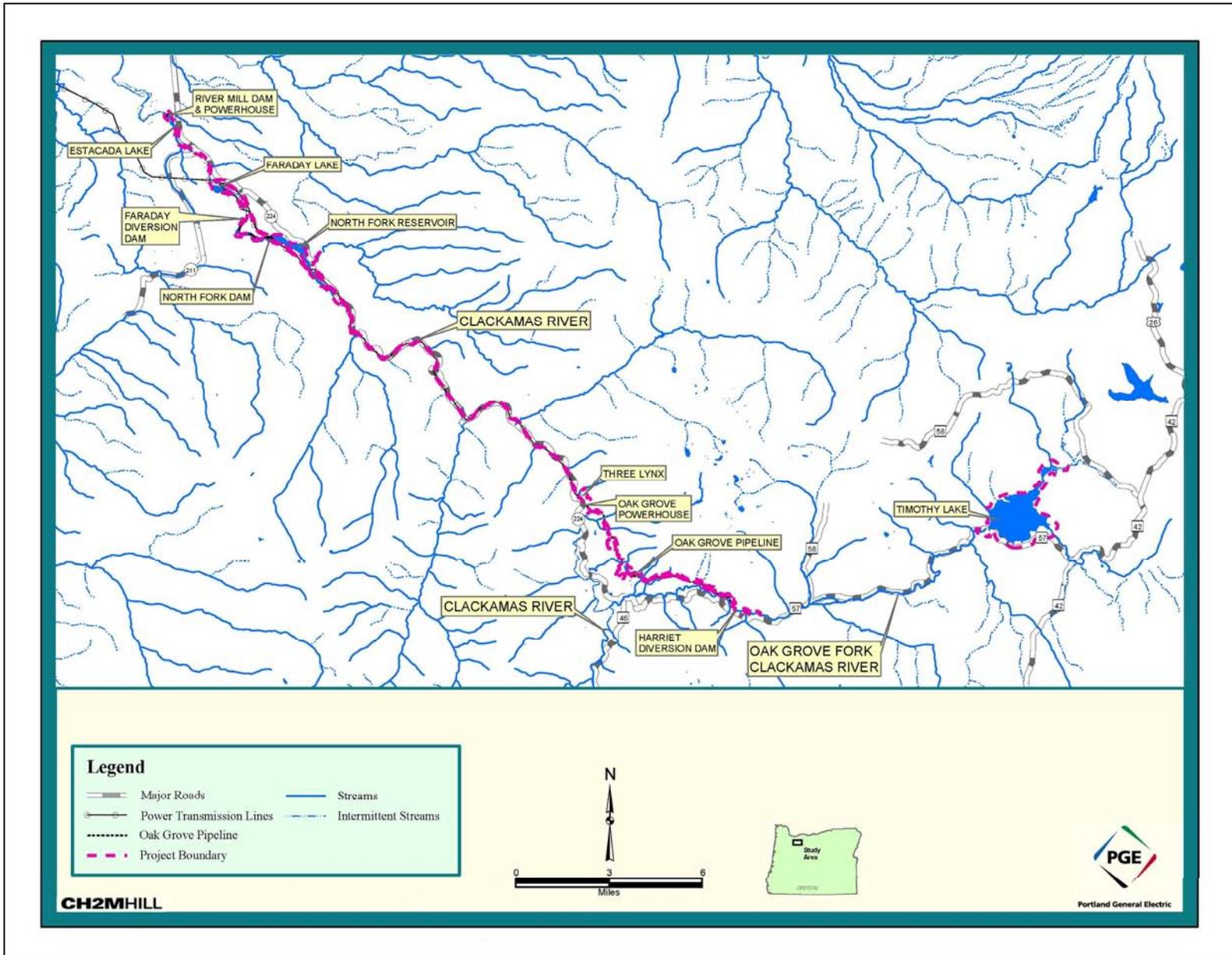


Figure 1.0-2. Project Facilities – Clackamas River Hydroelectric Project

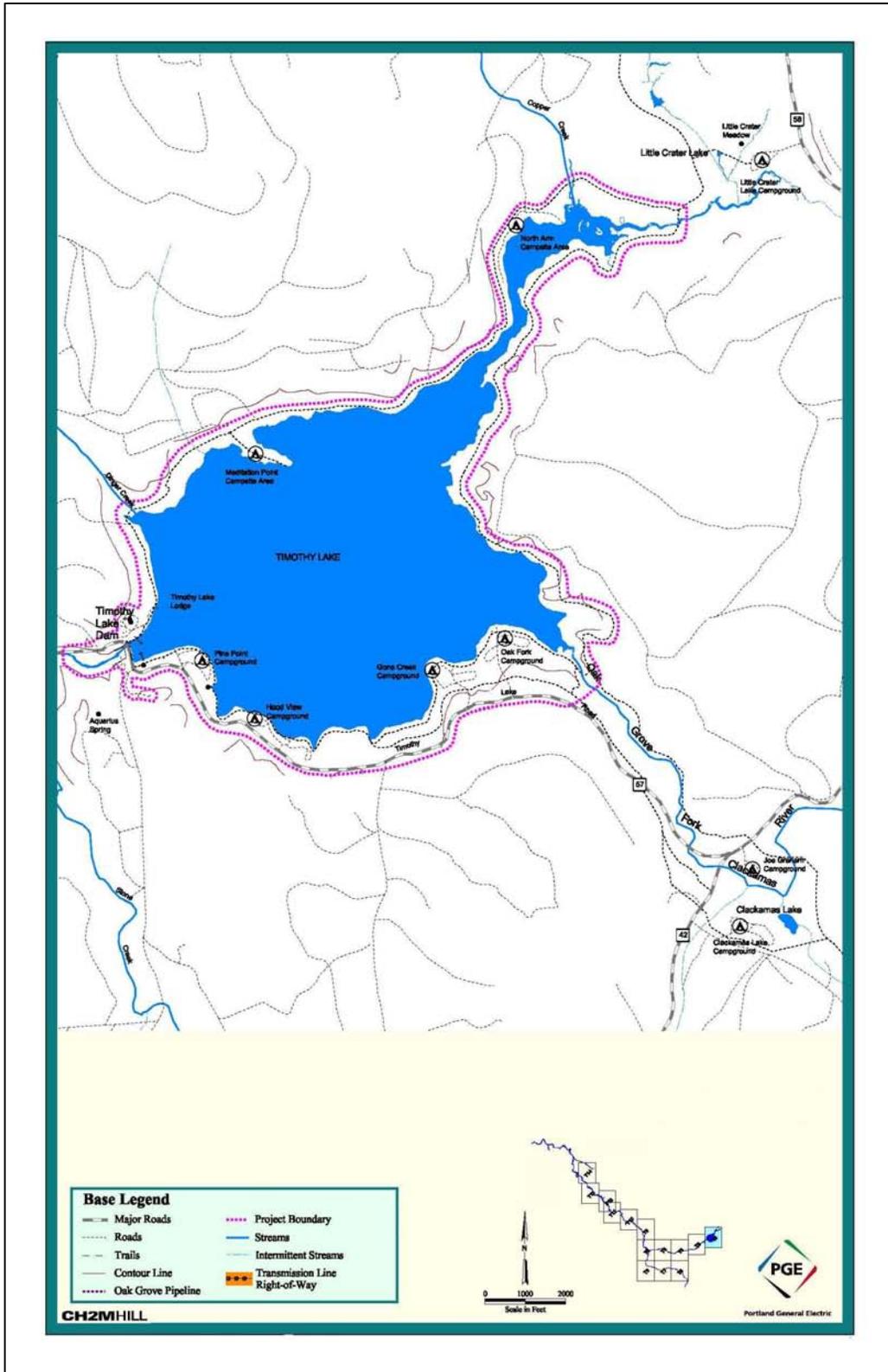


Figure 1.0-3. Detailed Location Map (Tile 1)

