

REVISED STUDY PLAN

APPENDIX F

CITY LIGHT'S STUDY PLANS

**CR-01 CULTURAL RESOURCES DATA SYNTHESIS
REVISED STUDY PLAN**

**SKAGIT RIVER HYDROELECTRIC PROJECT
FERC NO. 553**

Seattle City Light

**April 2021
RSP**

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List of Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
APE	area of potential effects
CFR	Code of Federal Regulations
City Light	Seattle City Light
CRWG	Cultural Resources Work Group
DAHP	Department of Archaeology and Historic Preservation
DMS	Document Management System
ELC	Environmental Learning Center
EO	executive order
FERC	Federal Energy Regulatory Commission
HPI	historic property inventory
HPMP	Historic Properties Management Plan
LP	licensing participant
MOA	Memorandum of Agreement
NHPA	National Historic Preservation Act
NNTC	Nlaka'pamux Nation Tribal Council
NPS	National Park Service
NRA	National Recreation Area
NRHP	National Register of Historic Places
O&M	operations and maintenance
PAD	Pre-Application Document
PRM	Project River Mile
Project	Skagit River Hydroelectric Project
PSP	Proposed Study Plan
PTRCI	properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization
RCW	Revised Code of Washington
RLNRA	Ross Lake National Recreation Area
RM	river mile
RSP	Revised Study Plan
RWG	Resource Work Group

- SITC.....Swinomish Indian Tribal Community
- SSITSauk-Suiattle Indian Tribe
- STL.....Stillaguamish Tribe of Indians
- TCPtraditional cultural property
- U&A.....Usual and Accustomed Use Areas
- U.S.C.....United States Code
- USFSU.S. Forest Service
- USGSU.S. Geological Survey
- WISAARD.....Washington Information System for Architectural and Archaeological
Records Data

1.0 INTRODUCTION

1.1 General Description of the Project

The Skagit River Hydroelectric Project (Project), licensed to The City of Seattle, Washington, and operated through its publicly-owned electric power utility Seattle City Light (City Light), is located in northern Washington State and consists of three power generating developments on the Skagit River – Ross, Diablo, and Gorge – and associated lands and facilities. The Project generating facilities are in the Cascade Mountains of the upper Skagit River watershed, between Project River Miles (PRM) (94.7 and 127.9 (U.S. Geological Survey [USGS] RMs 94.2 and 127)).¹ Power from the Project is transmitted via two 230-kilovolt powerlines that span over 100 miles and end just north of Seattle at the Bothell Substation. The Project also includes two City Light-owned towns, an Environmental Learning Center (ELC), several recreation facilities, and several parcels of fish and wildlife mitigation lands.

Project generating facilities are all located in Whatcom County, although Ross Lake, the most upstream reservoir, crosses the U.S.-Canada border and extends for about one mile into British Columbia at normal maximum water surface elevation. Gorge Powerhouse, the most downstream facility, is approximately 120 miles northeast of Seattle and 60 miles east of Sedro-Woolley, the nearest large town. The closest town is Newhalem, which is part of the Project and just downstream of Gorge Powerhouse. The primary transmission lines cross Whatcom, Skagit, and Snohomish counties; the fish and wildlife mitigation lands are in the same counties.

The Project Boundary is extensive, spanning over 133 miles from the Canadian border to the Bothell Substation just north of Seattle, Washington. In addition, there are “islands” of fish and wildlife mitigation lands and recreation facilities within the Skagit, Sauk, and South Fork Nooksack watersheds that are also within the Project Boundary. Project generating facilities are entirely within the Ross Lake National Recreation Area (RLNRA), which is administered by the National Park Service (NPS) as part of the North Cascades National Park Complex. The RLNRA was established in 1968 in the enabling legislation for North Cascades National Park to provide for the “public outdoor recreation use and enjoyment of portions of the Skagit River and Ross, Diablo, and Gorge lakes.” The legislation maintains the Federal Energy Regulatory Commission’s (FERC) jurisdiction “in the lands and waters within the Skagit River Hydroelectric Project,” as well as hydrologic monitoring stations necessary for the proper operation of the Project (16 United States Code [U.S.C.] § 90d-4; Public Law 90-544. Sec. 505 dated October 2, 1968, as amended by Public Law 100-668. Sec. 202 dated November 16, 1988).

1.2 Relicensing Process

The current FERC license for the Project expires on April 30, 2025, and City Light will apply for a new license no later than April 30, 2023. City Light formally initiated the relicensing process by filing a Notice of Intent and Pre-Application Document (PAD) with FERC on April 27, 2020 (City Light 2020a). The PAD includes descriptions of the Project facilities, operations, license

¹ City Light has developed a standard Project centerline and river mile system to be used throughout the relicensing process, including the study program, to replace the outdated USGS RM system. Given the long-standing use of the USGS RM system, both it and the Project River Mile (PRM) system are provided throughout this document. For further details see Section 7.0 of the main body RSP.

requirements, and Project lands as well as a summary of the extensive existing information available on Project area resources and early consultation on potential resource issues to be addressed during the relicensing. The PAD also includes an outline of the goals and objectives of this study.

In 2019-2020, City Light convened a series of Resource Work Groups (RWG) to engage agencies and other licensing participants (LP) in the Study Plan Development Process. Discussions with LPs continued in early 2021 with a series of topic-based discussions following filing of the Proposed Study Plan (PSP) on December 8, 2020 (City Light 2020b). This study plan reflects RWG and LP discussion and study requests and comments submitted by LPs.

1.3 Study Plan Development

Relicensing of the Project by FERC is considered a federal undertaking under Section 106 of the National Historic Preservation Act (NHPA), as amended, and its implementing regulations (36 Code of Federal Regulations [CFR] § 800). Section 106 establishes a process for federal agencies to identify and take into account the effects of their undertakings on historic properties, as defined below:

Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization [PTRCI] and that meet the National Register criteria [36 CFR § 800.16(1)(1)].

City Light's continued operations and maintenance (O&M) of the Project under a new FERC license may affect historic properties. Therefore, City Light is proposing four studies to assist FERC with its Section 106 compliance requirements. These studies consist of:

- (1) CR [cultural resources]-01 Cultural Resources Data Synthesis
- (2) CR-02 Cultural Resources Survey
- (3) CR-03 Gorge Bypass Reach Cultural Resources Survey
- (4) CR-04 Inventory of Historic Properties with Traditional Cultural Significance Study

In early 2019, the Cultural Resources Work Group (CRWG) identified the need to develop a baseline of cultural resources information. On October 11, 2019, City Light released the Cultural Resources Data Synthesis Draft Study Plan to the CRWG for review and comment. On October 16, 2019, the draft study plan was discussed at a CRWG meeting. City Light reviewed all comments received and released a revised version of the draft study plan on March 5, 2020. The revised draft was discussed on March 19, 2020 at a CRWG meeting. City Light reviewed additional comments received and released a second revised version of the draft study plan on April 3, 2020. Written comments were received from the Department of Archaeology and Historic Preservation (DAHP), NPS, the Upper Skagit Indian Tribe, Stó:lō First Nation, Stillaguamish Tribe of Indians, and Nlaka'pamux Nation and responded to in an attachment to this study plan.

City Light is filing this study plan with FERC as part of its Revised Study Plan (RSP), an update to the version that was filed with the PSP and incorporating additional consultation with LPs prior to the filing date. No formal study requests related to this study were filed with FERC. However, this study will provide information requested as part of the following study requests: NNTC-01 Completion of Traditional Cultural Property Survey, NNTC-02 Evaluation of Identified Sites, NNTC-04 Traditional Cultural Properties Mitigation and Management Study, SITC-03 Cultural Resources Study, SSIT-04 Cultural Resources Transmission Line Study, SSIT-05 Cultural Resources Battle Site Study, and STI-01 Comprehensive Ethnographic Study. The data compiled in City Light's Cultural Resources Data Synthesis Study will also provide baseline information relevant to the three other study plans City Light proposes at this time: Cultural Resources Survey, Gorge Bypass Reach Cultural Resources Survey, and Inventory of Historic Properties with Traditional Cultural Significance Study.

No PSP comments to the study plan were filed with FERC. Modifications made to the study plan since the PSP include an update to the study schedule to reflect that the study is still ongoing and is in the reporting stage.

Since the results of this study will inform efforts in other study plans, this Cultural Resources Data Synthesis Study Plan was identified for early implementation by participants in the CRWG, and City Light began collecting data necessary during 2020, with a draft report expected in 2021.

2.0 STUDY PLAN ELEMENTS

2.1 Study Goals and Objectives

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and includes procedures for the “identification...and evaluation of historic properties” (36 CFR § 800.4). The Cultural Resources Data Synthesis will be used to establish a baseline dataset for known cultural resources within the study area, which is defined in Section 2.5 of this study plan. The study entails reviewing existing information to summarize baseline cultural resources data and identify information gaps.

2.1.1 Goals

The goal of this study is to develop a baseline dataset for known cultural resources within the study area. This information will facilitate the design of other relicensing studies, an assessment of effects, and inform cultural resource management plans in compliance with Section 106 of the NHPA and other applicable federal and state laws and regulations, executive orders (EO), and FERC guidelines.

2.1.2 Objectives

- (1) Collate and synthesize existing archaeological, historical, and ethnographic data within the study area.
- (2) Provide documentation of American Indian and Canadian First Nation affiliations and associations to the study area.
- (3) Share dataset in tabular format with the CRWG to collectively build upon the baseline of information.
- (4) Analyze the dataset to identify data gaps and potential steps to fill those gaps (e.g., updates, new studies, and consultation).
- (5) Analyze the dataset to identify areas of potential direct and indirect Project effects.
- (6) Describe the baseline condition of cultural resources for use in identifying protection, mitigation, and enhancement measures and management plans.
- (7) Provide status of previous Memorandums of Agreement (MOA) and associated stipulations.

City Light and LPs providing information will identify which information collected by this study is confidential, and access to this information will be limited based on how LPs designate which individuals from their organization should have access to confidential documents and information. Note that separate reporting will be necessary for historic resources (e.g., built environment) as historic resources data are generally not considered to be confidential. Archaeological and tribal cultural resources will be confidential to the extent allowable under applicable federal and state laws (Revised Code of Washington [RCW] 42.56.300, 16 U.S.C. 470hh(a)).

2.2 Resource Management Goals

This section summarizes City Light’s goals related to the resources discussed in this study plan.

The study will also provide information for resource agencies and Indian tribes with jurisdiction in the Project vicinity to address their respective goals and objectives for resource management. Resource management goals were provided by LPs in their study requests identified in Section 1.3 of this study plan.

City Light's goal is to have accurate cultural resources information for assessing potential Project-related effects on historic properties and for informing an Historic Properties Management Plan (HPMP) for the Project. This goal assists City Light in meeting its obligations with the following laws, regulations, EOs, and guidelines:

- Section 106 of the NHPA
- American Indian Religious Freedom Act
- Archaeological Resources Protection Act
- Native American Graves Protection and Repatriation Act
- Organic Act of 1897
- EO 13007 (Indian Sacred Sites)
- EO 13175 (Indian Tribal Consultation)
- Indian Treaties (Point Elliot, Medicine Creek)
- Boldt Decision
- FERC Policy Statement on Consultation with Indian Tribes in Commission Proceedings, Order 635
- RCW Chapter 27.53 (Archaeological Sites and Resources)
- RCW Chapter 27.44 (Indian Graves and Records)
- RCW Chapter 42.56.300 (Public Records Act regarding archaeological sites/traditional cultural properties [TCP])
- NPS management policies

2.3 Background and Existing Information

Existing information includes prior studies conducted by or for City Light, NPS, and American Indian tribes and Canadian First Nations, as well as studies completed for other projects that overlap with the study area. The study will entail compiling a list of available cultural resources data for the study area including, but not limited to:

- Existing management plans and guidance documents
- Cultural resource surveys, testing, data recovery reports, and associated archives
- Monitoring reports and condition assessments
- Cultural resources site and property forms
- Ethnographic and traditional cultural studies
- Historic structures reports

- Historic maps
- Historic photographs
- Videos
- Audio recordings

A body of resources is available for review on City Light's internal Document Management System (DMS) in both confidential and non-confidential sections. Outreach will also occur to the NPS, the U.S. Forest Service (USFS), and American Indian tribes and Canadian First Nations regarding existing documents or studies that are relevant to the study area but are not currently in City Light's DMS. LPs contributing information will self-identify who should have access to confidential documents and share confidential information.

Additionally, information available on the Washington Information System for Architectural and Archaeological Records Data (WISAARD), as well as archives, libraries, and online sources will be reviewed and summarized. A list of known references is included in Section 3.

2.4 Project Operations and Effects on Resources

Potential effects that may be associated with this undertaking include any Project-related effects associated with the day-to-day operation and maintenance of the Project and any new activity proposed under the new license. Types of effects may include direct (i.e., the result of Project activities at the same time and place with no intervening cause), indirect (i.e., the result of Project activities later in time or further removed in distance but reasonably foreseeable), and/or cumulative (e.g., caused by a Project activity in combination with other non-Project past, present, and foreseeable future activities) (ACHP 2019). The baseline information collected for this study will be useful for formal evaluations of direct, indirect, and cumulative effects for each resource identified within the study area.

Section 106 of the NHPA requires federal agencies to consider direct, indirect, and cumulative adverse effects of their undertakings on historic properties. In this case, the undertaking is FERC's issuance of a new license for the Project. 36 CFR § 800.5(a)(1) states that:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

2.5 Study Area

The study area is the area of potential effects (APE) and a one-mile literature review buffer around the APE, excluding areas across the Canadian border². Under 36 CFR § 800.16(d), the APE is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Based on this regulatory definition, City Light proposes to define the APE for the suite of cultural resources studies proposed for the relicensing of the Project, consistent with FERC’s standard definition applied at other hydropower projects across the U.S.:

The APE for this undertaking includes all lands within the FERC-approved Project Boundary. The APE also includes lands or properties outside the Project Boundary where Project operations or Project-related recreation activities or other enhancements may cause changes in the character or use of historic properties, if any such properties exist.

City Light, as FERC’s non-federal representative for carrying out informal Section 106 consultation, is working with Section 106 consulting parties on delineating the APE. The APE is shown in Figure 2.5-1,³ The APE will be refined as needed during the study process. City Light submitted the APE to DAHP on March 12, 2021 for review. After further discussion with Section 106 consulting parties, City Light will submit the APE to DAHP for concurrence in accordance with 36 CFR § 800.4(a)(1).

During study implementation, it is possible that the relicensing process may identify Project-related activities outside of the APE that have the potential to affect historic properties, including those with traditional cultural significance. It is also possible that during relicensing, Project improvements may be proposed that are outside the original APE (e.g., recreation area improvements/modifications). If such areas are identified, the APE will be expanded to include these areas. Any updates to the APE will be described in the subsequent study report,⁴ which will be provided to Section 106 consulting parties for review and comment. Any revisions to the APE will be provided to Section 106 consulting parties for 30-day review period(s).

Information from a 1-mile literature review buffer will provide context for cultural resources associations in the surrounding landscape and help gauge the potential for Project effects beyond the APE.

² Though the study area does not extend into Canada, literature related to the Project vicinity into Canada will be reviewed to develop cultural context information as needed.

³ A larger scale mapbook of the APE is provided in an attachment to the CR-02 Cultural Resources Survey.

⁴ Following the study, City Light will update the APE, as necessary, where demonstrated and reasonably anticipated Project effects have the potential to affect historic properties outside the current APE.

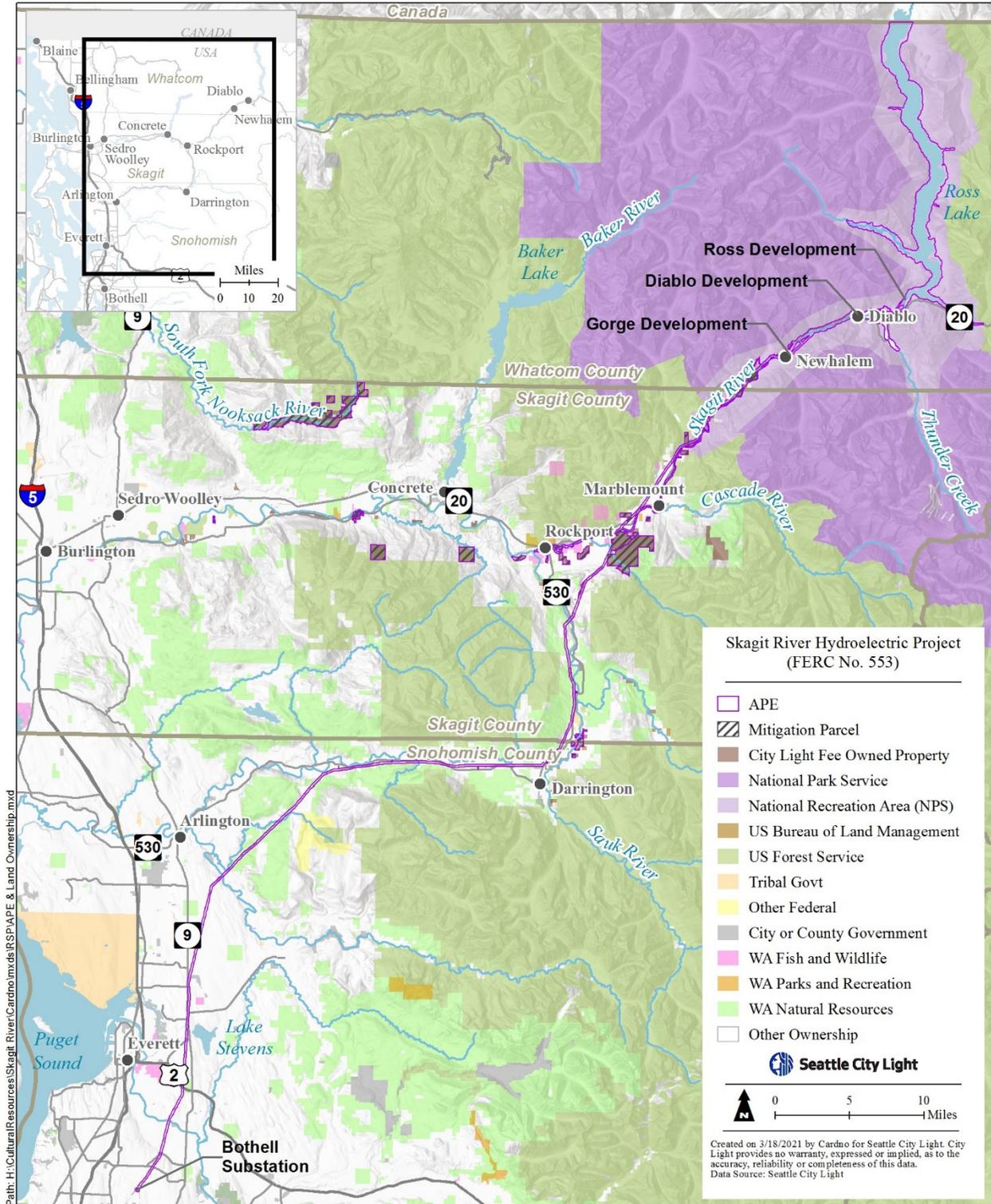


Figure 2.5-1. Location map of the Skagit River Hydroelectric Project APE.³

2.6 Methodology

Existing information concerning the study area will be gathered using steps to collate, synthesize, and disseminate available data as outlined below. No fieldwork is proposed as part of the study. The study will be undertaken by qualified cultural resources specialists who meet the Secretary of Interior professional qualification standards (36 CFR § 61) for history, archeology, and architectural history, as well as ethnographers holding doctorates.

2.6.1 Step 1

Researchers will compile a list of available resources for the overall study area, i.e., the APE and one-mile literature review buffer, available at City Light, WISAARD, online maps and archives, and consultant libraries. The list of resources will build upon the references included in Section 3 of this document and references cited in the PAD sections 4.10, 4.11, and the privileged cultural resources appendix (Appendix G, Overview of the Ethnohistoric, Archaeological, and Historical Background of the Project Region) (City Light 2020). The available resources may include existing management plans and guidance documents, cultural resource surveys, archaeology/historic properties of religious and cultural significance site forms, monitoring reports, site condition assessments, traditional cultural studies, ethnographic and ethnohistoric literature and data, publicly available ethnohistorical and ethnographic reference materials from online and regional archives, historic structures reports, cultural landscape inventories/reports, maps, photographs, videos, audio recordings or other materials.

2.6.2 Step 2

Researchers will work with NPS and USFS to identify internal documents that may not be accessible on WISAARD, including documents that relate to areas outside the Project Boundary, but within the study area.

2.6.3 Step 3

Researchers will contact American Indian tribes and Canadian First Nations to solicit existing documents or studies including tribal resources and areas of tribal interest for the study area and interconnected resources (e.g., rivers, trails, traditions of trade and resource procurement) to complete the following tasks. This outreach is not formal consultation as defined under Section 106 of the NHPA.

- (1) Confirm all American Indian tribes and Canadian First Nations that have previously participated in and/or have expressed interest and/or concerns with the study area.
- (2) Potential interest, concerns, and associations with the geographical extent of the study area will be identified through several lines of examination and analysis, including treaties and Usual and Accustomed Use Areas (U&A) and associated historic properties and cultural resources (e.g., places, landscapes, objects, and ancestral/archaeological sites with traditional cultural significance) as defined by 36 CFR §800. It is important to note that treaty and U&A designations may not fully encompass entire geographic areas of traditional use or concern for some tribes. It is also important to point out that many American Indian tribes define their own U&As differently than the general outlines provided in the Boldt Decision.

2.6.4 Step 4

The researchers will prepare compiled lists of materials gathered during Steps 1 through 3 above. These lists will be included in draft reports prepared under Step 7 below, which will be provided to the CRWG and other interested parties with a schedule for their review with the intent of incorporating any additional relevant information that was missed during study plan development and in Steps 1 through 3 above.

2.6.5 Step 5

City Light will add any relevant documents, maps, or photographs not already uploaded into the DMS and store them in limited-access confidential folders, as needed. These data may also include non-confidential materials from other research disciplines (e.g., geology, geomorphology, vegetation). Adding relevant data may include scanning hardcopy documents or updating digital documents to an optical character recognition to include them in the DMS. Confidential files will remain confidential and access will be limited to the extent allowed by state and federal law,⁵ but will include the cultural resources specialists identified by LPs, the consultants, and City Light who typically work with confidential information of this nature. LPs will self-identify the individuals from their agency who should have access to confidential documents.

2.6.6 Step 6

Researchers, in collaboration with City Light, will summarize the existing cultural resources MOAs and HPMP, annual reporting, and training associated with implementation of the current Project license. The state of curated collections, records management systems, and access will be assessed.

2.6.7 Step 7

Reports summarizing the findings will be prepared including one public report and two confidential reports. The public report will include the historic built environment resource data and summaries of archaeological and properties of religious and cultural significance data. The archaeological data and the properties of religious and cultural significance data will be fully summarized in two respective confidential reports.

The summary reports will include a short descriptive summary of each bibliographic reference and cultural resource and its relevance to the study area as a baseline for understanding the cultural resources. In addition, cultural resources will be included in tables that summarize resource age, date of recordation, date of historic property inventory (HPI), site, or TCP form completion; level of research (e.g., desktop, interview, reconnaissance or intensive survey, testing, etc.); resource eligibility determination; initial effects assessment (if available); proposed or completed mitigation; and recommendations concerning ways that Project operations and maintenance can avoid affecting the resource. Tables will also include previously conducted investigations in the APE and one-mile literature review buffer that identify survey acreage and dates. The summary report will also provide an overview of cosmography and worldview system for each participating

⁵ Archaeological and tribal resources will be confidential to the extent allowable under applicable federal and state laws. City Light's consultants are subject to the same confidentiality considerations as City Light per executed contracts. Indian Tribes and First Nations may have additional confidentiality protocols with the information they provide.

American Indian tribe and Canadian First Nation, as well as known geographical areas, historic properties, and resources of concern for each American Indian tribe and Canadian First Nation.

The summary report will characterize the available information in order to:

- (1) Identify any additional consulting parties appropriate to be added based on known/documented information and scope of the Project (see 36 CFR § 800.3);
- (2) Identify resources that need to be evaluated for historic significance (see 36 CFR § 800.4);
- (3) Provide an initial assessment of potential effects on historic properties or unevaluated cultural resources to assist in the development of the APE; and
- (4) Prioritize resources (e.g., historic built environment, archaeology, or property of religious and cultural significance) for future surveys and recommendations for evaluating sites.

The summary report will also identify data gaps of information or types of studies. The data gaps will be useful for the CRWG to consider for future studies or management planning. Maps will be included in the report; those containing confidential site locational data would be only provided in the confidential summary report.

A public (non-confidential) version of this summary report will be produced, which will not include any confidential information. Historic resources are not considered confidential; however, archaeological and tribal resources and properties of religious and cultural significance are considered confidential under federal and state laws.

Draft and final reports will be provided to the CRWG through the project SharePoint site or other transmittal methods for which access is restricted. Archaeological and tribal resources will be confidential to the extent allowable under applicable federal and state laws. City Light's consultants are subject to the same confidentiality considerations as City Light per executed contracts. Indian tribes and First Nations may have additional confidentiality protocols with the information they provide.

2.7 Consistency with Generally Accepted Scientific Practice

The study will follow standard methodology for a literature review and will be completed in compliance with Section 106 of the NHPA and in accordance with the DAHP's Washington State Standards for Cultural Resources Reporting and FERC's guidelines for cultural resources reporting. The study will also include requesting information on known tribal interests as defined by each Indian tribe and/or First Nation regarding cultural resources within the study area. Coordination with participating American Indian tribes and Canadian First Nations may lead to a synthesis of new perspectives on relevancy or previously undocumented information relevant to identification of resources within the study area.