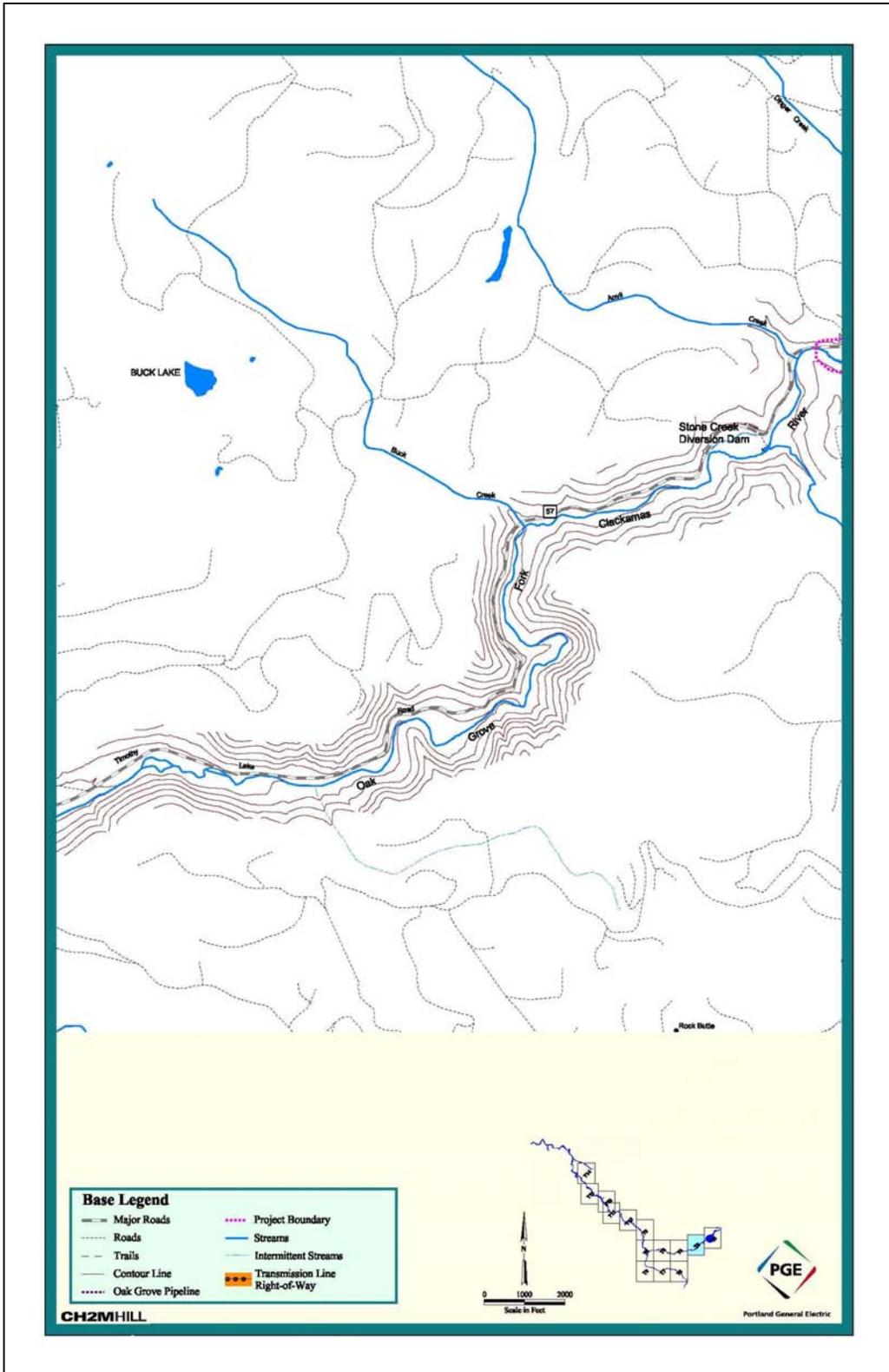


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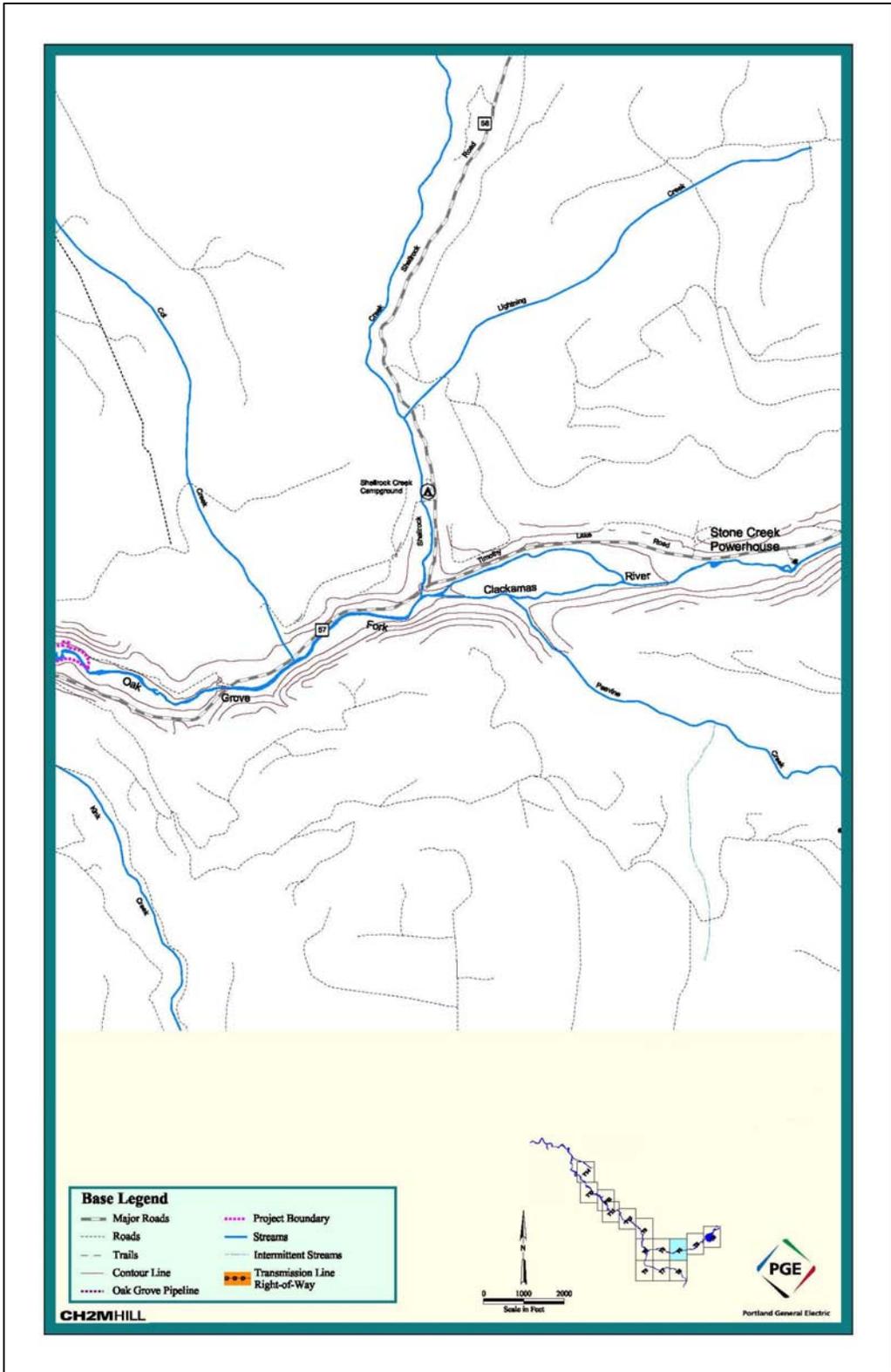


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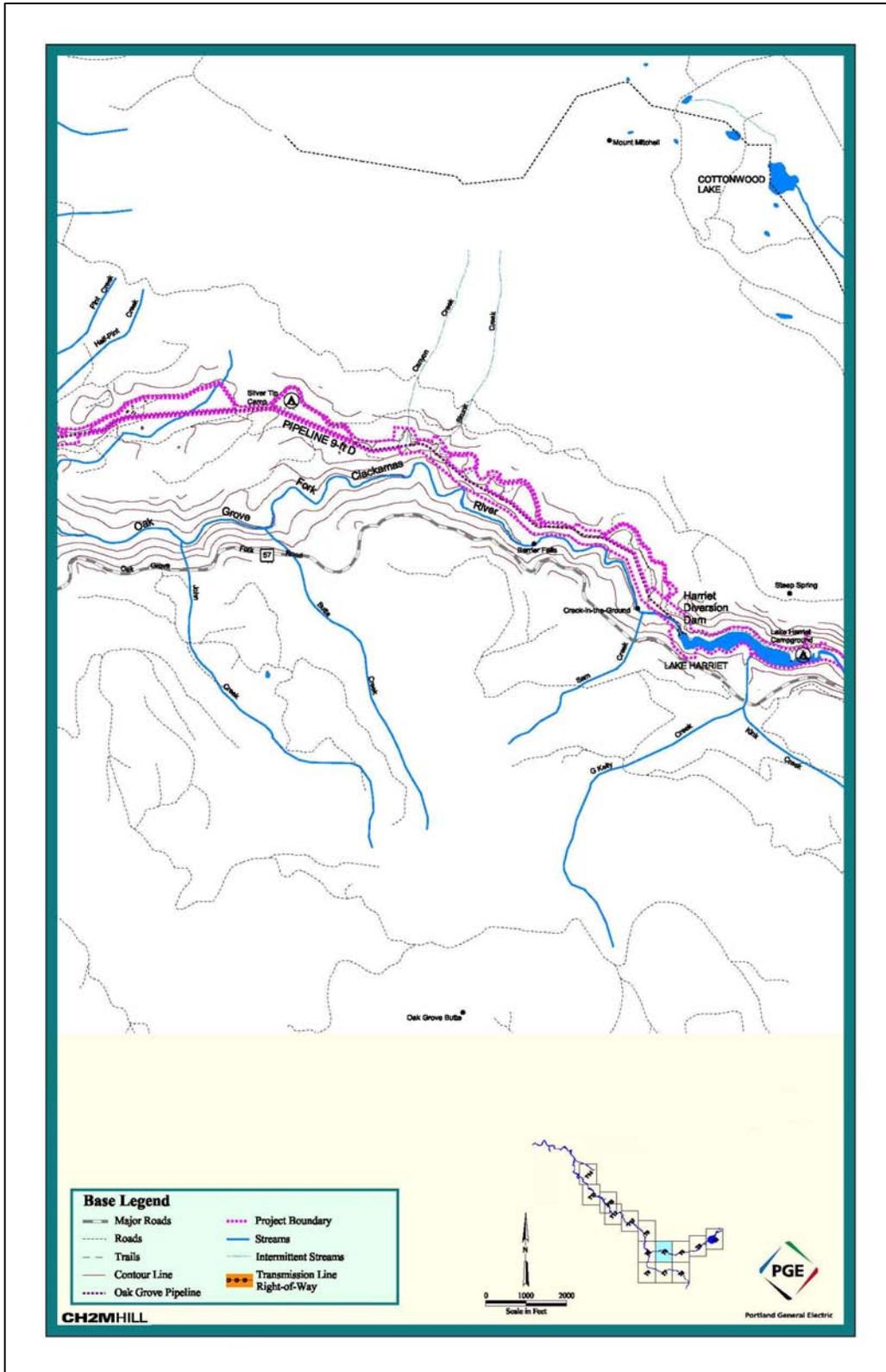