2.8 Schedule

- Study Plan
 - Proposed study plan in PAD (March 2020)
 - Review and comment by CRWG and LPs (March – April 2020)

- Document collection and review (February 2020 – April 2021)
- Summary Reports
 - Draft summary reports will be produced and submitted to CRWG for review and comment in Summer 2021.
 - Final summary reports will incorporate CRWG comments as feasible and will be produced in 2021.

2.9 Level of Effort and Cost

Estimated cost: \$186,000.

3.0 REFERENCES

- Advisory Council on Historic Preservation (ACHP). 2016. Information Paper on Cultural Landscapes: Understanding and Interpreting Indigenous Places and Landscapes. [Online] URL: <https://www.achp.gov/sites/default/files/whitepapers/2018-06/InformationPaperonCulturalLandscapes.pdf>. Accessed June 2019.
- _____. 2019. Memorandum: Recent court decision regarding the meaning of “direct” in Sections 106 and 110(f) of the National Historic Preservation Act. [Online] URL: http://shpo.nv.gov/uploads/documents/OGC_memo_to_ACHP_staff_re_meaning_of_direct_6-7-19.pdf. Accessed November 19, 2020.
- AMEC Earth & Environmental, Inc. 2006. Cultural Resource Assessment SR 530 Boulder Creek Borrow Pit, Darrington, Washington. Report prepared by AMEC Earth & Environmental, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2009. DRAFT Cross Valley Water District Lowell-Larimer Road Water Main Improvement Project – Phase II, Snohomish County, Washington. Report prepared for PACE Engineers, Inc. Report prepared by AMEC Earth & Environmental, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Ames, K.M. and H.D.G. Maschner. 1999. *Peoples of the Northwest Coast: Their Archaeology and Prehistory*. Thames and Hudson, London.
- Anderson, C.M. 2012. Lost in Space? Ethnography and the Disparate Geographies of Social Process. *The Professional Geographer* 64(2): 276–285.
- Angelbeck, B. 2016. Localized Rituals and Individual Spirit Powers: Discerning Regional Autonomy Through Religious Practices in the Coast Salish Past. *Journal of Northwest Anthropology* 50(1):27-51.
- Avery, M. ca. 1991. *Fluted Point Occurrences in Washington State*. Ft. Steilacoom Community College, Steilacoom, Washington.
- Baldwin, G. 2014. Cultural Resources Assessment for an Archaeological Review of 510 Avenue J, Snohomish County, Washington. Report prepared for Mietzner Home Builders, LLC. Report prepared by Drayton Archaeology. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2015. Cultural Resources Review for the T Mobile Tower Site, Marblemount, Skagit County, Washington. Report prepared by Drayton Archaeology. On file, Department of Archaeology and Historic Preservation, Olympia.
- Baldwin, G., C. Paton, and M.R. Hanson. 2016. Cultural Resources Assessment for the Hannah’s Vista Project, Marysville, Snohomish County, Washington. Report prepared by Drayton Archaeology. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bayless, J., R. Applegate, K. Cahill, K. Haertel, and D. Nicholson. 2005. North Cascades National

- Park Complex, Ebey's Landing National Historical Reserve, Museum Management Plan. Department of the Interior, National Park Service, Pacific West Region, Seattle, WA.
- Beebe, J. 1995. Basic Concepts and Techniques of Rapid Appraisal. *Human Organization* 54(1):42–51.
- Berger, M. and G. Hartmann. 2010. Cultural Resources Assessment for the 1st Street & Avenue D Improvements Project, Snohomish County, WA. Report prepared for Otak. Report prepared by Cultural Resource Consultants, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bernholz, C.D. and R.J. Weiner, Jr. 2007. The Palmer and Stevens “Usual and Accustomed Places” Treaties in the Opinions of the Courts. *Government Information Quarterly* 25: 778–795. [Online] URL: <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1179&context=libraryscience>. Accessed June 2019.
- Blukis Onat, A.R. 1987. Resource Protection Planning Process Identification of Prehistoric Archaeological Resources in the Northern Puget Sound Study-Unit. BOAS, Inc., Seattle, Washington.
- _____. 1990. Skagit Hydroelectric Project Relicensing Survey and Evaluation of Traditional Cultural Values, Properties, and Significance of the Project Area to Indian Tribes. Prepared by BOAS, Inc., Seattle. Prepared for EBASCO Environmental and Seattle City Light. On file, Seattle City Light.
- Blukis Onat, A.R., C. Walker Gray, and T.L. Cowan. 2007. Cultural Resources Inventory for the 20th Street SE Improvement Project, from 91st Avenue SE to Cavalero Road and from Cavalero Road to SR 2, Snohomish County, Washington. Report prepared for Snohomish County Public Works. Report prepared by BOAS, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Blukis-Onat, A.R. and J.L. Hollenbeck (eds). 1981. Inventory of Native American Religious Use, Practices, Localities, and Resources: Study Area on the Mount Baker-Snoqualmie National Forest Washington State. Prepared by Institute of Cooperative Research, Inc., Seattle. Prepared for Mount Baker-Snoqualmie National Forest.
- Boersema, J. 2011a. Cultural Resource Survey of the State Route 9-State Route 92 Intersection Improvement Project, Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Cascadia Archaeology. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2011b. Cultural Resource Survey of the Hewitt Retirement Home Development, Snohomish County, Washington. Report prepared by Cascadia Archaeology. On file, Department of Archaeology and Historic Preservation, Olympia.
- Boxberger, Daniel L. 1996. An Ethnographic Overview and Assessment of North Cascades National Park Service Complex. Prepared for National Park Service, Pacific Northwest

- Region, Seattle.
- Bovy, K. 2006. Cultural Resources Assessment for Lake Stevens Waste Water System Improvements, Snohomish County, Washington. Report prepared for Gray and Osborne, Inc. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Brannan, N.F. and S.R. Clark Schmidt. 2008. A Cultural Resources Survey for 3G Fiber Project, Snohomish County, Washington. Report prepared for Bonneville Power Administration. Report prepared by Bonneville Power Administration. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2009. A Cultural Resources Survey for the Maple Valley-Snohomish Joint Use Fiber, Snohomish and King Counties, Washington. Report prepared for Bonneville Power Administration. Report prepared by Bonneville Power Administration. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bush, K.R. 2010. Historic Properties Identification and Evaluation for the Gorge Second Tunnel Project, Skagit and Whatcom County, Washington. Report prepared for Seattle City Light. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bush, K.R., J.C. Ferry, and J.T. Elder. 2007. Ross Lake Archaeological Data Recovery Project: 45WH234 and 45WH303, North Cascades National Park Service Complex, Ross Lake, Washington. Final Report Prepared for North Cascades National Park Complex. R4eport Prepared by Equinox Research and Consulting International, Inc. On File, Department of Archaeology and Historic Preservation, Olympia.
- Bush, K.R., J.T. Elder, and J.C. Ferry. 2006a. Archeological Monitoring Report: Corkindale Crossing Towers Relocation Project. Report prepared for Seattle City Light. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2006b. Archeological Investigation Report: Corkindale Crossing Towers Relocation Project. Report prepared for Seattle City Light. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bush, K.R., J.M. Rowland, and L.E. Koehler. 2011. Archeological Investigation Report: Jim Creek Salmon Habitat Restoration Project, Snohomish County, Washington. Report prepared for Stilly Snohomish Fisheries Enhancement Task Force. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bush, K.R., T.S. Smart, and B.N. Meidinger. 2008. Archeological Investigation Report: 22407 State Route 530, Darrington, Washington. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.

- Bush, K. R., B.N. Meidinger, and A. Peebles. 2009. Final Report: Ross Lake Archaeological Data Recovery Project: 35WH241 North Cascades NPS Complex Ross Lake, Washington. Report prepared for North Cascades National Park Service Complex. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bush, K.R. and M.N. North. 2014. Archaeological Investigation Report: Presentin Park Side Channel Feasibility Study, Skagit County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bush, K.R., T. Smart, and B.N. Meidinger. 2008. Final Report: Ross Lake Archaeological Data Recovery Project: 45WH239 North Cascades NPS Complex Ross Lake, Washington. Report prepared for North Cascades National Park Service Complex. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Bureau of Indian Affairs (BIA). 2019. BIA Website. [Online] URL: <https://www.bia.gov/bia>. Accessed May 2019.
- Canadian Charter of Rights and Freedoms, Part 1 of the Constitution Act. 1982. Being Schedule B to the *Canada Act 1982* (UK), c 11. [Online] URL: <https://laws-lois.justice.gc.ca/eng/const/page-15.html#h-38>. Accessed July 2019.
- Carlson, C.C. 2003. The Bear Cove Fauna and the Subsistence History of Northwest Coast Maritime Culture. In *Archaeology of Coastal British Columbia: Essays in Honour of Philip M. Hobbler*, edited by R.L. Carlson, pp. 65–86. Archaeology Press, Simon Fraser University, Burnaby.
- Carlson, R.L. 1990. Cultural Antecedents. In *Northwest Coast*, edited by Wayne Suttles, pp. 60–69. Handbook of North American Indians, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Chambers, J. 2012a. Cultural Resources Assessment for the Consolidate Dubuque and Cascade Acres into Lake Stevens Water System Project, Snohomish County, WA. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2012b. Cultural Resources Assessment for the Consolidate Dubuque and Cascade Acres into Lake Stevens Water System Project, Snohomish County, WA. On file, Department of Archaeology and Historic Preservation, Olympia.
- Chatters, J.C., J.B. Cooper, P.D. LeTourneau, and L.C. Rooke. 2011. Understanding Olcott: Data Recovery at 45SN28 and 45SN303, Snohomish County, Washington. Prepared for Snohomish County Department of Public Works, Snohomish, Washington by AMEC Earth & Environmental, Bothell, Washington.
- Chidley, M.B. 2007. Cultural Resources Inventory for the SR530 Sauk River Bank Protection Project, Skagit County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Washington State Department of Transportation. On

- file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2010. Cultural Resources Assessment for the SR 530 Skaglund Hill Slide Permanent Repair Project, Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Washington State Department of Transportation. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2012. Cultural Resources Assessment for the SR 530 Brooks Creek Rd to Squire Creek Vicinity Stormwater Retrofit Project, Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Washington State Department of Transportation. On file, Department of Archaeology and Historic Preservation, Olympia.
- City of Seattle. 1998. Newhalem Creek Hydroelectric Project FERC No. 2705 Historic Resources Mitigation and Management Plan. Prepared by City of Seattle City Light Department. On file, City Light Department, Seattle.
- Cohen, F. 1982. Handbook of Federal Indian Law. Lexis Law Publisher.
- Compas, L. and M. Warren. 2019. Cultural Resources Inventory for the 1200 Bonneville Avenue Project, City of Snohomish, Washington. Report prepared for Girard Properties I, LLC. Report prepared by Historical Research Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Conner, M.A. 1992. Final Report of the Jackson Lake Archeological Project, Grand Teton National Park, Wyoming. Report prepared for the Bureau of Reclamation, Pacific Northwest Office and the National Park Service, Rocky Mountain Regional Office, by the Midwest Archeological Center, National Park Service, Lincoln, Nebraska.
- Cooper, J.B. 2018. SR 9 / SR 204 Intersection Improvements – Phase I Early Works Project, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Cooper, J.B. and M.A. Metz. 2015. Bickford Motors Expansion Project Cultural Resources Report, Snohomish County, Washington. Report prepared for Bickford Motors. Report prepared by Amec Foster Wheeler. On file, Department of Archaeology and Historic Preservation, Olympia.
- Cornell Law. undated. U.S. Constitution Article I. [Online] URL: <https://www.law.cornell.edu/constitution/articlei#section8>. Accessed June 2019.
- Crowley, W. 2003. Native American tribal leaders and Territorial Gov. Stevens sign treaty at Medicine Creek on December 26, 1854. HistoryLink Essay 5254. [Online] URL: <https://www.historylink.org/File/5254>. Accessed May 2019.
- Crowley, W. and D. Wilma 2003. Federal Judge George Boldt issues historic ruling affirming Native American treaty fishing rights on February 12, 1974. HistoryLink Essay 5282. [Online] URL: <https://www.historylink.org/File/5282>. Accessed May 2019.

- Department of Archaeology and Historic Preservation (DAHP). 2014. Getting the Future Right: The Washington State Historic Preservation Plan 2014-2019. [Online] URL: https://dahp.wa.gov/sites/default/files/FinalWAHistoricPreservationPlan2014_2019wtableofcontentsnew_WithCOVER_0.pdf. Accessed June 2019.
- _____. 2019. Site Type Tables. [Online] URL: <https://dahp.wa.gov/sites/default/files/SITE%20TYPE%20TABLES.pdf>. Accessed June 2019.
- DiCenzo, K. 2019. Archaeological Investigations for the Expansion of the Newhalem RV Park, Whatcom County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Diedrich, M. and J. Hushour. 2014. Cultural Resources Assessment of the Riverview North and South Projects, Snohomish, Snohomish County, Washington. Report prepared for Building Co., Inc. Report prepared by Tierra Right of Way Services, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2015. Cultural Resources Assessment of the Belle Haven Development Project, Snohomish, Snohomish County, Washington. Report prepared for Wetland Resources, Inc. Report prepared by Tierra Right of Way Services, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.
- Dixon, E.J. 1993. *Quest for the Origins of the First Americans*. University of New Mexico Press, Albuquerque.
- Dugas, A.E. and J.R. Robbins. 2001. Snohomish Riverfront Trail Project, Snohomish County, Washington, Cultural Resource Assessment. Report prepared for MacLeod Reckord Landscape Architects. Report prepared by Compliance Archaeology, LLC. On file, Department of Archaeology and Historic Preservation, Olympia.
- Earley, A. 2004. Cultural Resources Assessment for the Cemetery Creek Sanitary Sewer Project – Segment 1, Snohomish County. Report prepared for the City of Snohomish and Pertee, Inc. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Earley, A., J. Piper, and S. Tallman. 2007. Cultural Resources Assessment of the SR 530 Sauk River CED Project, Skagit County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Earley, A. and B. Rinck. 2012. Cultural Resources Assessment for the Seattle City Light Diablo Facilities Plan Project, Whatcom County, Washington. Report prepared for Seattle City Light. Report prepared by SWCA Environmental Consultants/Northwest Archaeological Associates. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2013. Cultural Resources Assessment for the Seattle City Light Bacon Creek Dirt Pit Project, Whatcom County, Washington. Report prepared for Seattle City Light. Report prepared by SWCA Environmental Consultants/Northwest Archaeological Associates. On

- file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2015. Cultural Resources Assessment for the Seattle City Light French Creek Monopole Replacement Project, Snohomish County, Washington. Report prepared for Seattle City Light. Report prepared by SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- Earley, A., B. Rinck, M. Parvey, and A. Valentino. 2014. Archaeological Investigations for Seattle City Light at the Gorge Inn, Newhalem, Whatcom County, Washington. Report prepared by Seattle City Light. Report prepared by SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- Elder, J.T., M. Cascella, and C. Hetzel. 2013. Cultural Resources Survey Report Seattle Hill Road Improvement Project. Report prepared for Snohomish County Public Works. Report prepared by ICF International. On file, Department of Archaeology and Historic Preservation, Olympia.
- Ellis, E. 2009. U.S. Army Corps of Engineers After-Action Historic Properties Assessment for the Oso Landslide Stillaguamish River Flood Flight: Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Engineering-Environmental Management, Inc. 2005. Archaeological Survey of Facilities of the Washington Army National Guard. Report prepared for Washington Army National Guard. Report prepared by engineering-environmental Management, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Enseth, M.F. and A. Sharley. 2007. Cultural Resources Survey for the Washington State Department of Transportation SR 9: 20th Street SE Intersection Improvement Project, Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Executive Order 13175. 2000. [Online] URL:
<https://www.federalregister.gov/documents/2000/11/09/00-29003/consultation-and-coordination-with-indian-tribal-governments>. Accessed May 2019.
- Fedje, D.W. and T. Christensen. 1999. Modeling Paleo Shorelines and Locating Early Holocene Coastal Sites in Haida Gwaii. *American Antiquity* 64:635–652.
- Federal Energy Regulatory Commission (FERC) and Advisory Council on Historic Preservation (ACHP). 2012. Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects. FERC. [Online] URL:
<https://www.ferc.gov/industries/hydropower/gen-info/guidelines/hpmp.pdf>. Accessed July 2019.
- Ferland, S.C. 2010. Cultural Resources Assessment for the Bickford Avenue Safety Improvements Project Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Northwest Archaeological Associates,

- Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- FindLaw. 2019a. FindLaw Website. West Legal Directory. [Online] URL: <https://corporate.findlaw.com/law-library/questions-amp-answers-american-indian-tribal-rights.html>. Accessed May 2019.
- _____. 2019b. FindLaw Website. West Legal Directory. [Online] URL: <https://caselaw.findlaw.com/us-9th-circuit/1739730.html>. Accessed May 2019.
- Fladmark, K.R. 1979. Routes: Alternate Migration Corridors for Early Man in North America. *American Antiquity* 44:55–69.
- Foster, J.W. and J.C. Bingham. 1978. Archaeology in Solution: Testing Inundation’s Effects at Folsom Reservoir, California. Manuscript on file, Southwest Cultural Resources Center, National Park Service, Santa Fe, New Mexico.
- Fraser-Cascade Mountain School. 2008. Human History of the Upper Skagit Watershed. Prepared jointly with the Hope Mountain Centre, Hope, British Columbia. Funded by Skagit Environmental Endowment Commission (SEEC) endowment. On file, Fraser-Cascade Mountain School.
- Galm, J. 1986. A Preservation Plan for Archaeological Site 45CH302, Chelan County, Washington. Report prepared for and submitted to Chelan County Public Utility District No. 1, Chelan County, Washington.
- Gargett, R.H., S.C. Larsen, and K.R. Bush. 2017. Archaeological Investigation Report: Habitat Restoration Project at 57963 Illabot Creek Lane, Skagit County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Gerrish, T. and M. Wetherbee. 2018. Archaeological Data Recovery Excavation in Ross Lake Reservoir at 45WH268 (North Lightning Creek #4) and Subsurface Survey for the Large Woody Debris Corral Project in the Ross Lake National Recreation Area, Whatcom County, Washington. Report prepared by Stell for NPS.
- Gerrish, T., T. Uldall, and M. Wetherbee. 2018. Cultural Resources Assessment for the Church Messenger of Truth, Lake Stevens, Snohomish County, Washington. Report prepared for J2W Project Management. Report prepared by Drayton Archaeological Research. On file, Department of Archaeology and Historic Preservation, Olympia.
- Gill, M.I. and G.L. Baldwin. 2008. Archaeological Investigations for the Triple L Ranch Residential Development Project, Snohomish County, Washington. Report prepared for J2W Project Management. Report prepared by Drayton Archaeological Research. On file, Department of Archaeology and Historic Preservation, Olympia.
- Goodwin, M. and B. Taylor. 2014. Archaeological Survey for Proposed SN2949 Foster Slough Road Telecommunications Facility, Snohomish County, Washington. Report prepared for Adapt Engineering. Report prepared by Willamette Cultural Resources Associates, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.

- Government of Canada. 2017. First Nations in Canada. [Online] URL: <https://www.rcaanc-cirnac.gc.ca/eng/1307460755710/1536862806124#chp3>. Accessed July 2019.
- Grayson, D.K. 1981. The Effects of Sample Size on Some Derived Measures in Vertebrate Faunal Analysis. *Journal of Archaeological Science* 8:77-88.
- Gunther, E. 1973. *Ethnobotany of Western Washington: The Knowledge and Use of Indigenous Plants by Native Americans*. University of Washington Press, Seattle.
- Gustafson, C.E., R. Daugherty, and D.W. Gilbow. 1979. The Manis Mastodon Site: Early Man on the Olympic Peninsula. *Canadian Journal of Archaeology* 3:157-164.
- Hamilton, F. 2004a. Cultural Resources Assessment for the SR9 Lake Stevens Weight Station Project, Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Northwest Archaeological Associates, Inc. and The Environmental History Company. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2004b. Cultural Resources Assessment for the SR 530 Skaglund Hill to Hazel Project, Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Northwest Archaeological Associates, Inc. and The Environmental History Company. On file, Department of Archaeology and Historic Preservation, Olympia.
- Hannum, M.M. 2017. Cultural Resources Assessment for the Seattle City Light Boulder River Tower Relocate Project, Snohomish County, Washington. Report prepared for Seattle City Light. Report prepared by SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- Hennessey, J. and B. O'Donnchadha. 2017. Cultural Resources Survey for FY17 Snohomish District Priority Pole Replacement – Critical Outage Lines in Snohomish County, Washington. Report prepared for Bonneville Power Administration. Report prepared by Bonneville Power Administration. On file, Department of Archaeology and Historic Preservation, Olympia.
- Hibulb Cultural Center. 2014. Hibulb Cultural Center and Natural History Preserve website. [Online] URL: <https://www.hibulbculturalcenter.org/>. Accessed May 2019.
- Homan, A. and K. Perkins. 2016. Cultural Resources Survey for 2016 Snohomish District Priority Wood Pole Replacement Project, Snohomish County, Washington. Report prepared for Bonneville Power Administration. Report prepared by Bonneville Power Administration. On file, Department of Archaeology and Historic Preservation, Olympia.
- Humphries, S.J., R.H. Gargett, and K.R. Bush. 2016. Archeological Investigation Report: Babcock Creek Crossing Vent Ford Project, Whatcom County, Washington. Report prepared for Seattle City Light. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.

- Humphries, S.J., L.M. Syvertson, and K.R. Bush. 2017. Archeological Monitoring Report: Barnaby Reach of Skagit River Sediment Characterization and Hydrogeology Project. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Hushour, J. 2014. Cultural Resources Survey on Soper Hill Road in Marysville, Washington. Report prepared by Tierra Right of Way Services, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2015. Cultural Resources Assessment for the Bakerview Plat Project, Everett, Snohomish County, Washington. Report prepared for PACE Engineers. Report prepared by Tierra Right of Way Services, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2016. Archaeological Monitoring of the Marks Subdivision Project, Snohomish County, Washington. Report prepared for TJ 22 LLC. Report prepared by Tierra Right of Way Services, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.
- Hushour, J. and S. Steinkraus. 2017. Cultural Resources Survey for the 109th Avenue NE/Oak Road Project in Lake Stevens, Snohomish County, Washington. Report prepared for Wetland Resources. Report prepared by Tierra Right of Way Services, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.
- Indian Office. 1902. Executive Orders Relating to Indian Reserves from May 14, 1855 to July 1, 1902. Government Printing Office, Washington, DC. [Online] URL: <http://lcweb2.loc.gov/service/gdc/scd0001/2012/20120509002ex/20120509002ex.pdf>. Accessed May 2019.
- Iversen, D. and W. Osiensky. 2018. Archaeological Assessment for the Proposed Leight Short Plat Project, Snohomish County, Washington. Report prepared for Andy Leight. Report prepared by ASM Affiliates. On file, Department of Archaeology and Historic Preservation, Olympia.
- Iversen, D.R., T.O. Orvald, and M.S. Becker. 2012. Data Recovery at 45WH253, Ross Lake Reservoir, North Cascades National Park, Whatcom County, Washington. Report prepared for PWR-NOCA-North Cascades NPS Complex. Report prepared by ASM Affiliates. On file, Department of Archaeology and Historic Preservation, Olympia.
- Iversen, D., S. Stringer-Bowsher, S. Davis, J. Krintz, N. Smith, and A. Sawyer. 2012. Cultural Resources Field Inventory for 15 Action Areas within the Puget Sound Nearshore Ecosystem Restoration Projects (PSNERP) Area, NW Washington. Report prepared for U.S. Fish and Wildlife Service. Report prepared by ASM Affiliates. On file, Department of Archaeology and Historic Preservation, Olympia.
- Johansen, D. and P. Gates. 1967. *Empire of the Columbia*. Harper and Row, New York, New York.

- Johnson, L.E. 2010. Skagit River and Newhalem Creek Hydroelectric Projects: National Register of Historic Places Registration Form. Prepared by The Johnson Partnership, Seattle. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- Jones & Stokes. 2007. Cultural Resources Survey Lowell-Larimer Road Water Main Improvement Project, Cross Valley Water District. Report prepared for PACE Engineers, Inc. Report prepared by Jones & Stokes. On file, Department of Archaeology and Historic Preservation, Olympia.
- Jordan, A., S. Livingston, and C. Hetzel. 2009. Cultural Resources Inventory Report SR 9 Lundeen Parkway to SR 92 Project. Report prepared for Washington State Department of Transportation. Report prepared by ICF Jones & Stokes. On file, Department of Archaeology and Historic Preservation, Olympia.
- Kappler, C.J. 1972. Indian Treaties 1778-1883. Reprinted. Amereon House, Mattituk, New York. Originally published 1904, Indian Affairs: Laws and Treaties, vol. 2, Treaties, US Government Printing Office, Washington, DC. [Online] URL: <https://babel.hathitrust.org/cgi/pt?id=hvd.32044103155032&view=1up&seq=5>. Accessed May 2019.
- Kelly, R.L. 1988. The Three Sides of a Biface. *American Antiquity* 53(4):717-734.
- Kent, R.J. 2004. Cultural Resources Reconnaissance Survey for the Cook Slough Bank Protection Project on the Stillaguamish River near Silvana, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Kidd, R.S. 1964. A Synthesis of Western Washington Prehistory from the Perspective of Three Occupational Sites. Unpublished M.A. thesis, Department of Anthropology, University of Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Kintigh, K.W. 1988. The Effectiveness of Subsurface Testing. *American Antiquity* 53(4):686-707.
- _____. 1984. Measuring Archaeological Diversity By Comparison With Simulated Assemblages. *American Antiquity* 49(1):44-54.
- Kirk, R. and R.D. Daugherty. 2007. *Archaeology in Washington*. University of Washington Press, Seattle.
- Koehler, L.E. and K. Bush. 2012. Archaeological Investigation Report: Illabot Creek Alluvial Fan Restoration Project, Phase I, Rockport, Washington. Report prepared for Skagit River System Cooperative. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Kopperl, R.K., C.J. Miss, and C.M. Hodges. 2010. Results of Testing at the Bear Creek Site, 45-KI-839, Redmond, King County, Washington. Northwest Archeological Associates, Inc., Seattle. On file, Department of Archaeology and Historic Preservation, Olympia.