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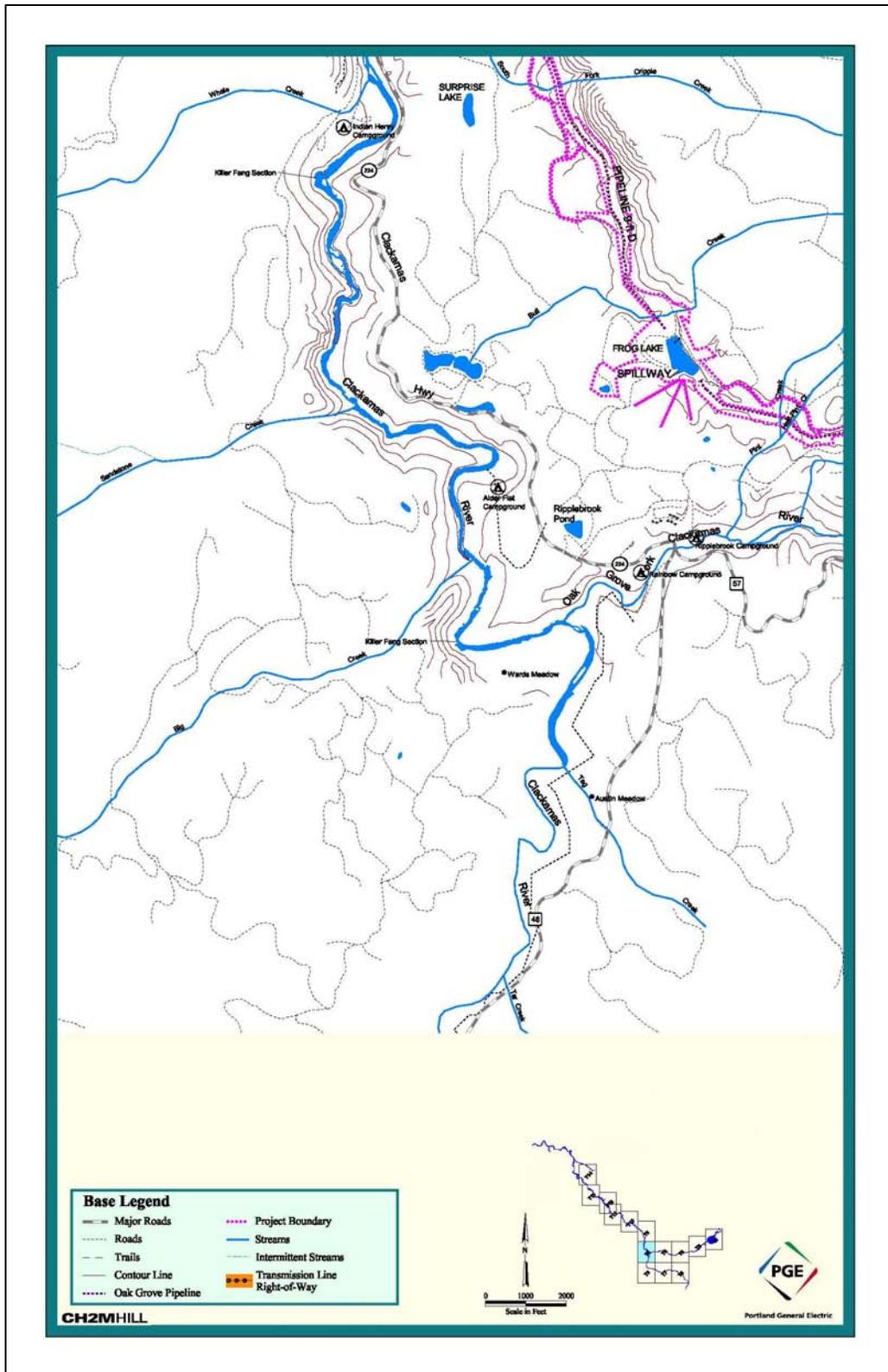


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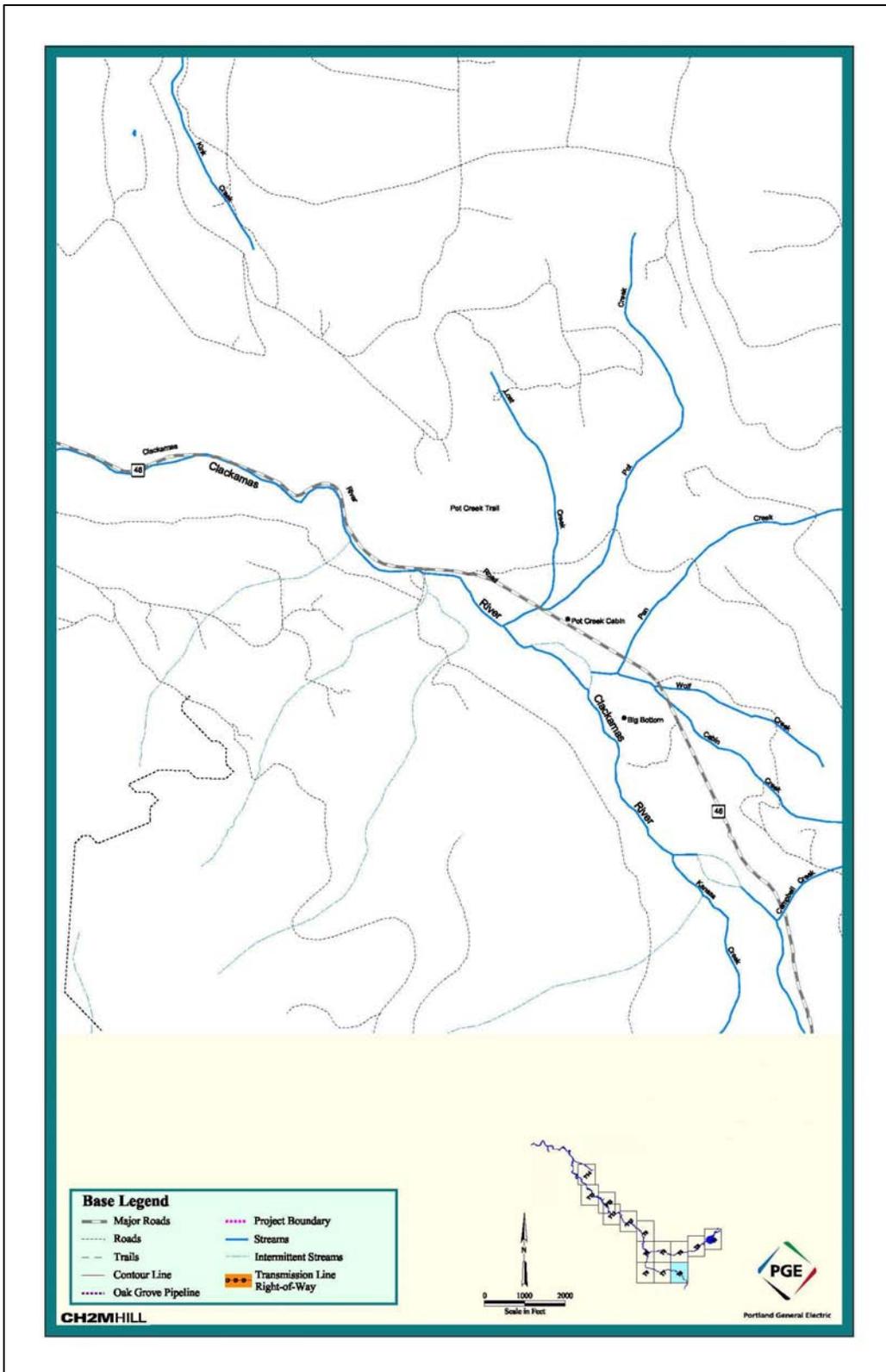


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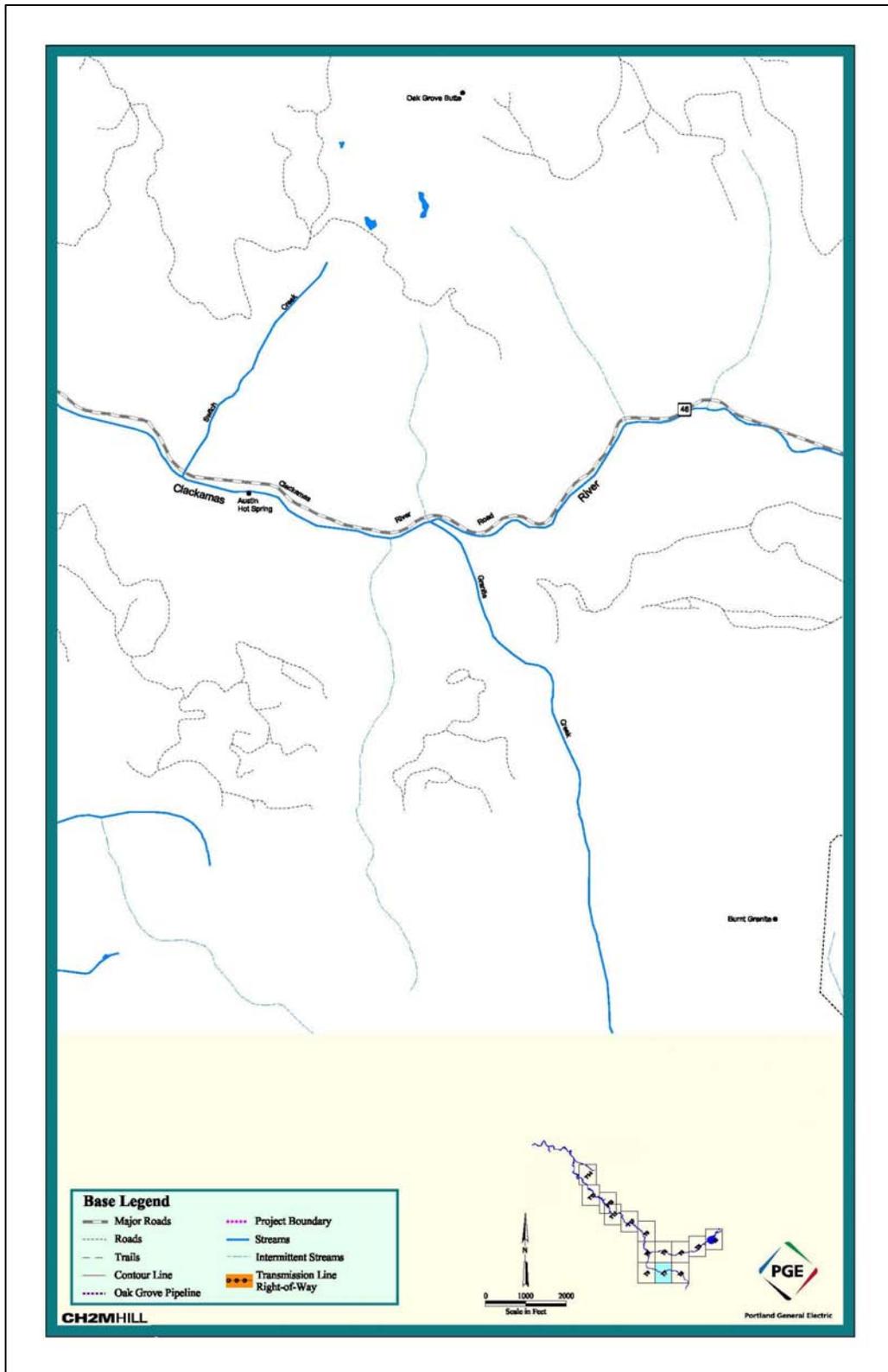


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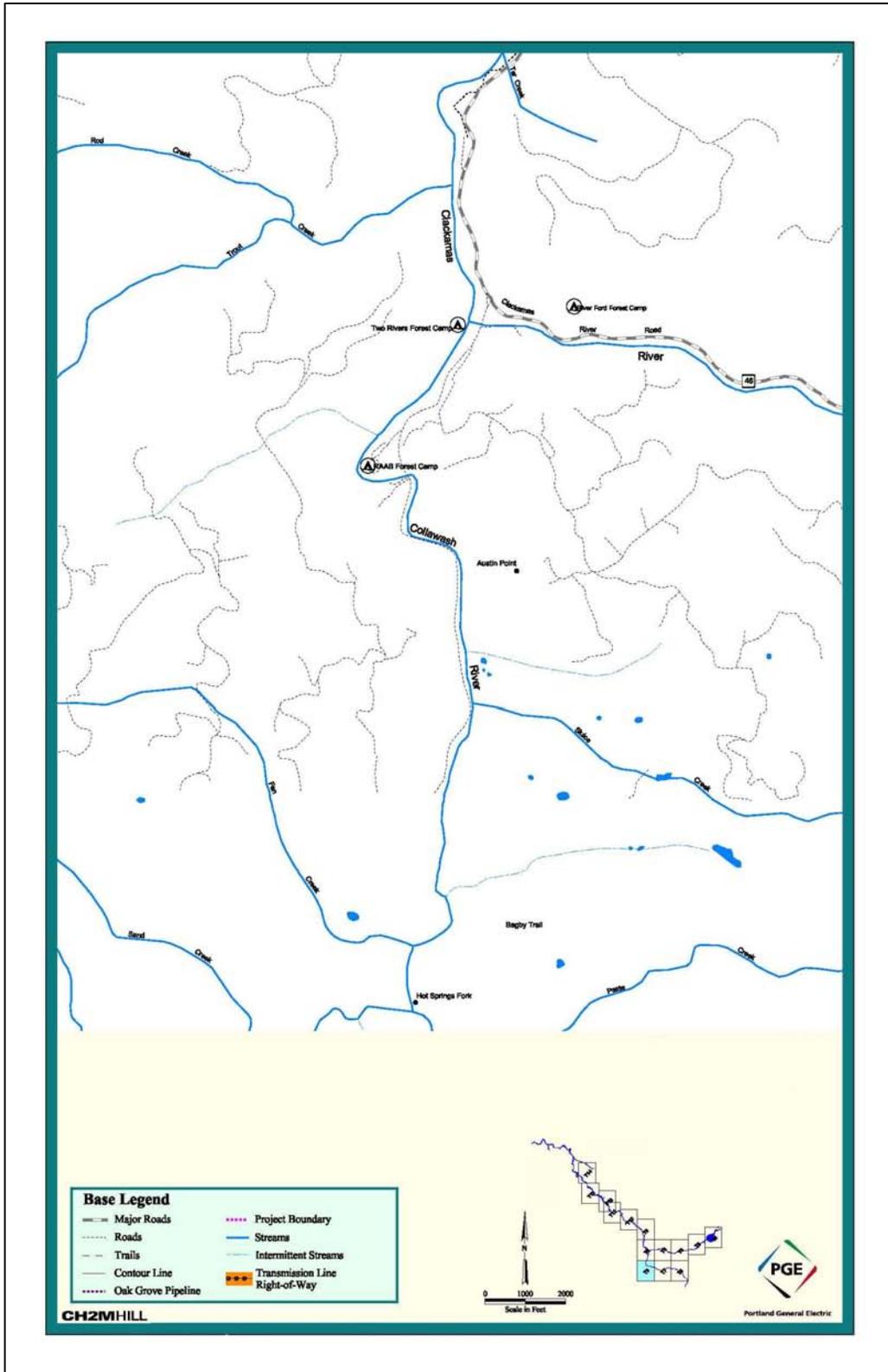