- Lane, R.B. and B. Lane. 1977. Indians and Indian Fisheries of the Skagit River System. In *Skagit Salmon Study*. Volume One: Archeological Background. Upper Skagit Indian Tribe, Sedro-Woolley, WA.
- Larsen, S.A. 2000a. A Cultural Resources Survey of the Skagit County Public Utility District's Proposed Water System Project for the Town of Marblemount, Skagit County, Washington. Report prepared for Skagit County Public Utility District. Report prepared by Archaeological and Historical Services. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2000b. A Cultural Resources Survey of the Washington State Department of Transportation's SR 92: SR 9 to 84th Avenue NE, Snohomish County, Washington. Report prepared by Archaeological and Historical Services. On file, Department of Archaeology and Historic Preservation, Olympia.
- Larsen, S.C. and K. Bush. 2018. Revised Archaeological Investigations Report: Newhalem Planting, Newhalem, Whatcom County, Washington. Report prepared for Seattle City Light. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Lawhead Architects. 2011. Seattle City Light Skagit Facilities Condition Assessment, Phase II. Report prepared for Seattle City Light. Report prepared by Lawhead Architects. On file, Department of Archaeology and Historic Preservation, Olympia.
- Lenihan, D.J. 1981. The Final Report of the National Reservoir Inundation Study, Volume 1. U.S. Department of the Interior, National Park Service, Southwest Cultural Resources Center, Santa Fe, New Mexico.
- Lentz, B. 2008. A Cultural Resources Survey of the Proposed S.A.F.E. 2 Project, Arlington, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Lepofsky, Dana, Ken Lertzman, Emily Heyerdahl, Dave Schaepe, and Bob Mierendorf. 2000. Cultural and Ecological History of Chittenden Meadow, Upper Skagit Valley, British Columbia. Report submitted to the Skagit Environmental Endowment Commission, Seattle.
- LeTourneau, P. 2004. Cultural Resources Investigations for Olympic Pipeline Company's 60th Street Southeast Inspection, Snohomish County, Washington. Report prepared for GeoEngineers, Inc. Report prepared by BOAS, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Lummi Nation. 2019. Lummi Nation website. [Online] URL: <https://www.lummi-nsn.gov/>. Accessed May 2019.
- Lundgren, S., and J.L. Hollenbeck. 2006. Documentation and Evaluation of Post-World War II Ranch-Style Residences on the Darrington Ranger Station Compound. On file, Department of Archaeology and Historic Preservation, Olympia.

- Lynott, M.J. 1989. Stabilization of Shoreline Archaeological Sites at Voyageurs National Park. *American Antiquity* 54(4): 792-801.
- Maass, A. 2000. Cultural Resources Technical Report for the Everett Delta Lateral Pipeline Project. Report prepared for PIC Technologies, Inc. Report prepared by Historical Research Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Maass, A. and B. Smith-Steiner. 2004. Cultural Resources Technical Report for the Williams Everett Delta Lateral Pipeline Project. Report prepared for PIC Technologies, Inc. Report prepared by Historical Research Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Malone, M. S. 2013. *Where the Water Meets the Land: Between Culture and History in Upper Skagit Aboriginal Territory*. Unpublished Ph.D. thesis, Department of Anthropology, University of British Columbia, Vancouver, B.C.
- Marcotte, J.L., C. Merrill, C. Lockwood, and P. Elliott. 2013. Snohomish 15th Street & Avenue D Roundabout Project, Snohomish County, Washington Cultural Resources Assessment. Report prepared for Reid Middleton. Report prepared by ESA. On file, Department of Archaeology and Historic Preservation, Olympia.
- Mather, C.A. and E.P. Arthur. 2014. Archaeological Survey and Assessment for the Proposed Development of 35th Street Northeast and 71st Avenue Northeast, Marysville, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2018. Archaeological Survey and Assessment for the Proposed Lake Stevens Costco Wholesale, State Route 9 and 20th Street Southeast, Lake Stevens, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Mattson, J.L. 1985. Puget Sound prehistory: Postglacial Adaptations in the Puget Sound with Archaeological Implications for a Solution to the "Cascade Problem". Ann Arbor, Michigan, University Microfilms International. Ph.D. Dissertation, University of North Carolina at Chapel Hill. On file, Department of Archaeology and Historic Preservation, Olympia.
- McCartney, P.H. and M.F. Glass. 1990. Simulation Models and the Interpretation of Archaeological Diversity. *American Antiquity* 55(3):521-536.
- Meltzer, D.J. and R.C. Dunnell. 1987. Fluted Points from the Pacific Northwest. *Current Research in the Pleistocene* 4:64-67.
- Middleton, S.M. 2018. Cultural Resources Assessment for the South Lake Stevens Trail Project, Lake Stevens, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.

- Mierendorf, R.R. 1986. *People of the North Cascades*. National Parks Service, Pacific Northwest Region, Seattle, Washington.
- _____. 1987. A Progress Report on Archaeology of the Upper Skagit River Valley, North Cascades Range, Washington. North Cascades National Park, Pacific Northwest Region, National Park Service, Seattle. On file, National Park Service, Marblemount.
- _____. 1989. Archeological Survey of a Proposed Campsite Along Ross Lake, Whatcom County, Washington, North Cascades National Park. On file, National Park Service, Marblemount.
- _____. 1993. Chert Procurement in the Upper Skagit River Valley of the Northern Cascade Range, Ross Lake National Recreation Area, Washington. Technical Report NPS/PNRNOCA/CTRTR-93-001, North Cascades National Park Service Complex, Sedro Woolley, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 1996. National Register of Historic Places Registration Form, 45WH477, Newhalem Rockshelter, Determination of Eligibility. Prepared by National Park Service, Diablo, Washington. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- _____. 1997. An Exploratory Archeological Survey for Glassy Volcanic Rock Sources in the Silver Creek Watershed. Report submitted to Skagit Environmental Endowment Commission in fulfillment of grant no. 96-02. North Cascades National Park Service Complex, Sedro-Woolley, Washington. On file, National Park Service, Marblemount.
- _____. 1998. National Register of Historic Places Registration Form, 45WH64 (Goodell Cr. No. 2), Determination of Eligibility. Prepared by National Park Service, Diablo, Washington. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- _____. 1999. Precontact Use of Tundra Zones of the Northern Cascades Range of Washington and British Columbia. *Archaeology in Washington* Vol 7:3-23.
- _____. 2004a. Archeology of the Little Beaver Watershed, North Cascades National Park Service Complex, Whatcom County, Washington. Report prepared for the Skagit Environmental Endowment Commission by NPS. On file, National Park Service, Marblemount.
- _____. 2004b. Cultural Resources Survey of SR-20 at Falls and Afternoon Creeks, Ross Lake National Recreation Area, Whatcom County, Washington. Prepared by Resource Management Division, North Cascades National Park Service Complex, Sedro Woolley, Washington, and submitted to Washington State Department of Transportation, Olympia, Washington. On file, National Park Service, Marblemount.
- _____. 2009. The Newhalem Rockshelter Site. In Francis P. McManamon, ed. *Archaeology in America an Encyclopedia*, V. 3, pp. 324-326. Greenwood Press, Westport, CT.

- Mierendorf, R.R. and A. Weiser. 2004. Upper Skagit River Valley Archeological District: National Register of Historic Places Registration Form. Prepared by National Park Service, Diablo, Washington. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- _____. 2008. Gorge Climber's Trail. On file, Department of Archaeology and Historic Preservation, Olympia.
- Mierendorf, R.R. and F.F. Foit. 2018. Holocene Geochronology and Archaeology at Cascade Pass, Northern Cascade Range, Washington. *Journal of Northwest Anthropology* Memoir 16.
- Mierendorf, R.R. and K.E. Baldwin. 2016. Toolstone Geography in the Northern Cascades of Washington and Adjacent Areas. Chapter 6 in *Toolstone Geography of the Pacific Northwest*, edited by T.L. Ozbun and R.L. Adams, pp. 76-106. Archaeology Press, Simon Fraser University, Burnaby, British Columbia.
- Mierendorf, R.R. and D.J. Harry. 1993. Results of a Subsurface Archaeological Survey on a Pleistocene Terrace in North Cascades National Park Service Complex. *Archaeology in Washington* Vol 5:39-49.
- Mierendorf, R.R., D.J. Harry, and G.M. Sullivan. 1998. An Archeological Site Survey and Evaluation in the Upper Skagit River Valley, Whatcom County, Washington. Technical Report NPS/CCNOCA/CRTR-98/01. Prepared for City of Seattle, City Light Department, Seattle, Washington. National Park Service, U.S. Department of the Interior. On file, Department of Archaeology and Historic Preservation, Olympia.
- Mierendorf, R.R., E. Gleason, and J.Y. Cheung. 2011. Archaeological Subsurface Survey of a Proposed Helipad on Reflector Bar, Ross Lake National Recreation Area, Whatcom County, Washington. Report prepared for North Cascades National Park Service Complex. Report prepared by North Cascades National Park Service Complex. On file, Department of Archaeology and Historic Preservation, Olympia.
- Mierendorf, R.R., J.L. Reidel, and G.A. Luxenberg. 1988. Technical Summary Results of an Intensive Cultural Resources Survey in the Upper Skagit River Basin. Report prepared for Seattle City Light by NPS.
- _____. 1989. Technical Summary Results of an Intensive Cultural Resources Survey in the Upper Skagit River Basin. Ms. submitted to City Light Department, City of Seattle. On file, North Cascades National Park, U.S. Department of Interior, Sedro Woolley.
- _____. 1991. Final Report of Intensive and Reconnaissance-Level Archaeological Surveys in the Upper Skagit River Basin, Washington. A report submitted to the City of Seattle, City Light Department, by National Park Service staff (Robert R. Mierendorf, editor), National Park Service, Pacific Northwest Region, U.S. Department of Interior, Seattle. On file, National Park Service, Marblemount.

- Mierendorf, R.R. and J. Thomson. 1986. An Assessment of the Effects of Endowment Commission Projects to Archaeological Remains in the Ross Lake National Recreation Area. On file, Pacific Northwest Region, National Park Service, US Department of the Interior, Seattle.
- Mierendorf, R.R., J.Y. Cheung, and E.B. Gleason. 2013. Archaeological Site Monitoring and Evaluation, Ross Lake National Recreation Area, 2008 to 2011, North Cascades National Park, Whatcom County, Washington. Report prepared for North Cascades National Park Service Complex. Report prepared by North Cascades National Park Service Complex. On file, Department of Archaeology and Historic Preservation, Olympia.
- Mierendorf, R.R. and L. Switzer. 1989. A Progress Report on Testing of Archaeological Sites in the Upper Skagit River Basin, WA. Skagit River Hydroelectric Project FERC No. 553. A report submitted to the City of Seattle, City Light Dept. NPS, PNWR, USDI. On file, National Park Service, Marblemount.
- Miller, B.G. 2016a *The Contemporary Coast Salish: Essays by Bruce Granville Miller*. Memoir 12, Journal of Northwest Anthropology, Richland, WA.
- _____. 2016b An Ethnographic View of Legal Entanglements on the Salish Sea Borderlands. In: *The Contemporary Coast Salish: Essays by Bruce Granville Miller*, edited by Bruce Granville Miller and Darby C. Stapp, pp. 139-159. Memoir 12, Journal of Northwest Anthropology, Richland, WA.
- Miller, J. 2017. *Evergreen Ethnographies: Hoh, Chehalis, Suquamish, and Snoqualmi of Western Washington*. Columbia, South Carolina.
- _____. 2019. *George Gibbs Northwest Array: Full Reports, Place Names, Word List, Artifact Names, and Guide*. Lushootseed Press, Columbia, South Carolina.
- Miss, C.J., J. Piper, and K. Bush. 2010. Baker River Hydroelectric Project FERC No. 2150 Application for New License Major Project – Existing Dam, Volume III, Historic Properties Management Plan. Prepared for Puget Sound Energy, Bellevue, Washington. Northwest Archaeological Associates, Inc., Seattle, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2004. Draft Baker River Hydroelectric Project (FERC No. 2150) Application for New License Major Project-Existing Dam, Volume III, Historic Properties Management Plan. Prepared for Puget Sound Energy, Bellevue, Washington. Northwest Archaeological Associates, Inc., Seattle, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Munsell, D.A. 2010. NRCS Cultural Resources Survey for the Thomas Lynn King Project. Report prepared for Natural Resources Conservation Service. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2018. NRCS Cultural Resources Survey for the Kisen Veng Ch. Project, and Danielle Swan Project. Report prepared for Natural Resources Conservation Service. On file, Department of Archaeology and Historic Preservation, Olympia.

- Nance, J.D. and B.F. Ball. 1986. No Surprises? The Reliability and Validity of Test Pit Sampling, *American Antiquity* 51(3):457-483.
- National Park Service (NPS). 1997 (revised). National Register Bulletin No. 15, How to Apply the National Register Criteria for Evaluation. [Online] URL: <https://www.nps.gov/nr/publications/bulletins/pdfs/nrb15.pdf>. Accessed July 2019.
- _____. 1998 (revised). National Register Bulletin No. 22, Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Last 50 Years.
- _____. 2000. The Museum Handbook, Part I. National Park Service, Museum Management Program, Washington, D.C.
- _____. 2006. Management Policies.
- _____. 2019. Research Approaches. <https://www.nps.gov/ethnography/parks/approaches/index.htm>. Accessed August 1, 2019.
- Nlaka'pamux Nation Tribal Council. 2019. Nlaka'pamux Nation Tribal Council website. [Online] URL: <http://www.nntc.ca/pages/home.aspx>. Accessed May 2019.
- Nooksack Indian Tribe. 2017. Nooksack Indian Tribe website. [Online] URL: <https://nooksacktribe.org/>. Accessed May 2019.
- Northwest Portland Area Indian Health Board (NPAIHB). 2015a. Upper Skagit Tribe. [Online] URL: <http://www.npaihb.org/member-tribes/upper-skagit-tribe/>. Accessed May 2019.
- _____. 2015b. Sauk-Suiattle Indian Tribe. Online document, <http://www.npaihb.org/member-tribes/sauk-suiattle-tribe/>. Accessed May 2019.
- _____. 2015c. Swinomish Indian Tribal Community. [Online] URL: <http://www.npaihb.org/member-tribes/swinomish-tribe/>. Accessed May 2019.
- _____. 2015d. Stillaguamish Tribe. [Online] URL: <http://www.npaihb.org/member-tribes/stillaguamish-tribe/>. Accessed May 2019.
- _____. 2015e. Tulalip Tribe. [Online] URL: <http://www.npaihb.org/member-tribes/tulalip-tribe/>. Accessed May 2019.
- _____. 2015f. Snoqualmie Tribe. [Online] URL: <http://www.npaihb.org/member-tribes/snoqualmie-tribe/>. Accessed May 2019.
- _____. 2015g. Nooksack Tribe. [Online] URL: <http://www.npaihb.org/member-tribes/nooksack-tribe/>. Accessed May 2019.
- _____. 2015h. Lummi Nation. [Online] URL: <http://www.npaihb.org/member-tribes/lummi-nation/>. Accessed May 2019.

- Nelson, M.A. 1996. Test Excavations at the Newhalem Bridge Replacement Area, Whatcom County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Nelson, M.A. and P. LeTourneau. 2004. Results of Archaeological Field Investigations for Valterra View Estates, Sunnyside Boulevard, Snohomish County, Washington. Report prepared for Mastro Properties. Report prepared by BOAS, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Nelson, M.A., A. Cagle, J. Boersema, and R.F. Schalk. 2018. Data Recovery Excavations at the Devil's Junction Creek #2 Site (45WH262), Whatcom County, Washington. Report prepared by Cascadia Archaeology for NPS.
- Nelson, M.A., T. Trost, C. Gallacci, and J. Boersema. 2011. Cultural Resource Survey for the SR 9 Snohomish River Bridge Project, Snohomish County, Washington. Report prepared for Washington State Department of Transportation. Report prepared by Cascadia Archaeology. On file, Department of Archaeology and Historic Preservation, Olympia.
- Norman, L.K. and M. Nelson. 2001. Heritage Resources Investigation of the Lake Stevens Sewer Districts Site Evaluation Project. Report prepared for Gray and Osborne, Inc. Report prepared by Northwest Archaeological Associates. On file, Department of Archaeology and Historic Preservation, Olympia.
- Northwest Archaeological Associates, Inc. 2003. Heritage Resources Investigations for the Everett Delta Lateral Pipeline Project: Pipeline Realignment, New Work Areas, and Access Road Corridors, Snohomish County, Washington. Report prepared for PIC Technologies, Inc. and Northwest Pipeline Corporation. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- No Author. 2005. Sauk-Suiattle Indian Tribe Archaeological Project. On file, Department of Archaeology and Historic Preservation, Olympia.
- No Author. 2001. National Park Service Cultural Landscapes Inventory. On file, Department of Archaeology and Historic Preservation, Olympia.
- NW Treaty Tribes. 2019. Northwest Treaty Tribes Website. [Online] URL: <https://nwtreatytribes.org/>. Accessed May 2019.
- Oakley, J. 2004. *Skagit County – Thumbnail History*. [Online] URL: <https://historylink.org/File/5663>. Accessed July 2019.
- _____. 2005. *Whatcom County – Thumbnail History*. [Online] URL: <https://historylink.org/File/7327>. Accessed July 2019.
- Oliver, L. and S. Schmidt. 2013. A Cultural Resource Survey for the Snohomish PUD Fiber Installation at Murray, Snohomish, and SnoKing Substations. Report prepared for Bonneville Power Administration. Report prepared by Bonneville Power Administration. On file, Department of Archaeology and Historic Preservation, Olympia.

- O'Neil, D.H. 1993. Excavation Sample Size: A Cautionary Tale. *American Antiquity* 58(3):523-529.
- Ozbun, T.L., J.G. Smith, and J.A. Chapman. 2004. Cultural Resource Survey of Northwest Pipeline Corporation's Capacity Replacement Project, Western Washington: Addendum One Supplemental Surveys of Workspace, Extra Workspace, Access Roads, and Pipeyards. Report prepared for Northwest Pipeline Corporation. Report prepared by Archaeological Investigations Northwest, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Parker, P.L. and T.F. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. National Register Bulletin 38. U.S. Department of the Interior, National Park Service, National Register, History and Education. Washington D.C., 1990. Revised 1998.
- Parvey, M. and B. Rinck. 2015. Cultural Resources Assessment for the Seattle City Light NERC Violations Assessment Project, Snohomish, Skagit, and Whatcom Counties, Washington. Report prepared for Seattle City Light. Report prepared by SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- Pickrell, J. 2014. Cultural Resources Inventory for the Newhalem EV Charging Station, Whatcom County, Washington. Report prepared for Seattle City Light. Report prepared by Historical Research Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Piper, J. and K. Shantry. 2012. Babcock Creek Archaeological Survey, North Cascades National Park, Whatcom County, Washington. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Piper, J. and R. Smith. 2009. Phase 2 Cultural Resources Assessment for the Sedro Woolley-Horse Ranch Transmission Line Upgrade, Skagit County and Snohomish County, Washington. Report prepared for Puget Sound Energy. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Poole, D. and S. Amell. 2014. Cultural Resources Assessment for the Proposed AT&T Mobility Project: SN2956 Lake Stevens SW & Hwy 9, Lake Stevens, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Randolph, J. 2010a. Archaeological Survey and Shovel Test Excavation Results for the Jensen-Lowell-Larmier 2009 EQIP Project. Report prepared for Natural Resources Conservation Service. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2010b. Archaeological Shovel Test Excavation Results for the Nicholas Pate 2010 EQIP Project. Report prepared for Natural Resources Conservation Service. On file, Department of Archaeology and Historic Preservation, Olympia.
- Redman, C.L. 1987. Surface Collection, Sampling, and Research Design: A Retrospective. *American Antiquity* 52(2):249-265.

- Regan, D. 2000. TAD NN, SR 9, Jct 56th Street SE and 42nd Street NE traffic operation improvements. Report prepared for Washington State Department of Transportation. Report prepared by Archaeological and Historical Services. On file, Department of Archaeology and Historic Preservation, Olympia.
- Rhode, D. 1988. Measurement of Archaeological Diversity and the Sample Size Effect. *American Antiquity* 53(4):708-716.
- Rice, H. undated. The Ross High Dam Archaeological Survey. Report prepared for NPS.
- _____. undated. An Archaeological Survey of the Proposed Roland Point Road and Recreational Development in the Ross Lake National Recreation Area. Report prepared for NPS.
- Riddle, M. 2006. *Snohomish County – Thumbnail History*. [Online] URL: <https://www.historylink.org/File/7877>. Accessed July 2019.
- _____. 2008. Tulalip Tribes. HistoryLink Essay 8852. [Online] URL: <https://www.historylink.org/File/8852>. Accessed May 2019.
- Riedel, J.L. 1990. Skagit River Project, FERC No. 553, Report on Existing Condition of Reservoir and Streambank Erosion. Report on file, National Park Service, North Cascades National Park, Sedro-Woolley, WA.
- Rinck, B. 2012. Cultural Resources Assessment for the Ross Lodge Picnic Shelter, Skagit River Hydroelectric Project, Diablo, Washington. Report prepared for Seattle City Light. Report prepared by Northwest Archaeological Associates/SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- Robinson, J.M. 2007. Archaeological Investigation of the road at 19521 Jordan Road, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Ruby, R.H., J.A. Brown, and C.C. Collins. 2010. *A Guide to the Indian Tribes of the Pacific Northwest*. Third Edition. University of Oklahoma Press, Norman.
- Sampson, Chief Martin J. 1972. *Indians of Skagit County*. Skagit County Historical Series No. 2, Skagit County Historical Society, Mount Vernon, Washington.
- Sauk-Suiattle Indian Tribe. 2019. Sauk-Suiattle Indian Tribe website. [Online] URL: <http://www.sauk-suiattle.com/>. Accessed May 2019.
- Schalk, R., C.D. Dillian, R.R. Mierendorf, and B. Blattenberger. 2013. Archaeological Resources Mitigation and Management Plan for Upper Skagit River Valley Archaeological District (Amended). Prepared for City of Seattle City Light Department. On file, City Light Department, Seattle.

- Schalk, R., C.D. Dillian, S.C. Hamilton, C.M. Hodges, D.L. Olson, and M.K. Stratford. 2000. Archaeological Investigations at 45OK2A, 45OK5, 45OK20 in the Chief Joseph Reservoir. Report prepared by the International Archaeological Research Institute, Inc. for the Seattle District, United States Army Corps of Engineers, Seattle.
- Schalk, R.F., R.G. Atwell, R.U. Bryson, C.G. Lebow, N.D. Sharp, C. Skinner, and A.J. Bailey. 1995. Research Design for Prehistoric Archaeology. Pp. 5.1-5.58 in Archaeological Investigations PGT-PG&E Pipeline Expansion Project Idaho, Washington, Oregon, and California: Volume I, Project Overview, Research Design, and Archaeological Inventory. Report prepared by INFOTEC Research, Inc., and Far Western Anthropological Research Group, Inc. for Pacific Gas Transmission Company, Portland, Oregon.
- Schultz, C., J. Pickrell, and A.E. Stevensen. 2016. Lake Stevens School District Early Learning Center and Elementary School Project Cultural Resources Inventory, Snohomish County, Washington. Report prepared for NAC Architecture, Inc. Report prepared by Historical Research Associates. On file, Department of Archaeology and Historic Preservation, Olympia.
- Schwab, D. and D.A. Schwab. 2019. Cultural Resources Inventory BPA Snohomish District FY18 Priority Poles, Skagit and Snohomish Counties, Washington. Report prepared for Bonneville Power Administration. Report prepared by EthnoTech. On file, Department of Archaeology and Historic Preservation, Olympia.
- Seattle City Light (City Light). 2020a. Pre-Application Document (PAD) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2020.
- _____. 2020b. Proposed Study Plan (PSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. December 2020.
- Shaffer, B.S. and J.L.J. Sanchez. 1994. Comparison of 1/4" and 1/8" Mesh Recovery of Controlled Samples of Small-to-Medium-Sized Mammals. *American Antiquity* 59(3):525-530.
- Shantry, K. 2015. Cultural Resources Assessment for the 20th Street Phase II Project, Lake Stevens, Snohomish County, Washington. Report prepared for Perteet, Inc. and the City of Lake Stevens. Report prepared by SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2007. Cultural Resources Assessment for the Hazel Hole Habitat Restoration Project, Snohomish County, Washington. Report prepared by SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2009. Cultural Resources Assessment for the Ingraham Boulevard NE Extension Project, Snohomish County, Washington. Report prepared by SWCA Environmental Consultants. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2018. Archeological Monitoring for the Presentin Park Side Channel Restoration, Marblemount, Skagit County, Washington. Report prepared by Equinox Research and Consulting International, Inc. On file, Department of Archaeology and Historic

Preservation, Olympia.

- Sharpe, J., R. McClintock, and J. Wilt. 2011. City of Snohomish Everett Conveyance Project Historic, Cultural, and Archaeological Resources Report. Report prepared for City of Snohomish. Report prepared by CH2Mhill. On file, Department of Archaeology and Historic Preservation, Olympia.
- Shong, M. 2003. Monitoring Results for the Everett Water Pipeline Replacement No. 2 and 3 (Phase 5). Report prepared for City of Everett Public Works Department. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Shong, M. and J.E. Juell. 2002. Cultural Resources Inventory for the City of Everett's Water Transmission Pipeline Replacement Project – Phase 5. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Shong, M. and C. Miss. 2004. Cultural resources survey for Work Area 13.1-R, 12-R, and pipeline corridor from STA 68+00 to 892+50 of the Everett Delta Lateral Pipeline Project, Snohomish County, Washington. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2007. Results of Archaeological Monitoring for the State Route 530 Sauk River Scour Repair Project, Skagit County, Washington. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- _____. 2009. Results of Archaeological Monitoring for the Ebey Slough Transmission Line Replacement Project, Snohomish County, Washington. Report prepared for GeoEngineers, Inc. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Smith, Allan H. 1988. Ethnography of the North Cascades. Center for Northwest Anthropology, Washington State University, Project Report No. 7, Pullman, Washington. Prepared for North Cascades National Park Service Complex, Sedro-Woolley.
- Snohomish Tribe of Indians. undated. Snohomish Tribe of Indians website. [Online] URL: <https://snohomishtribe.org/>. Accessed June 2019.
- Snoqualmie Indian Tribe. 2012. Snoqualmie Indian Tribe website. [Online] URL: <https://snoqualmietribe.us/>. Accessed May 2019.
- Sparks, S., P. Reed, J.T. Elder, M. Cascella, and C. Hetzel. 2015. Cultural Resources Survey Report 35th Avenue SE Improvement Project. Report prepared for Snohomish County Public Works. Report prepared by ICF International. On file, Department of Archaeology and Historic Preservation, Olympia.

- Spooner, A.M., L. Brubaker, and F.F. Foit, Jr. 2007. Thunder Lake: A Lake Sediment Record of Holocene Vegetation and Climate History in North Cascades National Park Service Complex, Washington. Prepared by Cooperative Ecosystems Study Unit, Agreement No. J9W030002, for North Cascades National Park Service Complex, Sedro-Woolley, WA. On file, National Park Service, Marblemount.
- _____. 2008. Ridley Lake: A Lake Sediment Record of Holocene Climate History in North Cascades National Park Service Complex, Washington. Prepared by Cooperative Ecosystems Study Unit, Agreement No. J9W030002, for North Cascades National Park Service Complex, Sedro-Woolley, WA. On file, National Park Service, Marblemount.
- Steinkraus, S. 2017. Cultural Resources Survey for the Patey PRD Project, Snohomish County, Washington. Report prepared for Wetland Resources. Report prepared by Tierra Right of Way Services, Ltd. On file, Department of Archaeology and Historic Preservation, Olympia.
- Stillaguamish Tribe of Indians. 2016. Ethnohistoric Summary. Document on file, Stillaguamish Tribe, Arlington, WA.
- _____. 2019. Stillaguamish Tribe of Indians website. [Online] URL: <https://www.stillaguamish.com/>. Accessed May 2019.
- Stilson, M.L. 2005. Caskey West Partial Cut Timber Sale Post Harvest Cultural Resource Survey. On file, Department of Archaeology and Historic Preservation, Olympia.
- Stipe, F. 2009. SEA Cavalero Corner, Alt. 2. On file, Department of Archaeology and Historic Preservation, Olympia.
- Stó:lō Service Agency. 2018. Stó:lō Service Agency website. [Online] URL: <http://www.stolonation.bc.ca/>. Accessed May 2019.
- Stó:lō Xwexwilmexw Treaty Association. 2017. Stó:lō Xwexwilmexw Treaty Association website. [Online] URL: <http://sxta.bc.ca/treaty-negotiations/>. Accessed July 2019.
- Stone, R.P. 2001. A Cultural Resources Investigation of the Proposed Swanson Bridge No. 80 Replacement Project, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Suttles, W. and B. Lane. 1990. Southern Coast Salish. In *Northwest Coast*, edited by Wayne Suttles, pp. 485-502. Handbook of North American Indians, Vol. 7, William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Swanson, K. 2014. Chapter 5: Urban Ethnographic Research. In *Researching the City*, edited by Kevin Ward, pp. 54-69. Sage, New York.
- Swinomish Indian Tribal Community (SITC). 2017. Swinomish Indian Tribal Community website. [Online] URL: <http://www.swinomish-nsn.gov/>. Accessed May 2019.

- Syverson, L.M. 2018. Archaeological Monitoring Report: Bogert and Tam Restoration Project, Rockport, Skagit County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Syverson, L.M. and K.R. Bush. 2018. Archaeological Investigation Report: Bogert and Tam Restoration Project, Rockport, Skagit County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Taplin, D.H., S. Scheld, and S.M. Low. 2002. Rapid Ethnographic Assessment in Urban Parks: A Case Study of Independence National Historical Park. *Human Organization* 61(1):80–93.
- Thomas, D.H. 1986. *Refiguring Anthropology: First Principles of Probability and Statistics*. Waveland Press, Inc., Prospect Heights, Illinois.
- Thompson, G. and J. Butler. 2006. Archaeological Assessment for American Eagle U.S. Navy Housing Marysville, Snohomish County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Thorne, R.M. 1988a. Guidelines for the Organization of Archaeological Site Stabilization Projects: A Modeled Approach. Technical Report EL-88-8, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- _____. 1998b. In-Place Archaeological Site Conservation and Stabilization Bibliography. National Clearinghouse for Archaeological Site Stabilization, Center for Archaeological Research, University of Mississippi, University, Mississippi.
- Thorne, R.M., P.M. Fay, and J.J. Hester. 1987. Archaeological Site Preservation Techniques: A Preliminary Review. Technical Report EL-87-3, U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi.
- Till, K.E. 2005. *The New Berlin: Memory, Politics, Place*. University of Minnesota Press, Minneapolis.
- Tingwall, D.F., L.N. Goetz, and K.M. Kanaby. 2010. Cultural Resources Report, City of Snohomish Combined Sewer Overflow Modifications Project, Snohomish, Washington. Report prepared for BHC Consultants, LLC. Report prepared by Landau Associates. On file, Department of Archaeology and Historic Preservation, Olympia.
- Trost, T. 2010. A Cultural Resource Survey of the Jim Creek – Peterson Riparian Revegetation Area, Arlington, Snohomish County, Washington. Report prepared for Stilly-Snohomish Fisheries Enhancement Task Force. Report prepared by Cascadia Archaeology. On file, Department of Archaeology and Historic Preservation, Olympia.
- Tulalip Tribes. 2019. Tulalip Tribes website. [Online] URL: <https://www.tulaliptribes-nsn.gov/>. Accessed May 2019.

- United States Army Engineer Waterways Experiment Station. 1988. The Archaeological Sites Protection and Preservation Notebook. Environmental Impact Research Program, Environmental Laboratory, Vicksburg, Mississippi.
- United States Department of Agriculture. 1988. River Point Resort Archaeological Site Erosion Control Project Specification. U.S. Forest Service, Superior Point National Forest, Kawishiwi Ranger District, Duluth, Minnesota.
- Valentino, A. 2011. Newhalem Historic Garage Replacement Archaeological Monitoring. Report prepared for Seattle City Light. Report prepared by Northwest Archaeological Associates. On file, Department of Archaeology and Historic Preservation, Olympia.
- Walker, S., G. Thomas, A. Weiser, R. Ives, and T. Smith. 2009. Cultural Resources Monitoring and Data Recovery Excavations at Site 45SK139 for the Marblemount Water System Project, Skagit County, Washington. On file, Department of Archaeology and Historic Preservation, Olympia.
- Ware, J.A. 1989. Archaeological Inundation Studies: Manual for Reservoir Managers. Contract Report EL-89-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Washington State Department of Transportation (WSDOT). 2019. Boundaries of Tribal Lands recognized by the U.S. Bureau of Indian Affairs. [Online] URL: <https://www.arcgis.com/home/item.html?id=6388822ea6ac4270a0194ac5a147cf14>. Accessed May 2019.
- Waters, M.R., T.W. Stafford Jr., H.G. McDonald, C. Gustafson, M. Rasmussen, E. Cappellini, J.V. Olsen, D. Szklarczyk, L.J. Jensen, M. Thomas, P. Gilbert, and E. Willerslev. 2011. Pre-Clovis Mastodon Hunting 13,800 Years Ago at the Manis Site, Washington. *Science* 334 (6054): 351-353.
- Weaver, R.M. and M. Nelson. 2002. SR 2/SR 9 Interchange Cultural Resources Survey. Report prepared for Washington State Department of Transportation. Report prepared by Northwest Archaeological Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Weitzel, C. 2004. Archaeological Monitoring for Construction of Northwest Pipeline Company Everett Delta Natural Gas Pipeline Lateral, Snohomish County, Washington. Report prepared for Williams. Report prepared by Historical Research Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.
- Williams, C.D. 2016. Historic Property Survey for the Ladder Creek Water Supply Settling Tank System Post Wildfire Remediation Project, City of Newhalem, Skagit County, Washington. Report prepared for Seattle City Light. Report prepared by Historical Research Associates, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.

- Williams, S. 2005. NRCS Marvin Thomas EQIP 2004 Site Identification Survey in Snohomish County, Washington. Report prepared for Natural Resources Conservation Service. On file, Department of Archaeology and Historic Preservation, Olympia.
- Zedeño, M.N., D. Austin, and R. Stoffle. 1997. Landmark and Landscape: A Contextual Approach to the Management of American Indian Resources. *Culture & Agriculture* 19(3):123–129.
- Zuccotti, L.F. 2006 Cultural Resources Investigations for the Lowell-Snohomish River Trail, Snohomish County, Washington. Report prepared for Snohomish County Public Works. Report prepared by BOAS, Inc. On file, Department of Archaeology and Historic Preservation, Olympia.

**CULTURAL RESOURCES DATA SYNTHESIS
REVISED STUDY PLAN**

ATTACHMENT A

**CITY LIGHT RESPONSES TO LP COMMENTS ON THE STUDY PLAN
PRIOR TO PSP**

Table 1. City Light responses to LP comments on the study plan prior to PSP.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
1.	Rob Whitlam (DAHP)	10/22/2019	Table of Contents	Please have an Appendix Section on page I for the MOAs, Settlement Agreements etc.	These are current license documents that can be provided as background. It is not necessary to attach them to this study plan.
2.	Rob Whitlam (DAHP)	10/22/2019	Table of Contents	Please have a List of Tables on page i	Entered List of Tables and RGW comment in Draft. Note that there are no tables in the study plan.
3.	Rob Whitlam (DAHP)	10/22/2019	List of Acronyms and Abbreviations	Please include on page ii ACHP, MOA, Tribe Names if abbreviated in the text, Seattle City Light, NRA, etc. and others in the text that don't appear on page ii.	Updated per comment. Not using abbreviated tribe names.
4.	Rob Whitlam (DAHP)	10/22/2019	Section 2-1 Study Goals and Objectives	Page 2-5 Section 2.1 Please add a Goal (7) Detailing all Stipulations in prior MOAs and their status/completion/ date of completion.	Updated per comment.
5.	Rob Whitlam (DAHP)	10/22/2019	Section 2.2.1 City Light	Page 2-5 Section 2.2.1 add Settlement Agreements, MOAs to items on page 2.6	Updated per comment.
6.	Rob Whitlam (DAHP)	10/22/2019	Section 2.3 Background and Existing Information	Page 2-6, Section 2.3 add MOAs to list and also identify Section 110 responsibilities.	"Management plans" already in list - no change. Section 110 mentioned in Section 2.2 - does not need to be added to Section 2.3, which lists existing data.
7.	Rob Whitlam (DAHP)	10/22/2019	Section 2.4 Project Operations and Effects on Resources	Page 2-7 Section 2.4 paragraph 2 last sentence, please strikeout: In general, the Project Boundary encompasses all land necessary for operation of the Project.	Updated per comment.
8.	Rob Whitlam (DAHP)	10/22/2019	Section 2.4 Project Operations and Effects on Resources	Page 2-7 paragraph 3 please change should to shall: The APE <u>shall</u> include.	Updated per comment.
9.	Rob Whitlam (DAHP)	10/22/2019	Section 2.5 Study Area	Page 2-7 Please note that the APE definition have yet to occur but ultimately the Study Area will encompass the APE, correct?	Clarified sentence to state "The APE will be defined by the CRWG in 2020 and shall include both direct and indirect effects."

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
					December 2020 update: City Light has been delineating the APE with the CRWG. Study Area map is updated to include the APE and one-mile literature review buffer around the APE.
10.	Rob Whitlam (DAHP)	10/22/2019	Figure 2.5-1 Overview of Study Area	Page 2-9. Additional Figures should show expanded specific areas like Ross Lake, Diablo Development, Gorge Development, etc	Comment noted. No change. Detailed figures will be provided in the report. For the study plan, just the main figure is used with the Project Boundary depicted.
11.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology	Page 2-10 Section 2.6 Methodology should state clearly the effort will be based upon existing information and no(t) entail on-site field work that will be the subject to future relicensing work.	Clarified sentence to read: "Existing information concerning the study area will be gathered using steps to collate, synthesize, and disseminate available data as outlined below. No fieldwork is proposed as part of the synthesis study."
12.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology	Page 2.10 Section 2.6 should also clearly state work will be done either by professional S[ecretary] of Interior qualified staff; consultants or Seattle City Light staff.	Added: "The Synthesis Study will be undertaken by qualified cultural resources staff from Cardno, Cascadia, and Cultural Geographics. The study will be directed by staff who meet the Secretary of Interior professional qualification standards (36 CFR Part 61) for history, archeology, and architectural history, as well as ethnographers holding doctorates." April 2021 update: changed language to state work will be conducted by staff that meet the Secretary of Interior professional qualifications standards.
13.	Rob Whitlam (DAHP)	10/22/2019	General	Need some discussion on quality control and how the assembled documents will be handled, organized and accessed. Please recall our conference call discussion regarding the secured server and public record law security on Seattle City Light vs. private corporate	Added language to Section 2.8 that reads "Draft and final reports will be provided to the CRWG through the project SharePoint site for which access is restricted. Archaeological and tribal resources will be confidential to the extent allowable under applicable federal and

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				consultant server.	state laws. City Light’s consultants are subject to the same confidentiality considerations as City Light per executed contracts. Indian Tribes and First Nations may have additional confidentiality protocols with the information they provide.”
14.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology Step 3	Page 2-10 states Step 3 need clarity on how the contact and by which agency contacts the consulting parties for information and what the role of the consultant is in relationship to the contact. Please note that cultural interest under 36CFR 800 is distinct from the referenced U&As.	Text clarified to read: "Researchers will Contact American Indian tribes and Canadian First Nations to solicit existing documents or studies including tribal resources and areas of interest for the study area and interconnected resources (e.g., rivers, trails, traditions of trade and resource procurement) to complete the following tasks. This outreach is not formal consultation as defined under Section 106 of the NHPA."
15.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology Step 6	Page 2-11 Step 6 notes tables on resource eligibility. Please also make sure there is a column for the date of the last on-site visit and the age of the existing site form.	Added to text.
16.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology Step 6	Page 2-11 Step 6 will also need a table and relevant maps detailing the extent of survey coverage, age of survey with a probable age of greater than 5 years, less than 5 years.	Added to text. December 2020 update: City Light will include a table summarizing this type of data. Maps are available on the WISAARD, DAHP’s online database. Maps of surveys will be integrated as appropriate in CR-02 and CR-03.
17.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology Step 6	Page 2-11 Step 6 will need a map and acreage of inaccessible/underwater areas.	Added to text. December 2020 update: Section updated to not include maps at this time, which are available on WISAARD. This information will be integrated as appropriate in CR-02 and CR-03 when developing the research designs for those field studies.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
18.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology Step 7	Page 2-11 Step 7 will need an analysis and audit of the existing MOAs, and what remains to be accomplished or has not been accomplished.	Added to text. December 2020 update: Summary of existing MOAs added to study plan and will be included in report. Additional information is available in the PAD and FERC 5-year cultural resources reports for the current license and will be reviewed during development of the HPMP for a new license.
19.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology Step 7	Page 2-11 Step 7 needs to discuss the state of the curate collections, scope, records management systems, access etc.\	Added to text. December 2020 update: This information is in FERC 5-year cultural resources reports for the current license and will be reviewed during development of the HPMP for a new license
20.	Rob Whitlam (DAHP)	10/22/2019	Section 2.6 Methodology Step 7	Page 2-11 Step 7 need to discuss and review the training elements and how that unfolded along with reporting required under MOAs and HPMPs.	Added to text. December 2020 update: Summary of existing MOAs added to study plan and will be included in the report. Additional information is available in the PAD and settlement agreement and 5-year cultural resources reports for the current license.
21.	Rob Whitlam (DAHP)	10/22/2019	Section 2.7 Consistency with Generally Accepted Scientific Practice	Page 2.11 Section 2.7 Consistency with GASP and BMP. We need some discussion on the state of the records management, digital and geospatial concurrency and any gaps and missing reports, forms etc. from Wisaard.	No changes. Process for including records in WISAARD will be discussed with the CRWG.
22.	Rob Whitlam (DAHP)	10/22/2019	Section 2.7 Consistency with Generally Accepted Scientific Practice	Page 2.-11. Section 2.7 do we need to have a Section on Crafting the Research Questions for a New Millennium with an outside peer review panel to review existing methods, questions, and products to refresh the research agenda?	No changes. Review will occur in the CRWG as outlined in the Study Plan. Further discussion with CRWG would occur when data gaps are identified and in planning any future surveys/studies.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
23.	Rob Whitlam (DAHP)	10/22/2019	Section 2.8	Page 2-12 Section 2.8 need tables(s) with target dates and important milestones and also should probably plan for specific meetings/workshops/tours to inform and educate the work group.	No changes. Target dates will be developed as study kicks off. Unable to set dates with tribes who aren't participating yet. Recommend not including table.
24.	Rob Whitlam (DAHP)	10/22/2019	General	We would also request receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).	Comment noted. No changes.
25.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Title Page	1. Title Page: it would be clearer if the title was modified to read "Draft Cultural Resources Synthesis Study Plan", because the CRWG was asked to review the plan for a study. The study that results from plan implementation is yet to be written. Changing the title in this manner is consistent with the use of "study plan" throughout the remainder of the document.	Change made per comment.
26.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 1.0 Introduction	2. P. 1-4: it would be helpful in the Intro to define at the outset, "project area" and "study area"	See Section 2.5 for definitions.
27.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 1.0 Introduction	3. P. 1-4, 3rd paragraph: it's somewhat misleading say that FERC maintains jurisdiction over lands and waters; more accurately, FERC maintains jurisdiction over SCL operations, but NPS administers all lands under the reservoirs.	Comment noted.
28.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 2.1 Study Goals and Objectives	4. P. 2-5: last sentence under Goals paragraph should include "NPS Management Policies"	Added per comment.
29.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 2.1 Study Goals and Objectives	5. P. 2-5: need clarification on the meaning of "separate reporting" for historic cultural resources.	Added reason that historic resource data are generally not considered confidential.
30.	Bob Mierendorf	11/13/2019	Section 2.2.1	6. P. 2-5, the last sentence: for clarity and	Clarified sentence to read: "This goal assists

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
	(Upper Skagit Indian Tribe)		City Light	accuracy, consider revising the sentence to read something like “This goal assists SCL in meeting its obligations to the following...” (by themselves, goals don’t constitute compliance).	City Light in meeting its obligations with the following laws, regulations, EOs, and guidelines."
31.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 2.2.1 City Light	7. P. 2-6: add “NPS Management Policies” to the bulleted list.	Added per comment.
32.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 2.2.2 National Park Service (NPS)	8. P. 2-6, under NPS: after mention of the Archaeological District, should 45WH64 and WH477 be mentioned, given they are determined eligible, also?	Comment noted. Not including individual eligible sites as there are more in the study area than just the two.
33.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 2.4 Project Operations and Effects on Resources	<p>9. P. 2-7, 3rd paragraph in section 2.4: “direct effects” is too narrowly defined here for Sec. 106 purposes because direct effects includes far more than just ground disturbance; other operational activities can have direct effects on above ground sites, including dendroglyphs, culturally-modified trees, rock-piled walls and cairns, and pit features. Actions that can directly affect these include logging, brush and vegetation clearing, and burning of brush piles, among others.</p> <p>In the same paragraph: consider that “new and to-be-improved access roads” is too narrowly defined and it should be broadened to include all access roads--although existing roads are a prior condition, the wording here leaves out road maintenance, including for example, culvert and bridge repair, which are current and future operations.</p>	Clarified sentence to read: "Direct effects may be the result of a physical disturbance and may also include visual, auditory, or atmospheric impacts as well. The APE for direct effects will include areas subject to direct disturbance, which may result from the construction of temporary extra workspaces, storage yards, staging areas, aboveground or in-water facilities, new or improved access roads; road and facility maintenance; vibration; logging; and brush/vegetation clearing and burning, among others."
34.	Bob Mierendorf (Upper Skagit Indian Tribe)	11/13/2019	Section 3.0 References	10. References are missing key sources, especially on Upper Skagit ethnography and ethnohistory:	Added references per comment.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				<p>Boxberger, Daniel L. 1996 An Ethnographic Overview and Assessment of North Cascades National Park Service Complex. Prepared for National Park Service, Pacific Northwest Region, Seattle, Washington.</p> <p>NPS Management Policies 2006 (or whatever is the most current version)</p> <p>Lepofsky, Dana, Ken Lertzman, Emily Heyerdahl, Dave Schaepe, and Bob Mierendorf 2000 Cultural and Ecological History of Chittenden Meadow, Upper Skagit Valley, British Columbia. Report submitted to the Skagit Environmental Endowment Commission, Seattle, WA.</p> <p>Mierendorf, Robert R. 1999 Precontact Use of Tundra Zones of the Northern Cascades Range of Washington and British Columbia. Archaeology in Washington V. VII.</p> <p>Mierendorf, Robert R. and David J. Harry 1993 Results of a Subsurface Archaeological Survey on a Pleistocene Terrace in North Cascades National Park Service Complex. Archaeology in Washington Vol. V:39-49.</p> <p>Smith, Allan H. 1988 Ethnography of the North Cascades. Center for Northwest Anthropology, Washington State University, Project Report No. 7, Pullman, Washington. Prepared for North Cascades National Park Service Complex, Sedro-Woolley, Washington.</p>	

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
35.	Kim DiCenzo (NPS)	11/08/2019	Section 1.0 Introduction	“Ross Lake National Recreation Area” Comment: I added that because preservation is a key component of the establishment, as well as recreation. And no enabling legislations trumps the purpose of the NPS which puts nat/cult preservation above recreation.	Added per comment.
36.	Kim DiCenzo (NPS)	11/08/2019	Section 2.1 Study Goals and Objectives	Comment: Has the Study Area been defined anywhere? Is this just another word for APE?	Study area is defined in Section 2.5. Added reference to Section 2.5 here. APE is not yet defined, as discussed in Section 2.4. December 2020 update: City Light has been delineating the APE with the CRWG. The Study Area is comprised of the APE and the one-mile literature review buffer around the APE.
37.	Kim DiCenzo (NPS)	11/08/2019	Section 2.2.2 National Park Service (NPS)	Comment: If the NPS is included, I'm not sure why other stakeholders wouldn't also be included,... and then I don't know where to draw the line. While I appreciate be included here, I think since this is a SCL document you should keep to SCL goals.	Comment noted. NPS included as they are a land manager. One of the seven criteria for FERC study plan requests that relevant resource management goals of agencies or Indian tribes with jurisdiction over the resource to be studied be included in the study plan.
38.	Kim DiCenzo (NPS)	11/08/2019	Section 2.3 Background and Existing information	Edit: replace “photographs” with “archives” in “Cultural resource surveys, testing, data recovery reports, and associated photographs,”	Change made as suggested.
39.	Kim DiCenzo (NPS)	11/08/2019	Section 2.3 Background and Existing information	“Archaeology/historic/ properties of religious and cultural significance site/isolated find forms,” Comment: I would re-word this so it's not such a mouthful.	Change made to "Cultural resources sites and property forms"
40.	Kim DiCenzo (NPS)	11/08/2019	Section 2.4 Project Operations and Effects on Resources	This last sentence doesn't make sense to me as it relates to the topic as a whole. Do you mean that the Project Boundary should minimally be considered the APE?	Sentence deleted.
41.	Kim DiCenzo	11/08/2019	Section 2.5	Should this definition come early? This phrase	Mention of "study area" in Section 2.1 is first