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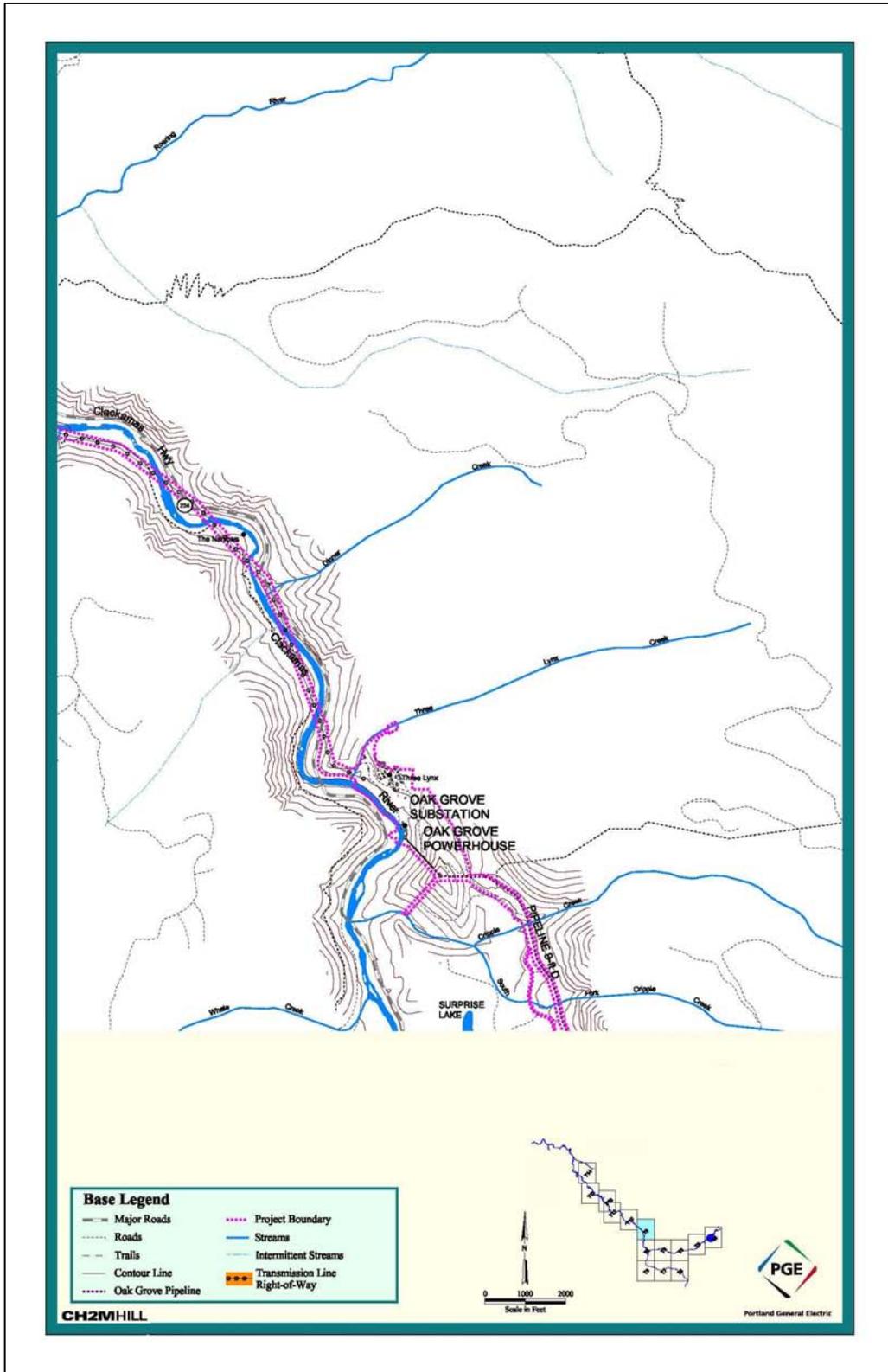


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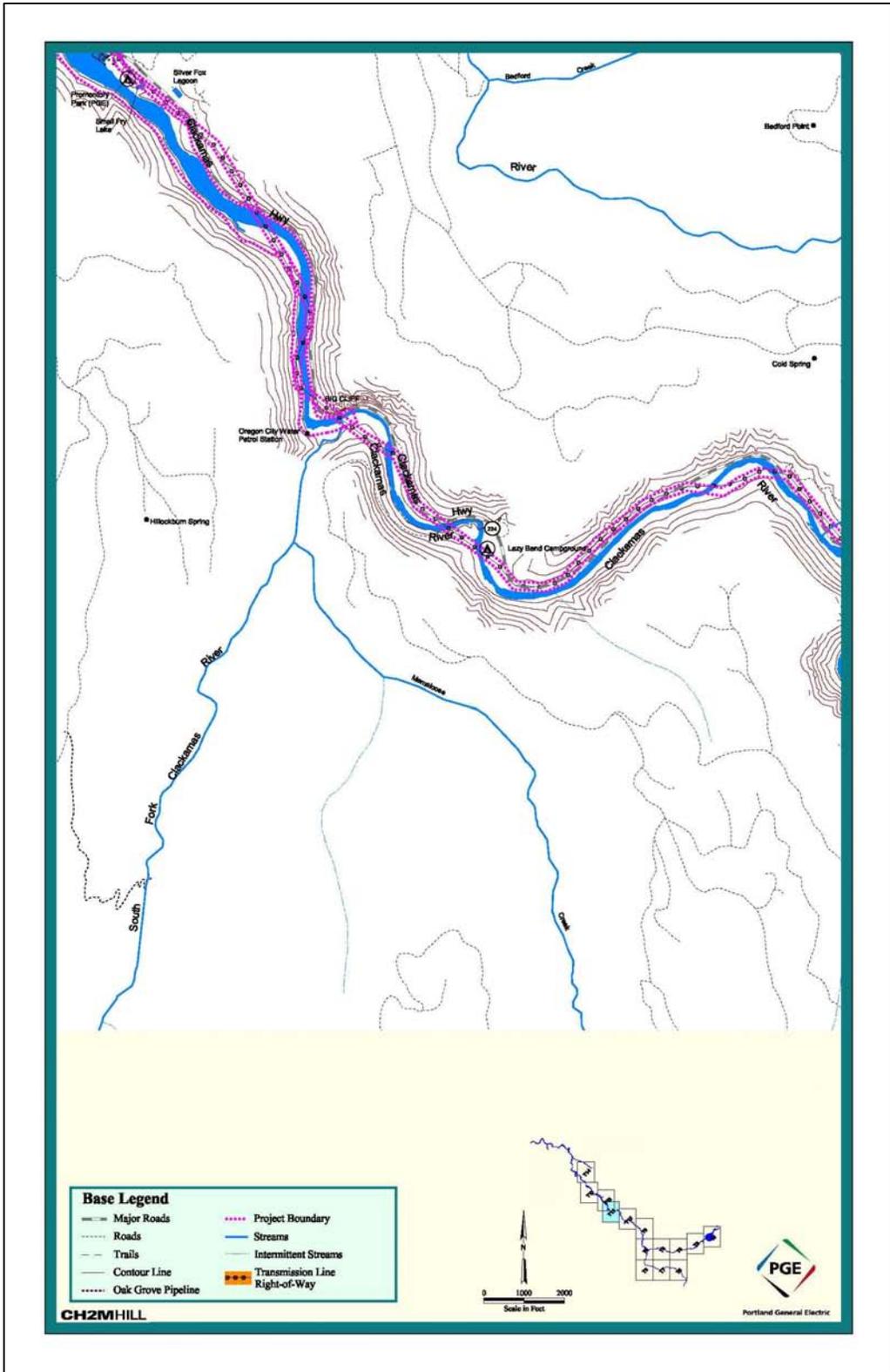