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
	(NPS)		Study Area	is introduced at the beginning of the document.	occurrence, and now reader is referred to definition in section 2.5.
42.	Kim DiCenzo (NPS)	11/08/2019	Section 2.6 Methodology Step 6	So is this summary report essentially an annotated bibliography?	No changes needed. Report will contain annotated information, as well as other types of data that are part of an in-depth desktop study. There is no fieldwork associated with the synthesis study.
43.	Kim DiCenzo (NPS)	11/08/2019	Section 2.6 Methodology Step 6	How is cosmography relevant to this study?	No changes needed. Understanding cosmography from tribal perspective sets the stage for identifying data gaps.
44.	Kim DiCenzo (NPS)	03/18/2020	Section 1.1 General Description of the Project	3 rd Paragraph – Comment: Word choice? Noncontiguous? In reference to “islands”	No changes to study plan. This is general Project background information.
45.	Kim DiCenzo (NPS)	03/18/2020	Section 1.1 General Description of the Project	3 rd Paragraph – Comment: add “Service” to National Park Service Complex.	No changes to study plan. This is general Project background information.
46.	Kim DiCenzo (NPS)	03/18/2020	Section 1.1 General Description of the Project	3 rd Paragraph – Comment: I think if you want to have the enabling legislation that we also need to have the NPS mission statement. It carries more weight than the enabling legislation and emphasizes the protection of natural and cultural resources Add “The mission statement of the NPS, who administers RLNRA, is to conserve the scenery and the natural and historic objects and the wild life therein ... by such means as will leave them unimpaired for the enjoyment of future generations”.	No changes to study plan. This is general Project background information.
47.	Kim DiCenzo (NPS)	03/18/2020	Section 1.1 General Description of	3 rd Paragraph – Comment: This statement seems misleading. The NPS administers the land, FERC has	No changes to study plan. This is general Project background information.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
			the Project	jurisdiction over the hydropower. (in reference to “FERC...maintains jurisdiction over the lands and waters within the Skagit River Hydroelectric Project”	
48.	Kim DiCenzo (NPS)	03/18/2020	Section 2.2 National Park Service (NPS)	Subsection Header – National Park Service Comment: I still am not sure this section needs to be included	Deleted subsection titled “National Park Service”
49.	Kim DiCenzo (NPS)	03/18/2020	Section 2.2 National Park Service (NPS)	1 st Paragraph – Comment: The language from the Organic Act should be added here.	Not added because subsection deleted
50.	Kim DiCenzo (NPS)	03/18/2020	Section 2.3 Background and Existing Information	3 rd Bullet – Add: “and condition assessments”	Added per comment
51.	Kim DiCenzo (NPS)	03/18/2020	Section 2.6.1 Step 1	2 nd Paragraph – Add: “site condition assessments” Add: “cultural landscape inventories/reports”	Added per comment
52.	Kim DiCenzo (NPS)	03/18/2020	Section 2.6.7 Step 7	Comment: This section seems focused on archeological sites. Need to make sure it is broad enough to cover the full gamut of resources. You said earlier in section 2.1.2 there would be two reports – one confidential (for arch) and one not (for built environment). The first sentence says the product is one confidential report...	Revised to include multiple reports and all resource types (historic built environment, archaeology, and properties of religious and cultural significance). Clarified what data will be included in reports to include: <ul style="list-style-type: none"> • summarize resource age, • date of recordation, • date of HPI, site, or TCP form completion, • level of research (e.g., desktop, interview, reconnaissance or intensive survey, testing, etc.), • resource eligibility determination, • initial effects assessment (if available), • proposed or completed mitigation;

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
					recommendations concerning ways that Project operations and maintenance can avoid affecting the resource
53.	Kim DiCenzo (NPS)	03/18/2020	Section 2.6.7 Step 7	1 st Paragraph – Comment: Is an “item” a historic property/resource or is it a bibliographic reference?	Added language for clarification: “...short descriptive summary of each bibliographic reference and cultural resource and...”
54.	Kim DiCenzo (NPS)	03/18/2020	Section 2.6.7 Step 7	1 st Paragraph – Add: “how the resource eligibility was determined (consensus DOE?, NR form, initial site inspection?)” Add: “proposed or completed mitigation”	Clarified in multiple bullets: <ul style="list-style-type: none"> • level of research (e.g., desktop, interview, reconnaissance or intensive survey, testing, etc.), • resource eligibility determination Added “proposed or completed mitigation” to list.
55.	Kim DiCenzo (NPS)	03/18/2020	Section 2.6.7 Step 7	1 st Paragraph – Comment: What does this mean? Recommendations on how to avoid impacts? (in reference to operations and maintenance recommendations)	Clarified to read: “recommendations concerning ways that Project operations and maintenance can avoid affecting the resource.”
56.	Kim DiCenzo (NPS)	03/18/2020	Section 2.6.7 Step 7	4 th Bullet – Comment: Again, this language is focused on archeology. Do you need two sections so they can be individually addressed?	Revised bullet to read: Prioritize resource (e.g., historic built environment, archaeology, or property of religious and cultural significance)
57.	Bob Mierendorf (Upper Skagit Indian Tribe)	03/25/2020	Section 2.1.2 Objectives	3 rd Bullet – Comment: In exactly what form will the dataset be presented?	Data will be in tabular format. Revised bullet to read: “Share dataset in tabular format with the CRWG to collectively build upon the baseline of information.”
58.	Dan Khadka (Stó:lō PRRO)	03/26/2020	Section 2.5 Study Area	1 st Paragraph – Comment: To clearly define the study area, we need to add something along the line of “The study area includes the north end of the Ross Lake reservoir located within the Skagit Provincial Park in British Columbia.	Removed: “The study area will also include a one-mile buffer around these areas.” and replaced with “The study area includes a one-mile literature review buffer, beyond the Skagit Hydroelectric Project’s actual footprint. Including information from this research buffer

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					<p>will provide context for cultural resources associations in the surrounding landscape and help gauge potential project effects beyond the Project's actual footprint, including across the international boundary into Canada.”</p> <p>Also to address this comment, added language to Step 1 in Section 2.6.1 as follows Researchers will compile a list of available resources for the “overall” study area, “i.e. the Skagit Hydroelectric Project Boundary and one-mile literature review/research buffer...”</p> <p>December 2020 update: City Light has been delineating the APE with the CRWG and maps have been updated in the study plan to show the APE. Though the study area does not extend into Canada due to jurisdictional considerations, literature will be reviewed from Canada to develop cultural context information as needed. The map has been updated.</p>
59.	Dan Khadka (Stó:lō PRRO)	03/26/2020	Section 2.5 Study Area	<p>1st Paragraph – Comment: Accordingly, the corresponding study area map needs to be revised so that it shows the Canadian portion of the study area. Currently, it is consistent with the extent of the project area.</p>	<p>No changes to Figure 2.5-1 (Project overview map) in study plan.</p> <p>The one-mile buffer study area extends across the international boundary and is captured in the working kmz files for the study and will be mapped in the summary reports.</p> <p>December 2020 update: City Light has been delineating the APE with the CRWG and maps have been updated in the study plan to show the APE. Though the study area does not extend into Canada due to jurisdictional considerations, literature will be reviewed from</p>

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
					Canada to develop cultural context information as needed. The map has been updated.
60.	Dan Khadka (Stó:lō PRRO)	03/26/2020	Section 2.6.1 Step 1	1 st Paragraph – Comment: Need to include something like “The researchers will also work with the Canadian First Nations, including the People of the River Referrals Office (PRRO) and Stó:lō Research & Resource Management Center (SRRMC), and support them with necessary capacity resources to complete the study on the Canadian side on behalf of their respective communities”.	No changes to study plan section 2.6. Intent of study plan is to outreach with the Canadian First Nations and Indian Tribes. City Light will follow up with the PRRO and SRRMC concerning additional information support. December 2020 update: City Light has followed up with the PRRO and SRRMC regarding this matter.
61.	Dan Khadka (Stó:lō PRRO)	03/26/2020	Section 2.6.1 Step 1	1 st Paragraph – Comment: We also need to revise the steps below to explain the process for retaining the SRRMC as a subcontractor to conduct the Canadian side of the study.	No changes to the study plan section 2.6.1. City Light will follow up with the SRRMC to clarify potential future studies. December 2020 update: City Light has followed up with the PRRO and SRRMC regarding this matter.
62.	Kerry Lyste (Stillaguamish Tribe of Indians)	03/25/2020	General	At this point, we have 1 comment (I might have more tomorrow) but I can't get in to the sharepoint directory at home. Our comment is that we don't feel 1 mile buffers from transmission lines and other elements for the APE and ethnographic study is sufficient, and should be expanded to at least 2 miles.	No changes to the study plan. City Light will follow up with the Stillaguamish Tribe. December 2020 update: City Light has followed up with the Stillaguamish Tribe regarding research buffers. City Light has also been delineating the APE with the CRWG. As part of work in CR-02, CR-03 and CR-04, previously identified historic properties outside of the current APE may be documented to be incurring project effects. If such properties and project effects on them are identified, the APE scope can be adjusted, as appropriate, to address project effects.
63.	Kerry Lyste	03/25/2020	General	We have found when doing ethnographic	No changes to the study plan. City Light will

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
	(Stillaguamish Tribe of Indians)			studies in this area for Upper Jim Creek and Mount Higgins that resource gathering and trails covered wider swaths that 1 mile (depending on the resource and practice). Generally, for ethnographic we are finding these familial gathering and practice areas not to be discrete but associated loci.	follow up with the Stillaguamish Tribe. December 2020 update: City Light has followed up with the Stillaguamish Tribe regarding this matter. See comment response above regarding project effects to historic properties.
64.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	The NNTC was involved in the first relicensing process in 1991. In 1993 the NNTC entered an Agreement to research traditional cultural sites and mitigation recommendations in the FERC Area of Potential Effect jurisdiction around Ross Lake. Communications have been ongoing with Seattle City Light and, in the last decade with the NPS as well. A Confidential draft report on Nlaka’pamux Traditional Cultural Properties and Mitigation Recommendations to Protect Nlaka’pamux Cultural Properties was submitted to Seattle City Light in 2014, with a Confidential copy to National Park Service. There were two reviews by SCL and work is in hand to submit the Final Report to FERC and SCL, and to register the TCP. It cannot be held that the NNTC are “new” license participants”.	No changes to the study plan. City Light will follow up with the Nlaka’pamux Nation. December 2020 update: City Light has followed up with the NNTC regarding this matter and is continuing to track progress of this work in the current license implementation.
65.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	The PAD and the Draft Study Plan were made available to NNTC only in the last two weeks and at this point we have no access to documents that contain confidential information. Our initial response is therefore cursory and further commentary will be forthcoming. As we have requested participation on the Voluntary Cultural Resources Working Group and Voluntary Steering Committee we are hopeful that our contribution to this process will be more	No changes to the study plan. City Light will follow up with the Nlaka’pamux Nation. December 2020 update: An early release of the PAD was voluntarily provided to all the LPs including NNTC. City Light has followed up with the NNTC regarding this matter.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				substantial.	
66.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	We understood from comments by the presenters in the tele-meeting of 19 March 2020 that Washington Tribes had expressed some trust concerns about Confidential information on cultural resources and we have similar concerns. We understand that the consulting companies have confidentiality agreements with SCL but we would prefer as well a confidentiality protocol between the NNTC and the research group that was mandated to collate cultural resource material from the NNTC.	No changes to the study plan. City Light will follow up with the Nlaka’pamux Nation. December 2020 update: City Light has followed up with the NNTC regarding this matter and is developing confidentiality protocols including non-disclosure agreements.
67.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	As we have not participated to this date we are not clear on how decisions are made. Statements such as “the CRWG will identify which information collected for this study will be confidential” (DSP 2-1) need to be clarified to re-assure LP’s that their decision-making interests are always protected. This decision-making process needs to be very clear and accepted unanimously.	No changes to the study plan. City Light will follow up with the Nlaka’pamux Nation. December 2020 update: City Light has followed up with the NNTC regarding this matter.
68.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	We also understood that the neighbouring Tribes had expressed their principal concern as the protection of these resources and we share that primary concern. For this reason we are vitally interested in working with the CRWG on defining the APE in 2020. The narrowness of the APE as defined in the last 30 years has been a constant frustration in the study and research of Nlaka’pamux cultural resources in the project area.	No changes to the study plan. City Light will follow up with the Nlaka’pamux Nation. December 2020 update: City Light has followed up with the NNTC regarding this matter.
69.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	As we were not involved in the Study Plan we have no information as to the extent of the working relationship between the SCL and	No changes to the study plan. City Light will follow up with the Nlaka’pamux Nation.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				<p>federal agencies such as the NPS when it comes to their working with other LPs in the course of the relicensing - and duration of the licence. This is not clear in the Study Plan and we think it would be helpful to have more clarity. It would be useful to work on protocols whereby other federal agencies would also work with LPs on protection and mitigation measures on more than an ad hoc basis: protocols should include further research opportunities and also monitoring where their workings might impact tribal or first nation cultural resources.</p> <p>For example we note that other Mitigation surveys related to the SCL hydro project are being carried out at this stage but the Study Plan does not specifically include any cross referencing process. The NNTC has not received notice of these surveys where they were carried out in the northern Skagit area. These could well include areas of cultural resources: fish and wildlife surveys are often in prime cultural habitat. There needs to be a way to incorporate this information during the relicensing process and to continue afterwards so that LP's are always aware of what other areas are being worked in any way and will be able to monitor their interests there. There are a number of other areas where cultural resources, fish and wildlife and environment concerns might be impacted and surveys of these areas should be carried out.</p> <p>An annual in-person review of all works in the Skagit corridor must be coordinated now.</p>	<p>December 2020 update: City Light has followed up with the NNTC regarding this matter.</p>
70.	Pauline Douglas (Nlaka'pamux Nation)	03/31/2020	General	<p>In the course of our research over the last few years we also found a lack of clarity over what agency had what responsibilities in different</p>	<p>No changes to the study plan. City light will follow up with the Nlaka'pamux Nation.</p>

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				areas – and specifically in shared areas where each pointed to the other agency for taking responsibility - for example SCL contributions to NPS recreation activities that impact cultural resources.	December 2020 update: City Light has followed up with the NNTC regarding this matter.
71.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	The list of acronyms in the PAD includes the WWTIT, referring to Western Washington Treaty Indian Tribes: this was an indication of the restricted concept of indigenous interest in the project and other indigenous interests were duly excluded in the SCL initial work on this current relicensing initiative. We hope the NNTC inclusion on the Working Group and Steering Committee will be helpful in acknowledging all interests in this process.	No changes to the study plan. City light will follow up with the Nlaka’pamux Nation. December 2020 update: City Light has followed up with the NNTC regarding this matter.
72.	Pauline Douglas (Nlaka’pamux Nation)	03/31/2020	General	While the SCL Settlement Agreements of the last relicensing period ensured some contact between Tribes and First Nations with the SCL, there needs to be a framework where this is continued on an on-going face to face basis.	No changes to the study plan. City light will follow up with the Nlaka’pamux Nation. December 2020 update: City Light has followed up with the NNTC regarding this matter.
73.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 2.2.1 Objectives	8 th bullet – Add: “(8) Provide a comparison of the different states of knowledge of Upper Skagit River and North Cascades mountain history and prehistory, by comparing the state at the beginning of the current license studies (1988) with the state of knowledge at present (2020) in order to gauge the overall contributions to knowledge of the current license.	Studies required by the current license have been summarized in the PAD. States of knowledge between 1988 and 2020 can be derived from report dates provided in the Synthesis Study tables.
74.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 2.2.1 Objectives	1 st full paragraph – Can you reference the laws and sections that are referred to here?	Added RCW 42.56.300, 16 U.S.C. 470hh(a).
75.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 2.4 Project	1 st paragraph –	Sentence deleted.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
	Indian Tribe)		Operations and Effects on Reservoirs	This sentence should be deleted as it's inconsistent with the need to address direct and indirect effects: "Evaluation of Project effects will occur later during the relicensing process and is beyond the scope of this study."	
76.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 2.6.3 Step 3	1 st paragraph – Need to be more specific--exactly what does "interest" mean?	Each Indian tribe and First Nation can define the nature and area of their interest. Sentence revised to read "...areas of tribal interest..."
77.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 2.6.7 Step 7	3 rd bullet – This is good and necessary, but under 2.4 on p. 8 of this draft, the statement that says that assessment of effects is beyond the scope of this document, needs to be removed, especially because of the effort to distinguish direct from indirect effects.	Sentence in Section 2.4 deleted. 3 rd bullet in Section 2.6.7 revised to read "Provide an initial assessment of potential effects on historic properties."
78.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 2.6.7 Step 7	3 rd paragraph – What planning is being referred to here? A revised ARMMP or what?	There will be a new HPMP developed for the new license which will include an updated ARMMP and HRMMP, as well as additional management plans as needed. These additional management plans will be identified and drafted between December 2020 and April 2023.
79.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 2.7 Consistency with Generally Accepted Scientific Practice	1 st paragraph – Again, ambiguity seeks clarity. What interests? Does this include concerns, claims, traditions, or what?	Interests will be defined by each Indian tribe and First Nation. Sentence revised to read "information on known tribal interests as defined by each Indian tribe and/or First Nation..."
80.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 3.0 References	I've inserted several references below, and want to caution that some of them will need to be reformatted for consistency and proper order of listing.	References added as suggested and will be integrated into the study.
81.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 3.0 References	Page 3-8 – There are several Grabert references that should go in here, should be on WISAARD.	These references will be used in the study and included in the references cited for the study report.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
82.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 3.0 References	Page 3-14 – This reference was incorrectly dated “1994”	Reference date corrected to 2004.
83.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 3.0 References	Page 3-15 – Need to recheck the reference authorship--Foit was definitely not a coauthor of this one.	Revised to Mierendorf and Weiser 2004.
84.	Bob Mierendorf (Upper Skagit Indian Tribe)	3/26/2020	Section 3.0 References	Page 3-20 – I’m unaware of any copy of this other than the one dated 2011. Is “2013” incorrect, or was the 2011 version updated?, don’t think so.	The ARMMP was amended in July 2013.

**CR-02 CULTURAL RESOURCES SURVEY
REVISED STUDY PLAN**

**SKAGIT RIVER HYDROELECTRIC PROJECT
FERC NO. 553**

Seattle City Light

**April 2021
RSP**

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List of Attachments

Attachment A	City Light Responses to LP Comments on the Study Plan Prior to PSP
Attachment B	Area of Potential Effects Mapbook
Attachment C	Draft Research Design

List of Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
AIRFA	American Indian Religious Freedom Act
APE	area of potential effects
ARPA	Archaeological Resources Protection Act
ARMMP	(Skagit) Archaeological Resources Mitigation and Management Plan
CFR	Code of Federal Regulations
City Light	Seattle City Light
CRWG	Cultural Resources Work Group
DAHP	Department of Archaeology and Historic Preservation
DMS	Document Management System
DNR	Department of Natural Resources (Washington State)
ELC	Environmental Learning Center
EO	executive order
FERC	Federal Energy Regulatory Commission
GPS	Global Positioning System
HPMP	Historic Properties Management Plan
HRMMP	(Skagit) Historic Resources Mitigation and Management Plan
ISR	Initial Study Report
LP	licensing participant
NAGPRA	Native American Graves Protection and Repatriation Act
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPS	National Park Service
NRHP	National Register of Historic Properties
O&M	operations and maintenance
PAD	Pre-Application Document
PME	protection, mitigation, and enhancement
PRM	Project River Mile
Project	Skagit River Hydroelectric Project
PSP	Proposed Study Plan

PTRCI	properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization
RCW	Revised Code of Washington
RLNRA	Ross Lake National Recreation Area
RM	river mile
ROW	right-of-way
RSP	Revised Study Plan
RWG	Resource Work Group
SHPO	State Historic Preservation Office or Officer
SITC	Swinomish Indian Tribal Community
SOI	Secretary of the Interior
SSIT	Sauk-Suiattle Indian Tribe
STL.....	Stillaguamish Tribe of Indians
TCP	traditional cultural property
U.S.C.....	United States Code
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
USR.....	Updated Study Report
WISAARD	Washington Information System for Architectural and Archaeological Records Data

1.0 INTRODUCTION

1.1 General Description of the Project

The Skagit River Hydroelectric Project (Project), licensed to The City of Seattle, Washington, and operated through its publicly-owned electric power utility Seattle City Light (City Light), is located in northern Washington State and consists of three power generating developments on the Skagit River – Ross, Diablo, and Gorge – and associated lands and facilities. The Project generating facilities are in the Cascade Mountains of the upper Skagit River watershed, between Project River Miles (PRM) 94.7 and 127.9 (U.S. Geological Survey [USGS] RMs 94.2 and 127).¹ Power from the Project is transmitted via two 230-kilovolt powerlines that span over 100 miles and end just north of Seattle at the Bothell Substation. The Project also includes two City Light-owned towns, an Environmental Learning Center (ELC), several recreation facilities, and several parcels of fish and wildlife mitigation lands.

Project generating facilities are all located in Whatcom County, although Ross Lake, the most upstream reservoir, crosses the U.S.-Canada border and extends for about one mile into British Columbia at normal maximum water surface elevation. Gorge Powerhouse, the most downstream facility, is approximately 120 miles northeast of Seattle and 60 miles east of Sedro-Woolley, the nearest large town. The closest town is Newhalem, which is part of the Project and just downstream of Gorge Powerhouse. The primary transmission lines cross Whatcom, Skagit, and Snohomish counties; the fish and wildlife mitigation lands are in the same counties.

The Project Boundary is extensive, spanning over 133 miles from the Canadian border to the Bothell Substation just north of Seattle, Washington. In addition, there are “islands” of fish and wildlife mitigation lands and recreation facilities within the Skagit, Sauk, and South Fork Nooksack watersheds that are also within the Project Boundary. Project generating facilities are entirely within the Ross Lake National Recreation Area (RLNRA), which is administered by the National Park Service (NPS) as part of the North Cascades National Park Complex. The RLNRA was established in 1968 in the enabling legislation for North Cascades National Park to provide for the “public outdoor recreation use and enjoyment of portions of the Skagit River and Ross, Diablo, and Gorge lakes.” The legislation maintains the Federal Energy Regulatory Commission’s (FERC) jurisdiction “in the lands and waters within the Skagit River Hydroelectric Project,” as well as hydrologic monitoring stations necessary for the proper operation of the Project (16 United States Code [U.S.C.] § 90d-4; Public Law 90-544. Sec. 505 dated October 2, 1968, as amended by Public Law 100-668. Sec. 202 dated November 16, 1988).

1.2 Relicensing Process

The current FERC license for the Project expires on April 30, 2025, and City Light will apply for a new license no later than April 30, 2023. City Light formally initiated the relicensing process by filing a Notice of Intent and Pre-Application Document (PAD) with FERC on April 27, 2020 (City Light 2020a). The PAD includes descriptions of the Project facilities, operations, license

¹ City Light has developed a standard Project centerline and river mile system to be used throughout the relicensing process, including the study program, to replace the outdated USGS RM system. Given the long-standing use of the USGS RM system, both it and the Project River Mile (PRM) system are provided throughout this document. For further details see Section 7.0 of the main body RSP.

requirements, and Project lands as well as a summary of the extensive existing information available on Project area resources and early consultation on potential resource issues to be addressed during the relicensing. The PAD also includes an outline of the goals and objectives of this study.

In 2019-2020, City Light convened a series of Resource Work Groups (RWG) to engage agencies and other licensing participants (LP) in the Study Plan Development Process. Discussions with LPs continued in early 2021 with a series of topic-based discussions following filing of the Proposed Study Plan (PSP) on December 8, 2020 (City Light 2020b). This study plan reflects RWG and LP discussion and study requests and comments submitted by LPs.

1.3 Study Plan Development

Relicensing of the Project by FERC is considered a federal undertaking under Section 106 of the National Historic Preservation Act (NHPA), as amended, and its implementing regulations (36 Code of Federal Regulations [CFR] § 800). Section 106 establishes a process for federal agencies to identify, and to take into account, the effects of their undertakings on historic properties, as defined below:

Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization [PTRCI] and that meet the National Register criteria [36 CFR § 800.16(1)(1)].

City Light's continued operations and maintenance (O&M) of the Project under a new FERC license may affect historic properties. Therefore, City Light is proposing four studies to assist FERC with its Section 106 compliance requirements. These studies consist of:

- (1) CR [cultural resources]-01 Cultural Resources Data Synthesis
- (2) CR-02 Cultural Resources Survey
- (3) CR-03 Gorge Bypass Reach Cultural Resources Survey
- (4) CR-04 Inventory of Historic Properties with Traditional Cultural Significance Study (Properties with Traditional Cultural Significance Study)

The Cultural Resources Survey of the Project area of potential effects (APE) is proposed in partial fulfillment of Section 106 requirements and is intended to identify historic properties and to assess potential Project-related effects to historic properties within the APE that may be affected by the continued O&M of the Project under a new FERC license. As defined in the applicable regulations found at 36 CFR § 800.16(d), the APE is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The [APE] is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.”

A field study within the APE was specifically requested during the 2019 Study Plan Development Process (see Issue Form CR04, Survey of APE) because only a portion of the Project has been previously surveyed for cultural resources. When the Project received its last FERC license in 1995, FERC and the Washington State Historic Preservation Officer (SHPO), along with the consulting parties, entered into multiple settlement agreements and Memoranda of Agreement regarding the management and mitigation of Project-related effects on archaeological and historic resources and traditional cultural properties (TCP) (City Light 1991 a, b, c, d; City Light 1993, 1994, 1996). Under these agreements, only a portion of the Project was surveyed for cultural resources, primarily within Ross Lake. In addition, properties have been acquired during the current license period as part of the 1995 license mitigations for fish and wildlife habitat that have expanded the Project Boundary. Most of these additional lands have not been surveyed for cultural resources or evaluated for potential Project effects. City Light, as FERC's non-federal representative² for carrying out informal consultation under Section 106 of the NHPA, is consulting with Section 106 participants on the delineation of the APE as described further below.

On April 10, 2020, City Light released the Cultural Resources Survey Draft Study Plan for LP review and comment. On May 4, 2020, the draft study plan was discussed at a Cultural Resources Work Group (CRWG) meeting. City Light reviewed all comments received and released a revised version of the draft study plan on June 12, 2020. The revised draft was discussed on June 22, 2020 at a CRWG meeting. Written comments were received from the Nlaka'pamux Nation Tribal Council, the Upper Skagit Indian Tribe, and National Park Service and responded to in an attachment to this study plan. A Status Draft of the study plan was provided to LPs on August 6, 2020.

City Light is filing this study plan with FERC as part of its Revised Study Plan (RSP), an update to the version that was filed with the PSP and incorporating additional consultation with LPs prior to the filing date. The following study requests pertaining to cultural resources covered under the Cultural Resources Survey (archaeological and historical resources) were submitted: SITC-03 Cultural Resources Study, SSIT-04 Cultural Resources Transmission Line Study, STI-02 Historic Properties Study, and STI-03 Study of Specific Sites as Archaeological District. This study plan addresses some of the elements identified in the study requests listed above, as explained in Section 6 of the RSP.

PSP comments to the study plan were submitted by the Nlaka'pamux Nation Tribal Council. City Light has addressed the specific comments and suggested edits in the study plan and responded to comments in the PSP comment/response table appended to the RSP. Modifications made to the study plan in response to comments include the addition of a draft research design as an attachment to this study plan for review and further development by the CRWG. Additionally, the methodology of the study has been updated to reflect that City Light will conduct a reconnaissance level survey (i.e., pedestrian survey only) along the entire Project transmission line APE corridor. This excludes areas that are too steep or too vegetated to safely survey or that are inundated, and

² On June 26, 2020, FERC issued a *Notice of Intent to File License Application for a New License and Commencing Pre-filing Process* within which FERC designated City Light as its non-federal representative for carrying out informal consultation pursuant to Section 106 (FERC Filing Accession no. 20200626-3024).

excludes areas where City Light does not conduct any activities (i.e., areas where the transmission line spans rivers or ravines).

This document presents the study plan for implementing a Cultural Resources Survey for archaeological and historic built environment resources (i.e., the study) within the APE. The study elements outlined below include the study goals and objectives, resource management goals, background information, proposed study area, general methodology, schedule, and expected level of effort and consistency with generally accepted practices for cultural resources surveys.

The results of the Cultural Resources Survey are expected to include confidential and/or privileged information that is exempt from public release. The confidential and privileged information will be protected, in consultation with the Section 106 consulting parties. State and federal laws exempt certain types of cultural resources information from public disclosure (e.g., Revised Code of Washington [RCW] 42.56.300, 16 U.S.C. 470hh(a)).

2.0 STUDY PLAN ELEMENTS

2.1 Study Goals and Objectives

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and includes procedures for the “identification...and evaluation of historic properties” (36 CFR § 800.4). The goal of this study is to assess the potential effects of the Project’s O&M on cultural resources within the APE that are included in or eligible for listing in the NRHP. The survey and subsequent study report that will be prepared to document the study efforts and results will be completed in consultation with the Section 106 consulting parties.

To date, Section 106 consulting parties identified for the Project relicensing include: SHPO, NPS, FERC, Upper Skagit Indian Tribe, Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Nlaka’pamux Nation Tribal Council, and City Light. In addition to these parties, City Light anticipates additional consulting parties may include: Advisory Council on Historic Preservation (ACHP),³ Bureau of Indian Affairs (BIA), U.S. Forest Service (USFS), Washington Department of Natural Resources (DNR), Snohomish County, Stó:lō Nation, Confederated Tribes of the Colville Reservation, Lummi Nation, Muckleshoot Indian Tribe, Nooksack Indian Tribe, Samish Indian Nation, Snoqualmie Indian Tribe, Stillaguamish Tribe of Indians, Suquamish Indian Tribe, and Tulalip Tribes of Washington, as well as other potential parties to be identified during Section 106 consultation, which FERC initiated when it issued public notice on June 26, 2020, of City Light’s filing of the PAD and Notice of Intent (NOI).

The primary objective of the study is to provide sufficient information to assist FERC in compliance with Section 106 of the NHPA and other cultural resources regulations and executive orders (EO). Information collected during the survey will be used to identify archaeological and historic built environment resources that qualify as historic properties in the APE and to assess potential Project effects to them. Key components for identifying priority areas for the cultural resources survey will derive both from cultural resources’ potential on the landscape and the scope of potential Project operations and activities that could affect historic properties, pursuant to 36 CFR § 800.4(a).

The specific objectives of the study are as follows:

- Further define the specific areas of the APE that will be surveyed (i.e., survey areas) in consultation with Section 106 consulting parties.
- Review and synthesize existing archaeological, historical, and ethnographic data within 1.0 mile (1.6 kilometers) of the APE.
- Complete a cultural resources survey. The survey will include inventory of both archaeological and historic built environment resources.
- Identify and record cultural resources within the survey areas.

³ City Light invited ACHP to participate in the CRWG on March 12, 2021 via email. Mr. John Eddins, Program Analyst for Federal Permitting, Licensing, and Assistance Section, responded via email on March 15, 2021 declined to participate at this time.

- Complete initial evaluation of NRHP eligibility for located cultural resources, if possible, at this inventory level of effort.⁴
- Preliminarily evaluate the potential effects on NRHP-listed and eligible cultural resources (e.g., historic properties) from O&M of the Project, if possible, at this inventory level of effort.
- Summarize survey results in regard to potential effects of the Project on historic properties to inform the license application and management plans.
- Provide recommendations for any additional work to evaluate NRHP eligibility and Project effects, as applicable.

2.2 Resource Management Goals

This section summarizes City Light's resource management goals related to cultural resources for this study. The study will also provide information for resource agencies and Indian tribes with jurisdiction in the Project vicinity to address their respective goals and objectives for resource management. Resource management goals were provided by LPs in their study requests identified in Section 1.3 of this study plan.

The following laws, regulations, EOs, and guidelines apply to the Project:

- Section 106 of the NHPA
- American Indian Religious Freedom Act (AIRFA)
- Archaeological Resources Protection Act (ARPA)
- Native American Graves Protection and Repatriation Act (NAGPRA)
- Organic Act of 1897
- EO 13007 (Indian Sacred Sites)
- EO 13175 (Indian Tribal Consultation)
- FERC Policy Statement on Consultation with Indian Tribes in Commission Proceedings, Order 635
- RCW Chapter 27.53 (Archaeological Sites and Resources)
- RCW Chapter 27.44 (Indian Graves and Records)
- RCW Chapter 42.56.300 (Public Records Act regarding archaeological sites/traditional cultural properties)

City Light's goal, with regard to cultural resources for this study, is to identify historic properties in the APE. This information will be used when assessing Project effects on historic properties and in determining ways to avoid, minimize, and/or mitigate adverse effects to historic properties as outlined in 36 CFR § 800.6. The findings from this study will be incorporated into a newly created

⁴ Some cultural resources may require additional work beyond this level of effort, which may be done at a later time (e.g., some archaeological sites may require test excavations prior to NRHP evaluation and some built environment resources may require extensive archival research prior to NRHP evaluation) per 36 CFR § 800.4(b)(2).

Historic Properties Management Plan (HPMP) for the new license and other appropriate protection, mitigation, and enhancement (PME) measures for the Project. The HPMP would be developed to manage NRHP-listed, -eligible, and unevaluated cultural resources within the APE under the new license. The HPMP for the current license consists of two resource management plans that outline actions and processes to manage the historic properties within specific areas of the Project Boundary: Skagit Historic Resources Mitigation and Management Plan (HRMMP; City of Seattle 1991) and Skagit Archaeological Resources Mitigation and Management Plan (ARMMP; Schalk et al. 2013). The Skagit HRMMP serves as a guide for City Light’s operating personnel when performing necessary O&M activities, as well as identifying resource treatments designed to address potential ongoing and future effects to historic properties in the historic district (DT00066). The Skagit ARMMP serves as a guide for continued management of historic properties and mitigation for projects within the archaeological district (DT0212). City Light anticipates that both of these plans will be updated and integrated into an overall HPMP for the new license. In addition, the HPMP for the new license will provide for the management of historic properties, unevaluated resources, and unsurveyed portions of the APE, which are not currently included in the ARMMP and HRMMP.

Information from the 2020–2021 NRHP nomination update for the Skagit River and Newhalem Creek Hydroelectric Projects (DT0066), which is required by the existing Skagit HRMMP, will also be integrated into assessments of Project effects and into development of the HPMP for the new license.

2.3 Background and Existing Information

Initial background research was conducted at the Washington Information System for Architectural and Archaeological Records Data (WISAARD) database, managed by the Department of Archaeology and Historic Preservation (DAHP), as well as City Light’s files and records and other online repositories for the development of the PAD. The research resulted in the identification of known historic and archaeological resources within the Project Boundary, Gorge bypass reach, and fish and wildlife mitigation lands (see Table 2.3-1).

Table 2.3-1. Summary of cultural resources within the Project vicinity and one-mile Study Area (from PAD Table 4.10-1).

Resource Type	Within One-mile Study Area (NRHP Eligibility Status)	Within Project Vicinity (NRHP Eligibility Status)	Total
Archaeological Sites	85 (2 eligible, 7 not eligible, 76 unevaluated)	190 (16 eligible as contributing to district, 174 unevaluated)	275
Historic Built-Environment Resources	133 (4 eligible, 81 not eligible, 48 unevaluated)	30 (3 eligible [2 contributing to district], 23 not eligible, 4 have been demolished)	163
Archaeological District	0	1	1
Listed Historic Properties/District	18	5 (includes 1 district)	23
Totals	236	226	462

Additional background and existing information on the APE will be developed as part of the Cultural Resources Data Synthesis, which is proposed to occur in 2020 and 2021. This detailed review of all existing cultural resources data for the Project Boundary, Gorge bypass reach, fish and wildlife mitigation lands, and a 1-mile literature review buffer beyond the APE, will inform the cultural resources survey of the APE.

This study builds upon the results of the Cultural Resources Data Synthesis. Information from the 1-mile literature review buffer will provide context for cultural resources associations in the surrounding landscape and will help gauge the potential for Project effects beyond the APE.

This study is also related to the Properties with Traditional Cultural Significance Study. Archaeological resources may be associated with properties with traditional religious and cultural significance. Properties with this type of significance will be inventoried under the Properties with Traditional Cultural Significance Study. If historic properties of traditional cultural significance are identified in the Properties with Traditional Cultural Significance Study and include archaeological resources, then visual and acoustic effects associated with these properties will be analyzed on a case-by-case basis.

The study plan for the Cultural Resources Data Synthesis was provided in the PAD and was updated for the PSP and RSP. As part of the current license, City Light is updating the National Register form for the Skagit River and Newhalem Creek Hydroelectric Projects (DT00066; NR Listing # 11000016) (Erigeron 1990; Johnson 2010; NRHP 2011). Any new information available from that update will be incorporated into this study as appropriate.

Further information will be obtained by interviewing people with relevant cultural resources knowledge of the APE. Information gathering will include reviewing existing documents or studies that are relevant to the proposed study because they overlap with, or are within one mile of, the APE. City Light documents and records will be reviewed as well as any additional documents or

records made available through outreach to NPS, Indian tribes, First Nations, USFS, and Washington DNR.

2.4 Project Operations and Effects on Resources

Potential effects that may be associated with this undertaking include any Project-related effects associated with the day-to-day operation and maintenance of the Project and any new activity proposed under the new license. Types of effects may include direct (i.e., the result of Project activities at the same time and place with no intervening cause), indirect (i.e., the result of Project activities later in time or further removed in distance but reasonably foreseeable), and/or cumulative (e.g., caused by a Project activity in combination with other non-Project past, present, and foreseeable future activities) effects (ACHP 2019).

Section 106 of the NHPA requires federal agencies to consider direct, indirect, and cumulative adverse effects of their undertakings on historic properties. In this case, the undertaking is FERC's issuance of a new license for the Project. 36 CFR § 800.5(a)(1) states:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

Following pre-license studies and discussions leading up to the 1991 FERC No. 553 settlement agreements, only a portion of the Project was assessed for its effects to cultural resources. As a result, additional information is needed to understand Project effects, if any, on historic properties within the APE.

2.5 Study Area

The study area is the APE. Under 36 CFR § 800.16(d), the APE is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." Based on this regulatory definition, City Light proposes to define the APE for the suite of cultural resources studies proposed for the relicensing of the Project, consistent with FERC's standard definition applied at other hydropower projects across the U.S.:

The APE for this undertaking includes all lands within the FERC-approved Project Boundary. The APE also includes lands or properties outside the Project Boundary where Project operations or Project-related recreation activities or other enhancements may cause changes in the character or use of historic properties, if any such properties exist.

City Light, as FERC's non-federal representative for carrying out informal Section 106 consultation, is working with Section 106 consulting parties on delineating the APE. The APE is

shown in Figure 2.5-1, and a detailed mapbook is attached to this study plan. The APE will be refined as needed during the study process. City Light submitted the APE to DAHP on March 12, 2021 for review. After further discussion with Section 106 consulting parties, City Light will submit the APE to the DAHP for concurrence in accordance with 36 CFR § 800.4(a)(1).

During study implementation, it is possible that Project-related activities outside of the APE that have the potential to affect historic properties, including those with traditional cultural significance, may be identified. It is also possible that during relicensing, Project improvements may be proposed that are outside the original APE (e.g., recreation area improvements/modifications). If such areas are identified, the APE will be expanded to include these areas. Any updates to the APE will be described in the subsequent study report,⁵ which will be provided to Section 106 consulting parties for review and comment. Any revisions to the APE will be provided to Section 106 consulting parties for 30-day review period(s).

In general, the Project Boundary encompasses all land necessary for operation of the Project. The current Project Boundary includes buildings, structures, reservoirs, tailraces, the transmission line right-of-way (ROW) from the powerhouses to Bothell Substation, boat launches in Marblemount and on the Sauk River, and fish and wildlife mitigation lands in the Skagit, Sauk, and South Fork Nooksack watersheds acquired through 2011 (see Figures 2.5-1 and 2.5-2). Moreover, the above proposed definition of the APE would encompass lands or properties outside of the Project Boundary where Project operations or Project-related recreation activities or other enhancements may cause changes in the character or use of historic properties as informed by City Light research studies.

While the APE encompasses all areas within the Project Boundary, some areas within the APE (e.g., the High Ross Inundation Zone) are not expected to be affected by the Project. Therefore, City Light does not anticipate proposing study work in these areas except where effects in specific areas can be clearly demonstrated to be Project-related, if any. It should be noted, however, that the APE as proposed by City Light does include the Gorge bypass reach and recently acquired or transferred fish and wildlife mitigation lands that are outside the current Project Boundary⁶. Note that the Gorge bypass reach will be surveyed under a separate study (Gorge Bypass Reach Cultural Resources Survey).

⁵ Following the study, City Light will update the APE, as necessary, where demonstrated and reasonably anticipated Project effects have the potential to affect historic properties outside the current APE.

⁶ City Light is currently amending the Project Boundary to include additional fish and wildlife mitigation lands that were recently acquired under ongoing implementation of the existing license (April 1, 2020 request to amend Exhibit K, as modified in its August 19, 2020 Response to FERC's May 21, 2020 Additional Information Request).

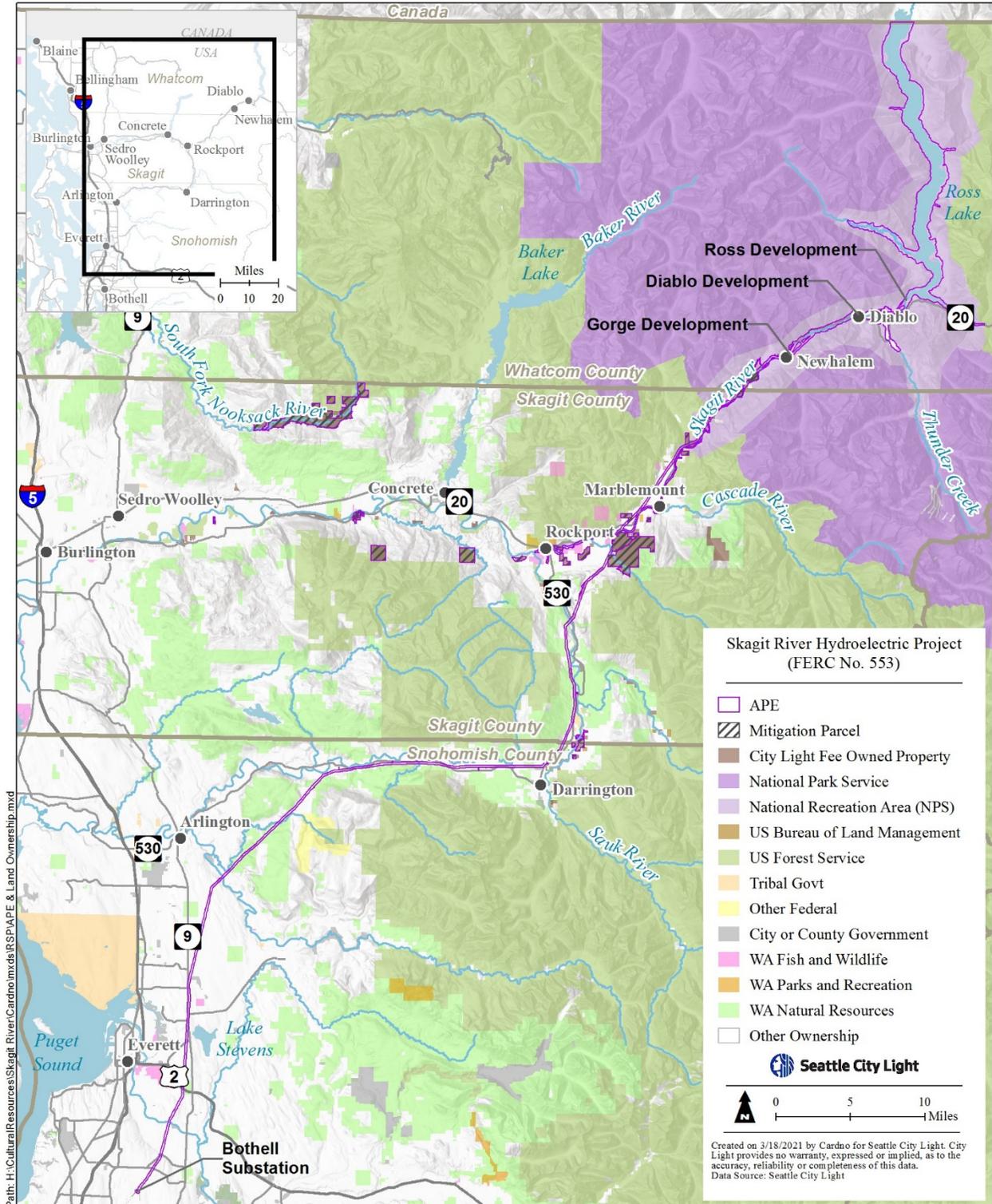


Figure 2.5-1. Location map of the Skagit River Hydroelectric Project APE.⁵

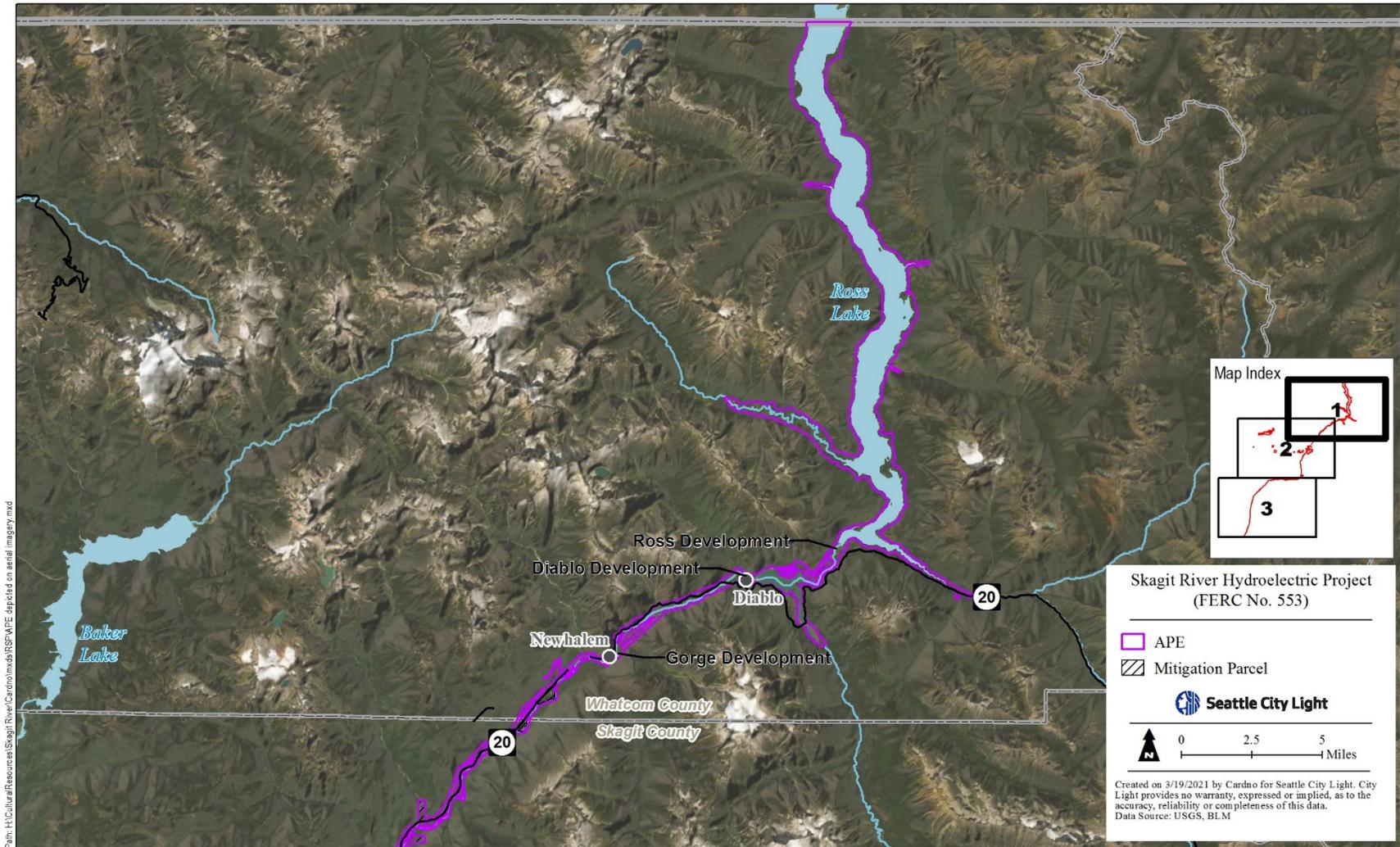


Figure 2.5-2. Skagit River Hydroelectric Project APE depicted on aerial imagery (page 1 of 3).

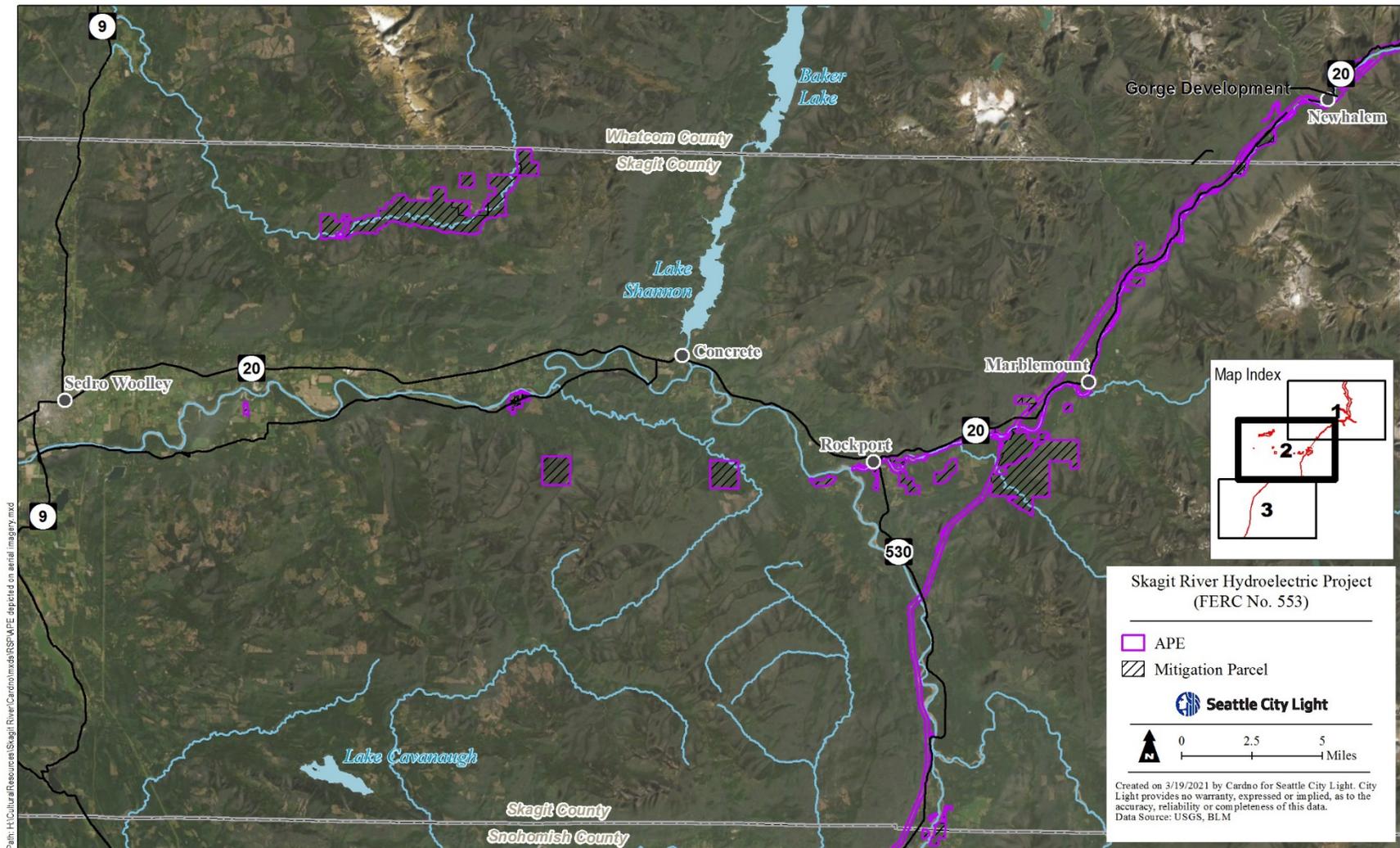


Figure 2.5-2. Skagit River Hydroelectric Project APE depicted on aerial imagery (page 2 of 3).