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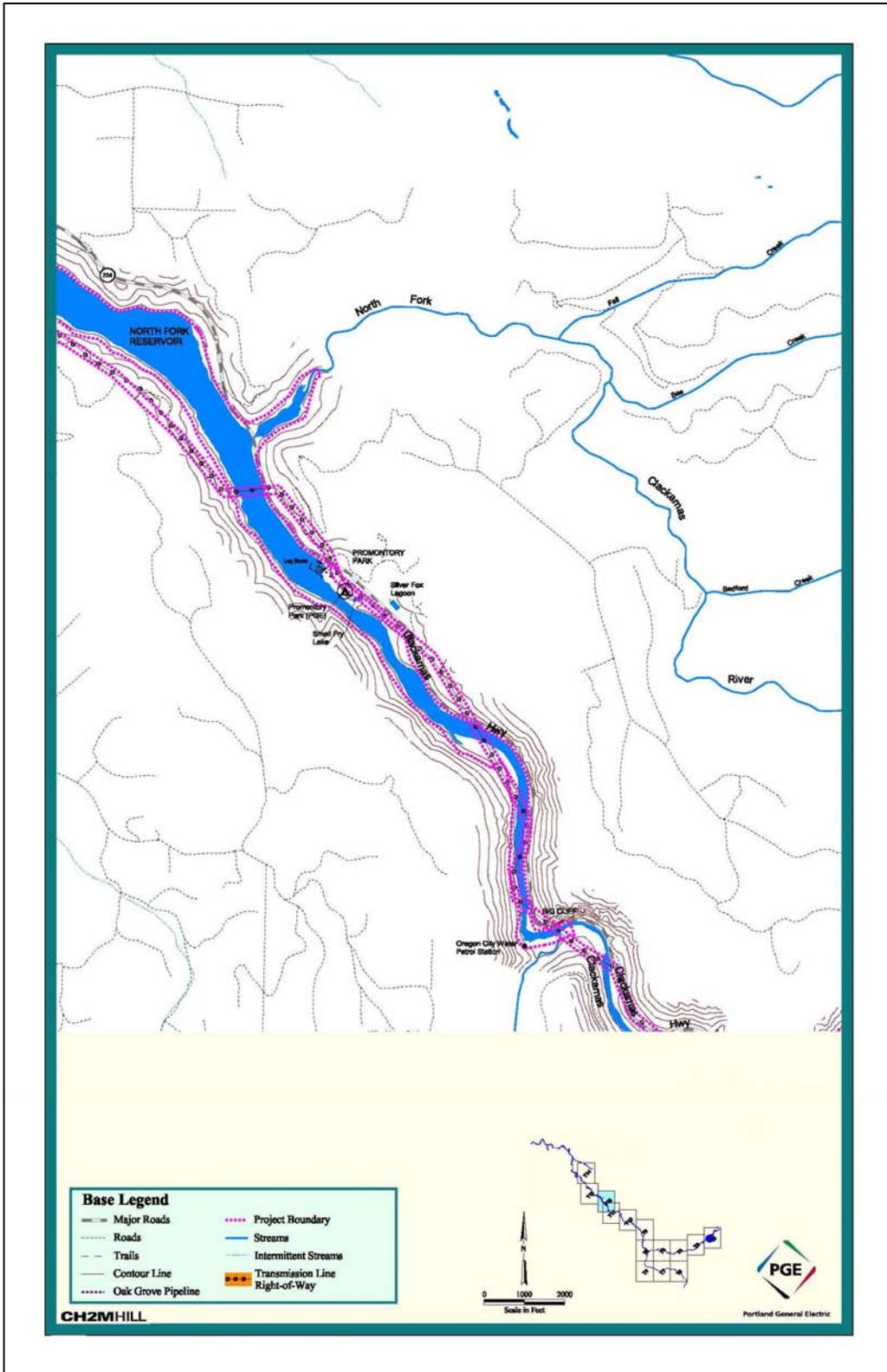