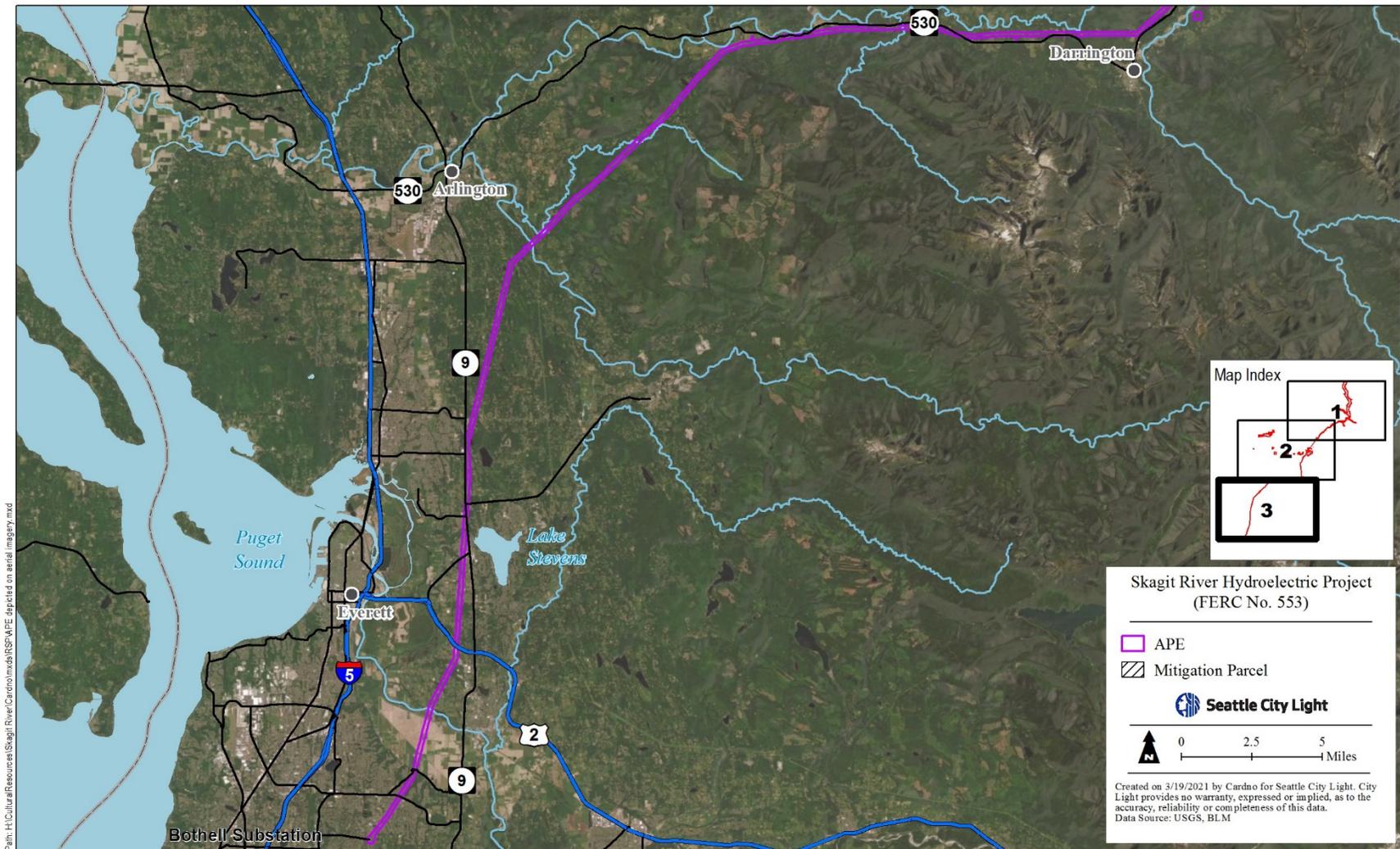


Figure 2.5-2. Skagit River Hydroelectric Project APE depicted on aerial imagery (page 3 of 3).

2.6 Methodology

The Cultural Resources Survey includes developing a research design and establishing the survey areas within the APE, reviewing existing literature and interview data, two years of fieldwork to inventory archaeological and historic built environment resources, post-field documentation and analysis, curation, and reporting. It is expected that not all areas will be surveyed during this two-year study. Additional areas within the APE may be inventoried at a later date, and an approach for additional inventory will be outlined in the HPMP. Curation will follow archaeological permits and will comply with the federal standards (36 CFR § 79), as well as any standards applicable to the specific permits.

Briefly, the sequence of steps to implement this are outlined below:

- Step 1 Develop research design and establish survey areas with CRWG;
- Step 2 Conduct cultural resources survey;
- Step 3 Post-field documentation; and
- Step 4 Prepare reports.

A draft research design for the Cultural Resources Survey is attached to this study plan for review by the CRWG. This research design will be further developed in collaboration with the CRWG and will incorporate information obtained during early implementation of the Cultural Resources Data Synthesis, including those data available on the WISAARD and other online sources. Some of these materials are held on City Light's internal Document Management System (DMS) in both confidential and non-confidential sections. Interviews of individuals and staff from City Light, NPS, USFS, Washington DNR, and Indian tribes and First Nations with knowledge of the APE and of cultural resources therein are ongoing. Ongoing outreach will also continue to identify any existing documents or studies that are relevant to the proposed survey areas but that are not currently in City Light's DMS for review.

2.7 Consistency with Generally Accepted Scientific Practice

The methods described in the draft research design attached to this study plan were prepared by Professional Archaeologists who meet the Secretary of Interior (SOI) Professional Qualifications Standards for Archaeology in collaboration with a professional Architectural Historian who meets the SOI Professional Qualification Standards for History and Architectural History (36 CFR § 61). Field methods and reporting are consistent with the DAHP's Washington State Standards for Cultural Resources Reporting, Section 106 of the NHPA, and NPS and FERC's guidelines for cultural resources reporting. The study will follow the same standards and will be overseen by an archaeologist who meets the SOI Professional Qualifications Standards for Archaeology and by an architectural historian who meets the SOI Professional Qualifications Standards for Architectural History (36 CFR § 61).

2.8 Schedule

The Cultural Resources Survey includes establishing the cultural resources survey areas within the APE, review of existing literature and interview data, two seasons of fieldwork to inventory cultural resources, post-field documentation and analysis, and reporting.

- Step 1 – Develop Research Design and Establish Survey Areas with CRWG: Winter – Spring 2021
- Step 2 – Field Work:
 - June – October 2021 (first field season)
 - March – September 2022 (second field season)
- Step 3 – Post-Field Documentation and Analysis: September 2021 – December 2022
- Step 4 – Prepare Reports:
 - Draft Report (Initial Study Report [ISR]): March 2022
 - Final Report (Updated Study Report [USR]): March 2023

2.9 Level of Effort and Cost

The initial estimate for implementation and reporting associated with this study is approximately \$1,300,000.

3.0 REFERENCES

- Advisory Council on Historic Preservation (ACHP). 2019. Memorandum: Recent court decision regarding the meaning of “direct” in Sections 106 and 110(f) of the National Historic Preservation Act. [Online] URL: http://shpo.nv.gov/uploads/documents/OGC_memo_to_ACHP_staff_re_meaning_of_direct_6-7-19.pdf. Accessed November 19, 2020.
- City of Seattle. 1991. Skagit River Hydroelectric Project FERC No. 553 Historic Resources Mitigation and Management Plan. Prepared by City of Seattle, City Light Department. On file, City Light Department, Seattle.
- Erigero, Patricia C. 1990. Skagit River and Newhalem Creek Hydroelectric Projects: National Register of Historic Places Registration Form. Prepared by National Park Service, Seattle. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- Johnson, Larry E. 2010. National Register of Historic Places Nomination Form: Skagit River and Newhalem Creek Hydroelectric Projects (DT0066). Prepared by The Johnson Partnership, Seattle. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- National Register of Historic Places (NRHP). 2011. Skagit River and Newhalem Creek Hydroelectric Projects. Whatcom County, WA. National Register #96000416 (1996) and #11000016 (2011).
- Schalk, R., C.D. Dillian, R.R. Mierendorf, and B. Blattenberger. 2013. Archaeological Resources Mitigation and Management Plan for Upper Skagit River Valley Archaeological District (Amended). Prepared for City of Seattle City Light Department. On file, City Light Department, Seattle. *Confidential Document*.
- Seattle City Light (City Light). 1991a. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Swinomish Indian Tribal Community. April 1991.
- _____. 1991b. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Sauk-Suiattle Tribe. April 1991.
- _____. 1991c. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Upper Skagit Tribe. April 1991.
- _____. 1991d. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Cultural Resources (Archaeological and Historic Resources) Between the City of Seattle and the U.S. Department of Interior, National Park Service, and the Upper Skagit Tribe, Sauk-Suiattle Tribe, and Swinomish Indian Tribal Community. April 1991.
- _____. 1993. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Nlaka'pamux Nation. July 1993.
- _____. 1994. Memorandum of Agreement by and among the Federal Energy Regulatory Commission; the Washington State Historic Preservation Officer; the Advisory Council on

- Historic Preservation; the U.S. Federally Recognized Sauk-Suiattle Tribe, the Swinomish Tribal Community, and the Upper Skagit Tribe; The Nlaka'pamux Nation; the City of Seattle Regarding the Skagit River Hydroelectric Project. February 1994.
- _____. 1996. Administrative Memorandum of Agreement between The City of Seattle, City Light Department and The Sauk-Suiattle Tribe, The Upper Skagit Tribe and The Swinomish Indian Tribal Community. June 1996.
- _____. 2020a. Pre-Application Document (PAD) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2020.
- _____. 2020b. Proposed Study Plan (PSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. December 2020.

**CULTURAL RESOURCES SURVEY
REVISED STUDY PLAN**

ATTACHMENT A

**CITY LIGHT RESPONSES TO LP COMMENTS ON THE STUDY PLAN
PRIOR TO PSP**

Table 1. City Light responses to LP comments on the draft study plan prior to PSP.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
1.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>This Survey is inadequate base for effective management plan.</i> In an initial survey of cultural sites within the Project Area around Ross Lake, NNTC cultural surveyors identified a high density of cultural sites: they were identified as within the Project Area as that was the only area that we looked at. This was an initial, narrow survey and incomplete because the high number of recordings within the allotted survey time span.</p>	<p>The intent of this survey is to identify archaeological and historic resources within the APE. Other types of cultural resources will be addressed in other study plans. All studies will be used to inform the development of a management plan.</p> <p>Clarification made in Section 1.3.</p>
2.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>This Survey is inadequate base for effective management plan.</i> If one of the purposes of the Survey is to collect the information required to draw up a management plan for the protection of cultural sites that are eligible for the NRHP and protected under Section 106, this survey plan on its own is quite inadequate. The stated goals and methodology of the Cultural Resources Survey Draft Study Plan make it very clear that the study will focus only on identifying historic buildings and archaeological sites. A management plan based on incomplete data cannot achieve the goals set out above.</p>	<p>The intent of this survey is to identify archaeological and historic resources within the APE. Other types of cultural resources will be addressed in other study plans. All studies will be used to inform the development of a management plan.</p> <p>Clarification made in Section 1.3.</p>
3.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>Data from this survey inadequate to delineate APE for cultural sites.</i> The NNTC has documented a number Nlaka'pamux cultural sites in the Project Area. Some of these sites were close to – and indeed a couple also incorporate archeological sites. It was very clear from the survey that the Area of Project Effect extended well beyond</p>	<p>City Light has requested input from the CRWG regarding defining the APE. The proposed APE will be defined prior to initiation of this survey. However, the APE can be revised based on results of this survey and/or on results of other surveys.</p> <p>Clarification made in Section 1.3.</p>

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				<p>the Project Area in many cases – viewsheds and audioshed are particularly important for cultural/spiritual sites for example, less so for the archaeological sites around Ross Lake perhaps. Many of the identified cultural sites are vulnerable to damage and indeed destruction from direct and indirect Project Effects: from erosion to potential road building, from present recreational facilities to enhanced recreational trails – there is a long list and many are projected by the new studies. These are impact areas that will need to be taken into account for the defining an APE.</p>	<p>December 2020 Update: City Light has been delineating the APE with the CRWG and maps are updated in the study plan.</p>
4.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>Data from this survey inadequate to delineate APE for cultural sites.</i> An APE based only on archeological sites and buildings survey data cannot pretend to have taken into account what is also necessary to protect the living indigenous cultural relationship and cultural sites that are within the APE.</p>	<p>City Light has requested input from the CRWG regarding defining the APE. The proposed APE will be defined prior to initiation of this survey, which can be revised based on study results. This study is only designed to survey archaeological and historic resources. Other types of cultural resources will be addressed in other studies.</p> <p>Clarification made in Section 1.3.</p> <p>December 2020 Update: City Light has been delineating the APE with the CRWG. Historic properties with traditional cultural significance are included in CR-04.</p>
5.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>Study Plans Themselves pose an Immediate Threat to Cultural Sites.</i> However the series of Study Plans generated by the relicensing process has added another layer to the concern: that a number of the studies focus on areas that are in an indigenous travel corridor with adjoining component sites and they are being carried out</p>	<p>All personnel who will be conducting field studies will take cultural resources training provided by City Light and its consultants. Additionally, much of the areas where studies will occur are within the NPS boundary, which has its own guidelines for conducting studies, as well as for general recreating that visitors of the park should abide by.</p>

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				in the field by specialists who have little interest in or knowledge of cultural sites: erosion, wetland and vegetation studies, studies of invasive species are just a few.	
6.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>Study Plans Themselves pose an Immediate Threat to Cultural Sites.</i> The Studies dealing with recreation enhancement are even more of a concern. The area is very beautiful and very attractive for recreation users. It is the direct and indirect effects of the recreation facilities that pose the most risk to the protection of the Nlaka'pamux cultural sites. The Ross Lake shoreline, at high water, coincides with a high density cultural site area. Studies for recreation enhancement are carried out in the same areas.</p>	All personnel who will be conducting field studies will take cultural resources training provided by City Light and its consultants. Additionally, much of the areas where studies will occur are within the NPS boundary, which has its own guidelines for conducting studies, as well as for general recreating that visitors of the park should abide by.
7.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>Study Plans Themselves pose an Immediate Threat to Cultural Sites.</i> A lesser concern, but a real one, is that the archaeological survey is also very specialised. It will follow very exactly one of the areas of Nlaka'pamux concern. In our experience some cultural sites have been damages or even destroyed by archaeology works that have not taken the "living" site into consideration during their investigations. Hunting blinds, warming trees and spiritual sites are not always recognised as such. NNTC strongly recommends that an Nlaka'pamux cultural surveyor (our surveyors are experienced in working with archeologists) be part of the archaeological survey crew.</p>	Tribal and First Nations representatives will be invited to participate in surveys. Study plan revised to include invitation to participate.
8.	Nlaka'pamux Nation	05/10/2020	General Comment	<p><i>Conclusion</i> One of the reasons there is a high density of recorded cultural sites along the shoreline is</p>	The survey for archaeological and historic resources will occur within the APE, which is

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				because that is where we have been able to look. It is entirely possible that this density is evident under the waters of Ross Lake as well as in the upland areas of the NPS, although likely concentrated in the travel corridor that has been identified.	being defined by City Light in consultation with the CRWG. The existing ARMMP for Ross Lake addresses inundated known archaeological sites. December 2020 Update: City Light has been delineating the APE with the CRWG and maps are updated in the study plan. NNTC and the NPS can coordinate on areas in Ross Lake NRA that are outside of the APE.
9.	Nlaka'pamux Nation	05/10/2020	General Comment	Conclusion Nobody anticipated that the level of the Ross Lake reservoir and therefore the shore line would coincide so nearly with the Nlaka'pamux area of highest density use: recreation and indigenous cultural interests are both to be enhanced and protected and this requires a very finely tuned management plan within an appropriate APE. A viable management plan requires complete surveys and complete information.	This study is focused on archaeological and historic resources within the APE. Other cultural resources will be surveyed in other studies. The results of all studies will be used to inform future management plans.
10.	Kim DiCenzo (NPS)	05/04/2020	Section 1.1 General Description of the Projects	[Kim's notes] Survey plan for high ross impacted areas, ... survey for submerged resources... revisiting and rerecording known sites...plan for areas to be surveyed in subsequent years. Survey intervals – every 10-15 years? – maybe for different document	This study plan is focused on surveying archaeological and historic resources within the APE. The APE is being defined by City Light in consultation with the CRWG. Inundated sites, and subsequent surveys will be addressed in future management plans. Added unevaluated sites to the paragraph. Study plan revised to include revisits and updated recording of known resources – changes in section 2.6.2.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
					December 2020 Update: City Light has been delineating the APE with the CRWG and maps are updated in the study plan.
11.	Kim DiCenzo (NPS)	05/13/2020	Section 1.3 Study Plan Development	So this is just the study plan and then there will be a scope of work written that is more detailed than this? I want to explicitly reserve the right to collaborate on all future steps of this process and I suspect other LPs do too.	There will be a detailed research design developed in 2021 that identifies the specific areas to be surveyed and resources to be revisited. The research design will be developed collaboratively with the CRWG. Study plan revised to include additional detail regarding development of the research design – change made to section 2.6.1.
12.	Kim DiCenzo (NPS)	05/04/2020	Section 1.3 Study Plan Development	In-Text Edit: This study inventory of the area of potential effects (APE; which will be identified independent of this study) is proposed in partial fulfillment of Section 106 requirements, and is intended to identify historic properties and assess potential Project-related effects to any historic properties within the APE.	Change accepted.
13.	Kim DiCenzo (NPS)	05/04/2020	Section 2.1 Study Goals and Objectives	In-Text Edit: Key components for identifying the priority areas for cultural resources survey will derive both from cultural resources' potential on the landscape and the scope of potential Project operations and activities which could affect historic properties, pursuant to 36 CFR §800.4(a).	Change accepted.
14.	Kim DiCenzo (NPS)	05/04/2020	Section 2.1 Study Goals and Objectives	Additional objective: recommend additional work to inform NRHP eligibility.	Added bullet regarding making recommendations about additional work.
15.	Kim DiCenzo (NPS)	05/04/2020	Section 2.2 Resource	What about cultural resources for which this hasn't or can't be determined when this is written (eg. deep draw down arch sites)	The research design that will be developed in 2021 will include known resources and areas. Additionally, future management plans will

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
			Management Goals		address resources that are not accessible or unknown. Added unevaluated sites to the list.
16.	Kim DiCenzo (NPS)	05/04/2020	Section 2.2 Resource Management Goals	Can you reword this so it doesn't make it sound like there will be three different management plans. Or will there?	Reworded. The existing plans will be updated and integrated into the HPMP for the new license, which will also include management of Project effects on historic properties, unevaluated resources, and unsurveyed portions of the APE that are outside the ARMMP and HRMMP.
17.	Kim DiCenzo (NPS)	05/04/2020	Section 2.2 Resource Management Goals	In-Text Edit: Information from the 2020–2021 NRHP [add property name] nomination update, which is required by the existing Skagit HRMMP, will also be integrated into assessments of Project effects and development of the new HPMP.	Name added to study plan.
18.	Kim DiCenzo (NPS)	05/13/2020	Section 2.2 Resource Management Goals	Just want to confirm that the Cultural Landscape Report for Ladder Creek will be updated as a part of the process, up to NPS standards.	Yes, all resources that need updating will be updated to NPS/DAHP standards.
19.	Kim DiCenzo (NPS)	05/04/2020	Section 2.3 Background and Existing Information	Does this include the transmission line? This number seems low. Are the Newhalem arch sites included? Eg WH81, WH63 and WH477	Numbers based on PAD. Will be refined in Synthesis Study.
20.	Kim DiCenzo (NPS)	05/04/2020	Section 2.3 Background and Existing Information	Is this a good place for a table or another way to present this? Kinda hard to visualize.	Added table, which is from PAD Table 4.10-1.
21.	Kim DiCenzo (NPS)	05/04/2020	Section 2.3 Background and Existing Information	In-Text Edit: The Synthesis Study will provide a detailed review of all existing cultural resources data for the Project Boundary, Gorge bypass reach, and fish and wildlife mitigation lands. The	Deletion of text accepted.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				study plan for the Synthesis Study is provided in the PAD.	
22.	Kim DiCenzo (NPS)	05/04/2020	Section 2.5 Study Area	In-Text Edit: In general, the Project Boundary encompasses all land necessary for operation of the Project. The current Project Boundary includes buildings, structures, reservoirs, tailraces, Gorge bypass reach , transmission line right-of-way (ROW) from the powerhouses to Bothell Substation, boat launches at Marblemount and Sauk River...	Change accepted.
23.	Kim DiCenzo (NPS)	05/04/2020	Section 2.5 Study Area	In-Text Edit: The APE also includes lands and properties associated with indirect effects, such as areas potentially subjected to the introduction of or changes to visual, atmospheric, or audible elements from the Project that may diminish the integrity, character, or use of historic properties within the APE near the project.	Change accepted.
24.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	Big picture here: I think there needs to be more work to clearly identify what is going to get survey, how it will be surveyed, priorities for the 2 field seasons, and a plan for survey of the remaining APE that we won't get to in the two years of this work.	Details will be included in the research design.
25.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	What about places identified in ethnographic documents (if any?)... maybe info on this can be derived from Chris Moreno's work. Or could be another goal of his work.	Added inclusion of Synthesis Study data, including known ethnographic data.
26.	Kim DiCenzo (NPS)	05/5/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section	Meh.... I don't find this model to be particularly useful.	Comment noted.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
			106 Consulting Parties		
27.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	How about also using historic mining claim info.	Added to study plan.
28.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	This bullet is confusing to me. These are different than the HPAs? Also, I think the Skagit River banks can also have lots of HPAs, and not just moderate. Too big of a blanket statement. Same for reservoirs.	Deleted to avoid confusion. We agree these are high probability for cultural resources. HPAs will be identified during the collaborative development of the research design.
29.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	I don't think we can rely on just surveying HPAs. I think there should be a sample of areas outside of the HPAs	Revised to include moderate probability areas that incur Project effects will be surveyed.
30.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	Wait, this looks like you are defining the APE here. I thought it was being defined outside of this project.	Development of a proposed APE is currently occurring in collaboration with CRWG. This study plan uses initial survey parameters based on the previous NPS and CRWG comments on proposed APE defining during the 2019 collaborative process. The proposed APE will be defined with the CRWG before the PSP is submitted to FERC so this section can be updated once the proposed APE is drafted (prior to PSP filing with FERC). December 2020 Update: City Light has been delineating the APE with the CRWG. Maps have been updated in the study plan.

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31.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	Again, I think you're defining the APE here and we were gonna do this collaboratively.	See response to Comment #30.
32.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	I think this section needs to be moved up to before the bullet "Areas of immediate direct effects" I have been struggling to understand the organization of Step 1 and once reading this it makes a little more sense. I still think this step needs a little polishing of the organization	Section reorganized.
33.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	In-Text Edit: <ul style="list-style-type: none"> ■ No current planned activities or no Project effects. "Survey areas that" 	Section revised.
34.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	Same as before concerning APE	See response to Comment #30.
35.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	Need to make sure you are thinking outside of the Newhalem/Diablo Bubble. Eg Little Beaver Shelter, Hidden Hand, Devils suspension bridge (the NPS has a contract out to evaluate these structures and more)	All historic built environment resources in the APE will be included. No change to study plan.
36.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.2 Step 2: Review Existing Literature	What will this information be used for? Eg. used to identify survey areas or HPAs that were not previously targeted?	Moved section to Step 1, as it is part of developing the research design. It is to identify survey areas/HPAs.

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37.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	So all “survey areas” a subset of the APE, will be pedestrian surveyed, starting with the prioritized areas and working down?	Section clarified. Survey of HPAs and moderate probability
38.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	After the survey of only HPAs? Or all “survey areas”	After HPA pedestrian survey, we will do SPs in HPAs. Added clarification of HPA to text.
39.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	Oakfield soil probes may be used to identify buried intact soils. (this is particularly helpful in the draw down)	Added.
40.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	Add Thien 1979 reference	Reference added per suggestion.
41.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	In-Text Edit: No excavations will occur within known archaeological sites as part of the survey following DAHP guidelines (DAHP 2020). Newly identified S site boundaries will be delineated by the excavation of shovel probes in all four cardinal directions 20 m from the farthest identified artifacts. If those shovel probes are negative, then additional probes will be excavated at 10 m or 5 m (to be determined by recovery) away from the farthest identified artifacts. If the 20 m probes are positive for cultural materials, an additional probe will be excavated another 20 m out until a negative probe is identified. then another 20 m buffer will be added and additional probes will be excavated in cardinal directions.	Changes accepted.

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42.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	There is quite a bit of historic debris out there including insulators, braided cables, eye bolts, etc. Might need a plan to deal with a large amount of this historic debris.	Details will be developed in the research design (2021).
43.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	I think you need to devote an entire section to re-recording arch sites. This is gonna be a big task in the draw down and needs to be better thought out. Does this happen as a part of the pedestrian survey component? Will they all get new site forms? NPS has started to chip away at this.	Revisiting sites added to bullet list. The details will included in the research design.
44.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	In-Text Edit: The historic built environment resources including buildings, structures, historic districts and cultural landscapes will be surveyed at the reconnaissance level survey will be completed as follows:	Changes accepted. Added 'objects'.
45.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	Did I get them all?	Okay to include. Added 'objects'.
46.	Kim DiCenzo (NPS)	05/13/2020	Section 2.6.5 Step 5: Prepare Reports	Need to add that parties will have the opportunity to review and comment on reports before they are finalized. And also comment on the NRHP eligibility recommendations.	Study plan revised to include CRWG review and comment periods.
47.	Kim DiCenzo (NPS)	06/22/2020	Section 2.1 Study Goals and Objectives	In-Text Edit: Colville Confederated Tribes,	Addition made as with modification. Text now reads: Confederated Tribes of the Colville Reservation.
48.	Kim DiCenzo (NPS)	06/22/2020	Section 2.2 Resource Management Goals	Has there be an audit of past actions to see how well City personnel are adhering to the guidelines? Or is there some sort of annual report that goes to the SHPO where they review the annual activities?	Reporting of HRMMP activities is currently every 5 years. The draft report is sent to the SHPO and NPS for a 30-day review and comment period. The final report is then filed with FERC.