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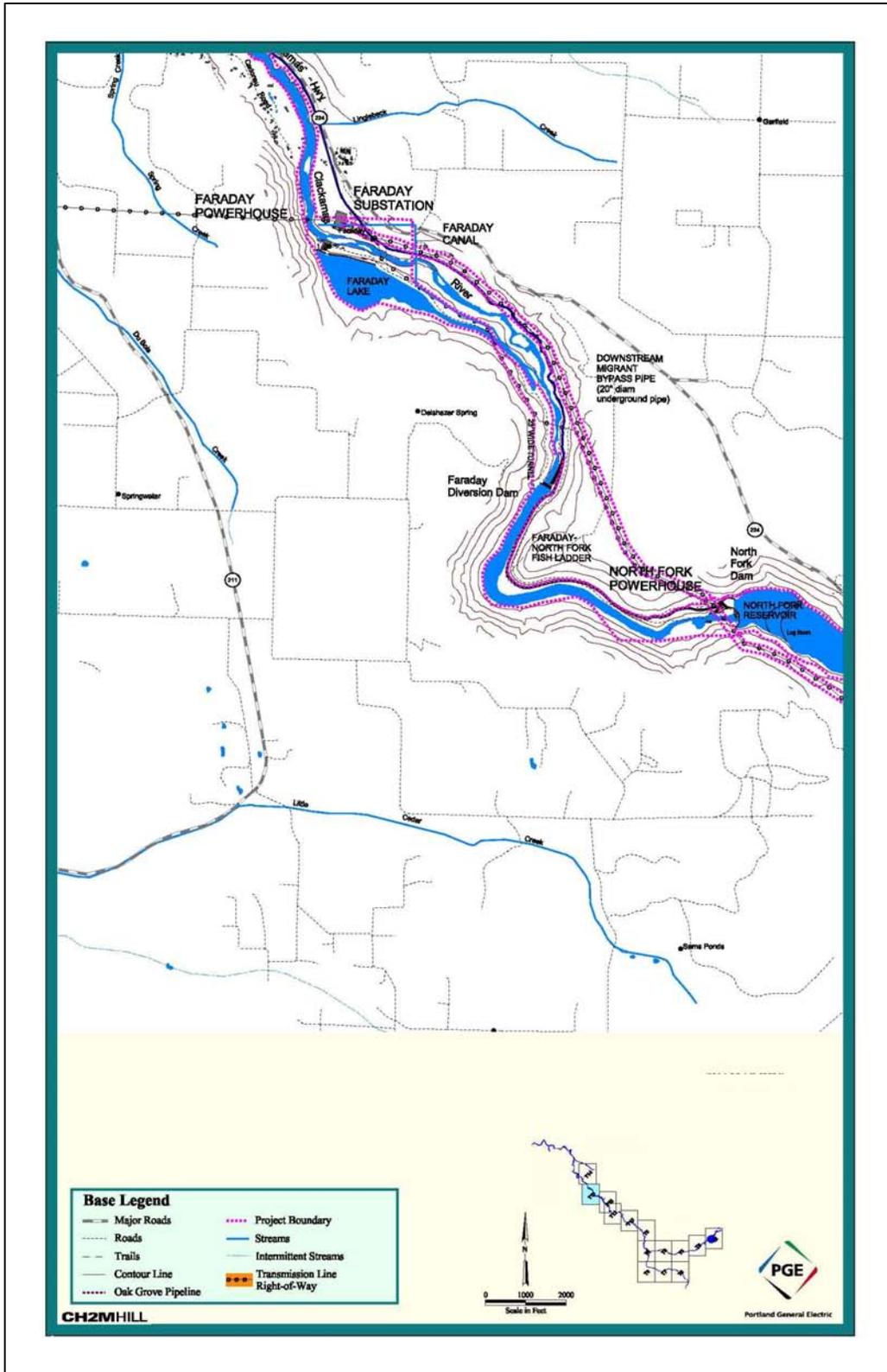


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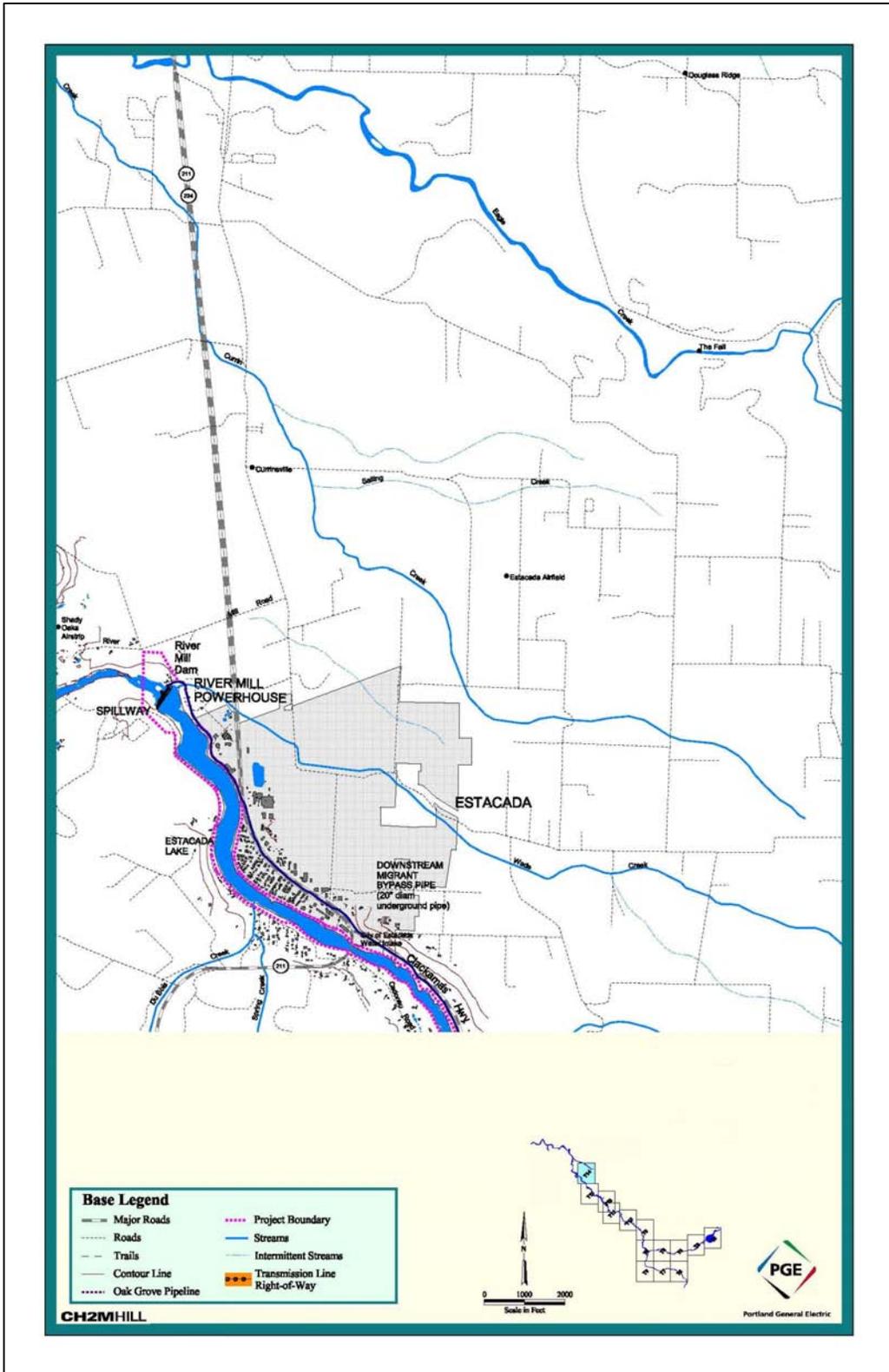


Figure 1.0-3. Detailed Location Map (Tile 14)