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49.	Kim DiCenzo (NPS)	06/22/2020	Section 2.6 Methodology	Is this research design just for this 2 year project or is it for the whole APE, whenever the survey is implemented? Please clarify.	The research design is for 2 years, aligning with the FERC schedule. Clarified in the section per text edit below (comment #50).
50.	Kim DiCenzo (NPS)	06/22/2020	Section 2.6 Methodology	In-Text Edit: It is expected that not all areas will be surveyed during this initial 2 year study. Additional areas within the APE will be inventoried at a later date and this will be outlined in the HPMP (??)	Revised as recommended with modification. Text now reads: It is expected that not all areas will be surveyed during this two-year study. Additional areas within the APE will be inventoried at a later date, which will be outlined in the HPMP.
51.	Kim DiCenzo (NPS)	06/22/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	In-Text Edit: (MPAs)	Addition made as recommended.
52.	Kim DiCenzo (NPS)	06/22/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	I don't want to totally dismiss the low probability areas all together because their identification is only as good as our models. Also, we tend to find unique site types in these areas	Low probability areas (LPAs) added to section. Recommend pedestrian survey only in areas that are being affected.
53.	Kim DiCenzo (NPS)	06/22/2020	Section 2.6.2 Step 2: Conduct Cultural Resources Survey	Has Ross Lake Resort been evaluated for NRHP eligibility?	Ross Lake Resort has not been evaluated for NRHP eligibility. No change to study plan.
54.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 1.1 General Description of the Project	Rather than a metaphor, precise descriptive details, such as "discontinuous or detached or isolated land tracts or parcels" more clearly convey the intended meaning.	This standard language is consistent with current license descriptions of these parcels. The associated map is intended to show they are isolated from the rest of the Project.

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55.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 1.3 Study Plan Development	In-Text Edit: When the Project received its current FERC license	Change made as recommended.
56.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 1.3 Study Plan Development	Would be helpful to describe the unsurveyed portion.	Text revised to read: Under these agreements, only a portion of the Project was surveyed for cultural resources, primarily within Ross Lake.
57.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.1 Study Goals and Objectives	Does this term have specific definition in FERC/FPA regulatory language? What is it? Is it the same as “Project operations” as used in section 1.2 and in the last paragraph of this page?	Operations and maintenance. Spelled out in Section 1.3.
58.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.1 Study Goals and Objectives	Is this saying there will not be complete survey of the APE, that should be made clear here?	Clarification added to text in this section that specifies that not all areas are covered in this 2 year study.
59.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.1 Study Goals and Objectives	Why doesn’t this refer to “Project operations” or “undertaking”?	O&M is the term for Project O&M.
60.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.3 Background and Existing Information	It would be helpful if somewhere here there is a description of the project natural environment, which is necessary for understanding the full range of substrates that the survey methodology will be applied to: what is elevation range?, forests, meadows, clearings, flood plains, slopes, reservoir bottoms, etc.?	These types of details can be added to the research design, which will be developed with the CRWG in 2021.
61.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.4 Project Operations and Effects on Resources	This is incorrect: not all direct effects are equated with disturbed ground only; a potentially important above-ground cultural resource type is “Culturally-modified tree”, which can be removed by cutting or alterations even in the absence of ground disturbance.	Agreed. Section has been updated to reflect the latest guidance from the ACHP.

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62.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.5 Study Area	Is this a different use of “study area” than was used in the Synthesis study plan?	Yes, this is a different study area. The Survey of the APE study area will be the APE.
63.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.5 Study Area	Again, direct effects are not confined to ground disturbance.	Effects discussion has been updated to reflect the latest guidance from the ACHP.
64.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.5 Study Area	Why are existing access roads not listed here?	Effects discussion revised and includes existing roads.
65.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	In-Text Edit: Data include quantitative data...	Change to text made as recommended.
66.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	The reference provides empirical evidence for 1. spatial site clustering, 2. quantitative site densities (this finding is lost in the current wording, and 3. great asymmetry in site distribution, with most sites on the east side of the valley, all findings that are critical to planning future surveys.	Reference will help inform the research design.
67.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	What evidence supports these as “moderate”? This assessment is contrary to widespread evidence of prime site locations. Areas described here are high probability in many locations.	Section revised to clarify high and moderate probability areas. These locations are high probability.
68.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	How is “buffer” defined? What is the relationship between a buffer and the project area? How do buffers compare to potential APE boundaries? Why is the buffer concept necessary, since it’s not found in Sec. 106?	Buffer here means the areas 20 m from both shoulders of roads to account for potential effects during activities like road maintenance.

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69.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	Given the width of the “buffers” and the potential to effect CR, these lands need to be surveyed if any of them are HPAs. Why are they being left out?	Section revised for clarity. All HPAs will be surveyed – those that are being or will be affected will be surveyed first.
70.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.1 Step 1: Establish the Survey Areas with the Section 106 Consulting Parties	What will happen with HPAs in the APE where no O&M activities are obvious?	HPAs with no obvious Project effects will be surveyed as accessible after those that are experiencing effects are surveyed. If HPAs are not able to be surveyed in the 2-year study, they will be addressed in the HPMP.
71.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	This is a circular strategy: shovel probes are often necessary to determine ahead of time if there are intact sediments to begin with; intact sites have been found in each of the areas specified here, in the PA around Ross Lake. Can’t you think of any other subsurface probe techniques?	“Intact” deleted. Shovel probe methods to be detailed in the research design (to be developed in 2021). Note that some areas will be bedrock or talus and these will therefore not be shovel tested.
72.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	Collection of diagnostic artifacts and formed tools during survey is important to assessing site significance and in certain cases, such as 1. where high artifact visibility makes it likely that artifacts will be removed by visitors, the public, or others, 2. near environments of erosion or deposition not conducive to artifact preservation in place. A blanket no-collection strategy is ill advised and not supported by the USIT.	Collection will follow stipulations in permits as specified by the permitting agency. Additional details will be developed in the research design (2021).
73.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.3 Step 3: Conduct Cultural Resources Survey	Suggest moving this toward the front of the doc, given the frequent references to “site”	Moved to beginning of Section 2.6.2.

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74.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.4 Step 4: Post-field Documentation	In-Text Edit: If recommendations of NRHP eligibility require additional fieldwork, the resource(s) would be considered unevaluated 'and remain potentially eligible'.	Language included as recommended.
75.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.5 Step 5: Prepare Reports	What restrictions does this impose?	RCW 42.56.300: Restricts sharing of records, maps, or other information identifying the location of archaeological sites in order to avoid the looting or depredation of such sites are exempt from disclosure under this chapter.
76.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.5 Step 5: Prepare Reports	Where in the report production process does the USIT have an opportunity to review and comment on these drafts before they become final documents? Who else will review the draft report?	Section revised to make CRWG review period clear.
77.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/15/2020	Section 2.6.8 Schedule	??	Text clarified. Now reads "first field season".
78.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 1.2 Relicensing Process	Please add a final sentence that LPs' participation in the RWGs does not mean there is complete agreement with it.	Text has been clarified. Now reads "City Light invited RWG input to develop this study plan. City Light will continue to engage with RWG in the preparation of the Proposed and Revised Study Plans (18 Code of Federal Regulations [CFR] §§ 5.11-5.13), and through the relicensing process generally."
79.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 1.3 Study Plan Development	Is this still true since SCL now proposes the PTRCS, which will cover these property types?	Yes, the Synthesis Study is doing a desktop review of existing ethnographic and PTRCS data.
80.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 1.3 Study Plan Development	Needs correction, CR-04 is the PTRCS study	This sentence is referring to the issue forms, which had a different numbering system. This correctly references the issue form.
81.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 1.3 Study Plan Development	??? This needs to be changed to mitigation.	Change made as recommended.

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82.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.2 Resource Management Goals	Confusing title, since primary goals were just discussed and its unclear how resource goals are different from them.	Outline is standard to all study plans and is consistent with terminology FERC uses in its review of study plans. A summary of consistency with broader resource management goals is one of FERC’s seven study plan criteria.
83.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.2 Resource Management Goals	It’s not clear exactly what this means or what “language” this refers to.	Statement was unclear. Deleted.
84.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.3 Background and Existing Information	Was the initial 1998 inventory and testing study of sites on Ross Lake used to compile table 2.3-1? It has data to address the numbers in the table, see comment below.	The data are from the PAD, which used WISAARD.
85.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.3 Background and Existing Information	The one-mile study area includes all of the sites inventoried in the 1998 survey and testing report, which reported 144 arch sites, so where does 85 come from? Page 60 of the 1998 report shows 127 precontact arch sites in the drawdown as of that date.	The sites inventoried in the 1998 survey are within the Project boundary. The 85 sites are outside of the Project Boundary but within the 1-mile study buffer which is used to provide broader context regarding surrounding resources. Total of all shown in right hand column.
86.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.3 Background and Existing Information	Are these two sites WH64 and WH477? which should be in the table.	The table is from the PAD. The sites are outside the Project boundary.
87.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.4 Project Operations and Effects on Resources	These definitions do not meet the Advisory Council on Historic Preservation’s policy established in 2019--it states that direct effects show causation by the undertaking and are not defined by physical effect, and the ACHP memo made clear that visual and auditory effects could be direct; indirect are effects later in time or farther removed in distance. This is a shortened version and the original memo should be consulted for fuller	Effects discussion has been updated per the recent ACHP guidance.

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				explanation. Rob Whitlam confirmed with me that this is ACHP's and therefore DAHP's policy.	
88.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.4 Project Operations and Effects on Resources	In-Text Edits: <i>Project operations "and maintenance" or Project-related recreation activities or other enhancements may "directly or indirectly" cause changes</i>	Changes accepted as recommended.
89.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.4 Project Operations and Effects on Resources	Additions for consistency with 36 CFR Part 800	Changes accepted as recommended.
90.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.4 Project Operations and Effects on Resources	As noted above, this is inconsistent with federal policy--it's a direct effect because the cause is immediate.	Revised in accordance with ACHP guidance.
91.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.4 Project Operations and Effects on Resources	Again, if the cause of the effect is immediate, it is direct, including audio and visual. Needs to be consistent with ACHP policy.	Revised in accordance with ACHP guidance.
92.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	From this point in the text down to the beginning of section 2.6.2, it is difficult to follow the outline style using a series of different shaped bullets and numerals set at various indentation levels. The result is a circuitous discussion that makes it difficult to assess whether or not what's being proposed comports with federal policy. The discussion could be made clearer by simply expanding the numerical subheading system of the text to organize the discussion here, and throughout the document.	Section reformatted for clarity.
93.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design	I don't see where the survey plan below addresses the project lands that have already been surveyed. For example, are HPAs in	Resurvey of areas previously surveyed clarified in Section 2.6.2.

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			and Establish the Survey Areas with the Cultural Resources Work Group	previously surveyed lands given high priority just like HPAs in unsurveyed lands? Or will such lands be left to ARMMP provisions for resurvey? These lands need to be mentioned and accounted for, as part of the APE.	
94.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	How will it be determined that effects are incurring and who will make them? Is this a field determination or is it based on other data? Remember, adverse effects to historic properties in an area are affects to the property’s characteristics that contribute to its significance, but if these are not made explicit	Added text to section 2.6.1.1.2: “City Light will work with their consultant team and the CRWG during development of the research design to identify areas where Project activities are known to be occurring that could be affecting historic properties, if any such properties exist in these areas.”
95.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	Audio and visual effects can be direct effects and need to be added to the bulleted list.	Agreed. Text clarified to include “physical, visual, auditory, and/or atmospheric.”
96.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	It’s unclear what makes these “indirect”: if maintenance was found to cause the loss of historic character, that is a direct effect according to the ACHP.	Text revised to include these bullets under direct effects.
97.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural	This sounds far too tentative and vague. Where is the methodology that links geomorphological data to archaeological resources and shows how these data will be used jointly to assess potential loss of historic	Details will be developed in the research design in 2021, which will be collaborative with the CRWG. The geomorphology study results won’t be ready when the research design is being developed, however, it can inform future surveys.

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			Resources Work Group	character? When will this methodology be reviewed by the CRWG?	Sentence regarding geomorphology removed for clarity.
98.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	<p>Because these are HPAs, it is important to the Tribe that the preliminary determinations of project effect in such areas are reviewed before being finalized.</p> <p>Why not consider reconnaissance level pedestrian surveys targeted on these HPA's? Even if they are "not incurring project effects" at the time of the survey, over the course of a 50 year license, any HPAs may contain sites that are still potentially affected, the potential does not go away in this circumstance. A targeted reconnaissance survey, informed by data and models, is more practical and efficient by its smaller scale.</p>	<p>LPs will have the opportunity to review and discuss Project effects during the Section 106 process of the Project.</p> <p>Over the course of the license period, individual undertakings not anticipated during relicensing would still follow the Section 106 process and can be surveyed at the time an undertaking is proposed as is standard practice. This survey will focus on HPAs that are incurring or will likely incur Project effects. HPAs that are not incurring Project effects will not be prioritized for survey. City Light will survey these as feasible, which will be outlined in the HPMP for the new license.</p>
99.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	What are the defining criteria for moderate probability areas? Such information provided for HPAs was helpful.	Probability areas will be developed in the research design in 2021. Probability will be evaluated based on landform (e.g., slope, elevation, soil types), distance to water, etc. For example, moderate probability areas may be upslope from high probability areas where the distance to water is greater and the slope is steeper, resulting in less favorable conditions for use or longer term habitation.
100.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	For consistency and clarity, need to add defining characteristics, etc. of low probability areas and to note that such areas can contain historic properties. Low probability areas are part of the APE and part of this methodology, but are not even mentioned, that I can find.	Added subsection for low probability areas (LPAs). They will be identified during development of the research design. It is anticipated that those areas that don't meet the criteria for MPAs or HPAs will be considered LPAs.

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101.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	In the event that collection is permitted, need to say here what the collection procedures would entail, including adherence to federal curation guidelines.	Collection details will be developed in the research design (2021). Added that any collected artifacts would be curated in accordance with federal and state laws as applicable. Collection will follow permit stipulations which could differ from place to place depending upon land ownership, for example.
102.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	Note that this is effectively the same site definition as that used since beginning the current license project in Ross Lake and elsewhere (Mierendorf et al. 1998:49) and across North Cascades National Park. This is important because many identification studies, conducted years apart and by different researchers, typically employ different definitions of “site”, complicating comparison of results between the separate studies. Methodological consistency between DAHP 2020 and Ross Lk. 1990s site definitions and survey procedures enhances the cumulative value of project data and collections.	Agreed.
103.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design and Establish the Survey Areas with the Cultural Resources Work Group	Because some historic structures and features in the Upper Skagit area are on lands inhabited by USIT ancestors, there is the potential for precontact period archaeological remains beneath them features. How will such remains be identified?	Specific details can be developed in the research design in 2021. Areas that are accessible and being affected by the Project will be surveyed as prioritized by probability and Project effects. If these areas are not accessible during the two-year study, they will be incorporated into the HPMP. Information gathered during the Synthesis Study could be helpful to identify areas where such instances occur.
104.	Bob Mierendorf (Upper Skagit Indian Tribe)	06/26/2020	Section 2.6.1 Step 1: Develop Research Design	What is the definition of this level of survey as used here?	A reconnaissance level survey for architectural history is the initial look at historic resources to obtain basic information

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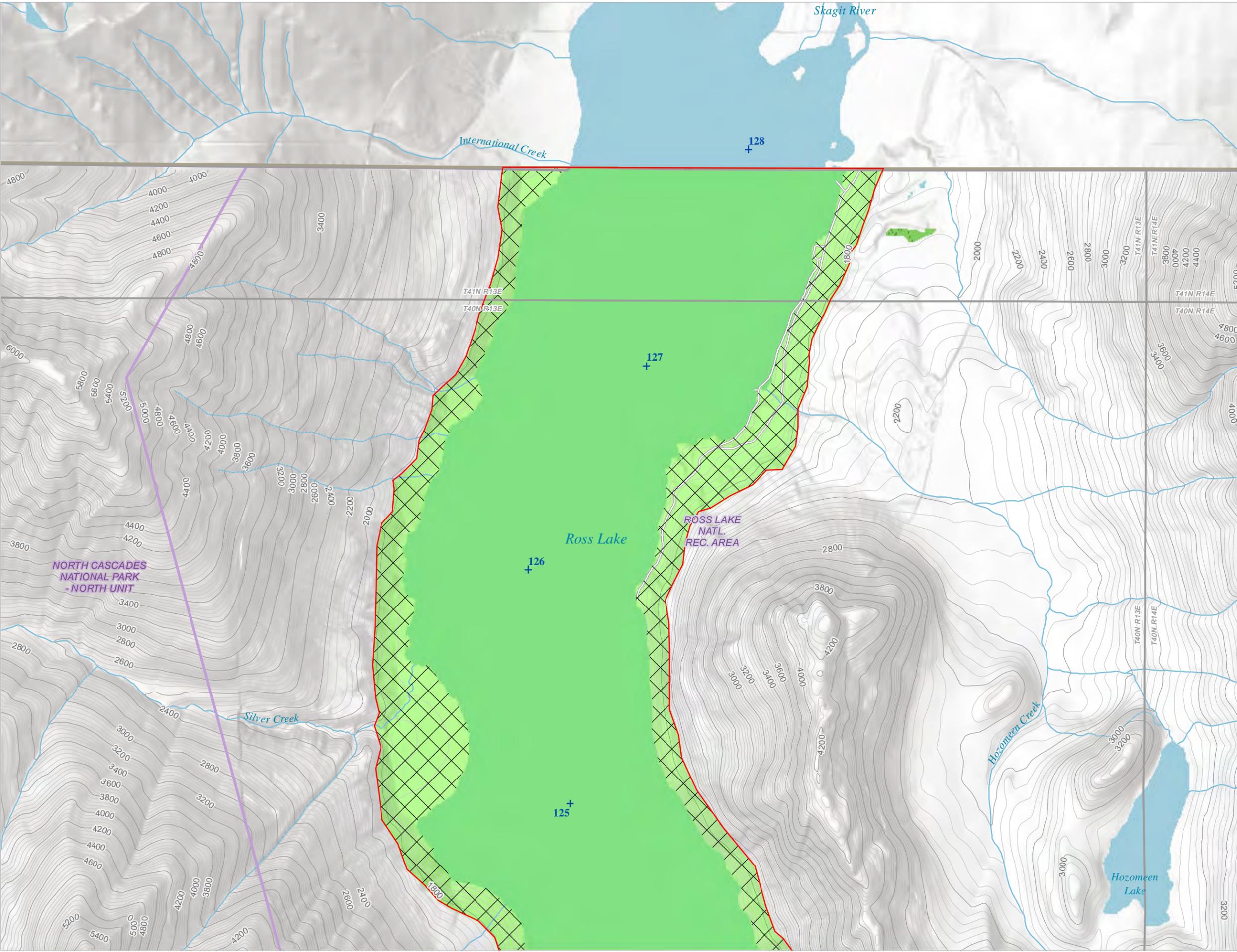
No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
			and Establish the Survey Areas with the Cultural Resources Work Group		<p>from the exterior of the resource only, with some research supplement.</p> <p>DAHP defines this here: https://dahp.wa.gov/historic-preservation/historic-buildings/historic-building-survey-and-inventory/survey-levels</p>
105.	Pauline Douglas, (Nlaka'pamux Nation)	07/02/2020	General Comments	Nlaka'pamux Nation comments regarding archaeological resources and survey, TCP surveys, TCP recordation, APE determination, and Project effects.	<p>Comments received after review period closed. City Light is following up with the Nlaka'pamux Nation to discuss their comments and concerns.</p> <p>December 2020 Update: City Light followed up with the NNTC regarding this matter.</p>

**CULTURAL RESOURCES SURVEY
REVISED STUDY PLAN**

ATTACHMENT B

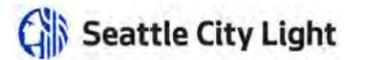
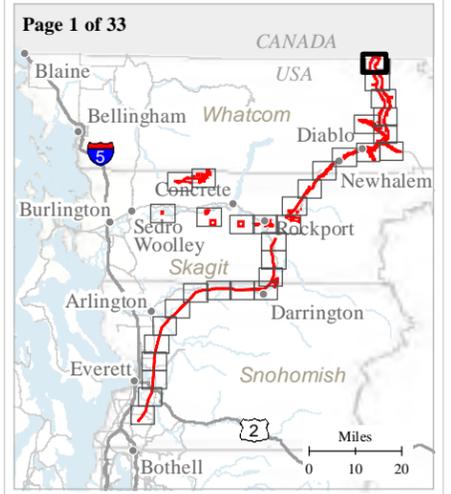
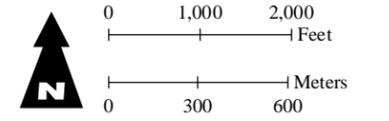
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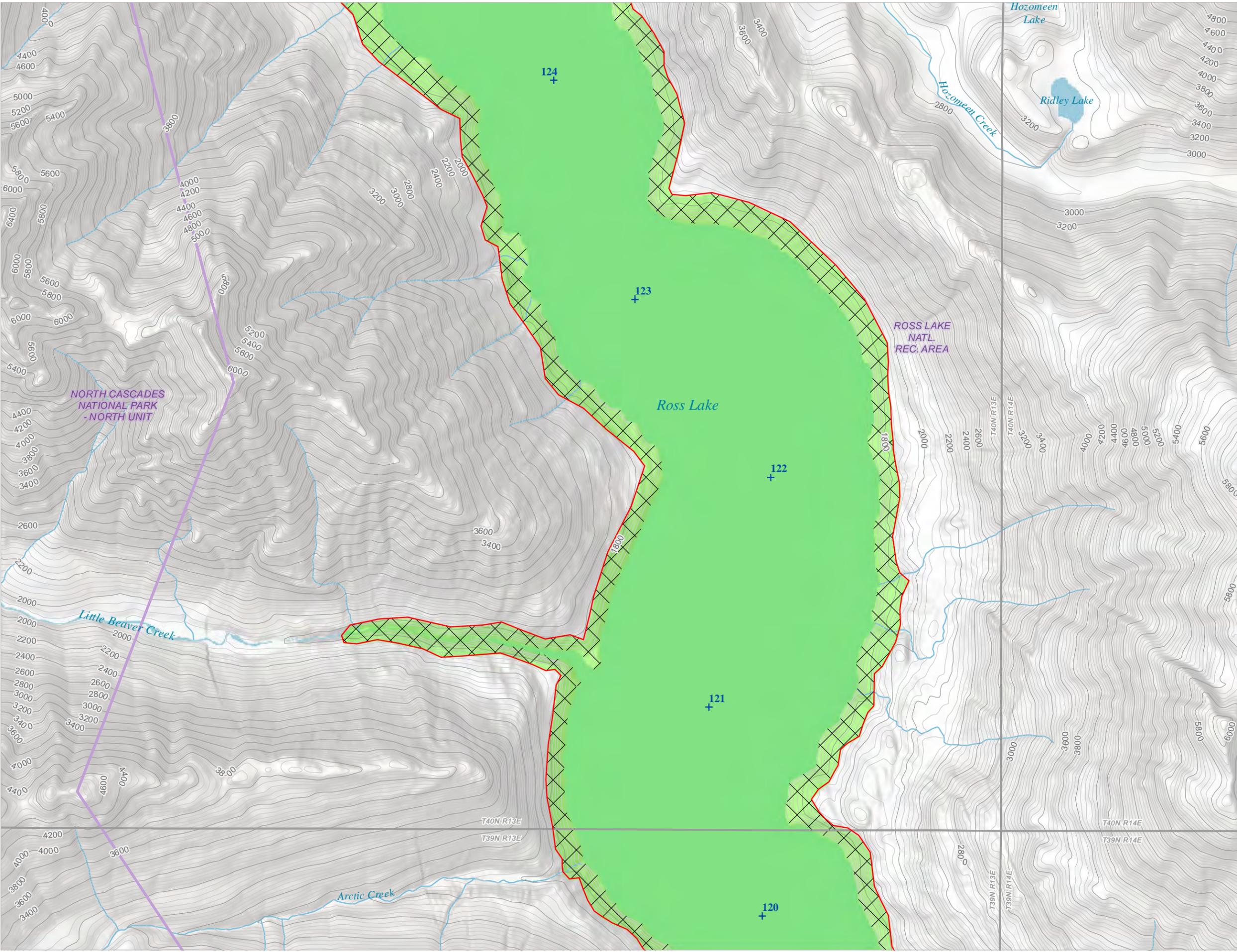
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SKAGIT RIVER HYDROELECTRIC PROJECT (FERC NO. 553)

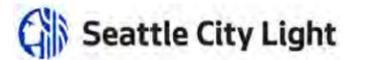
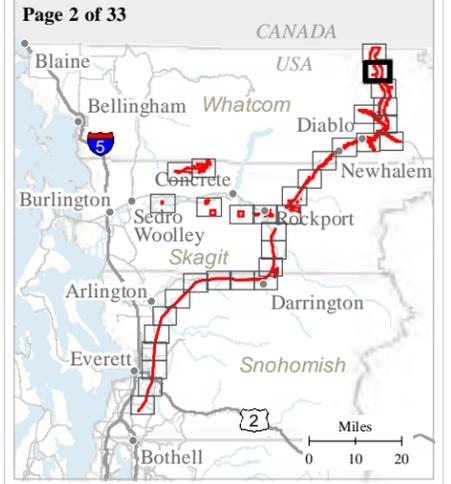
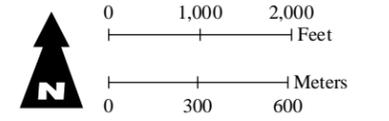
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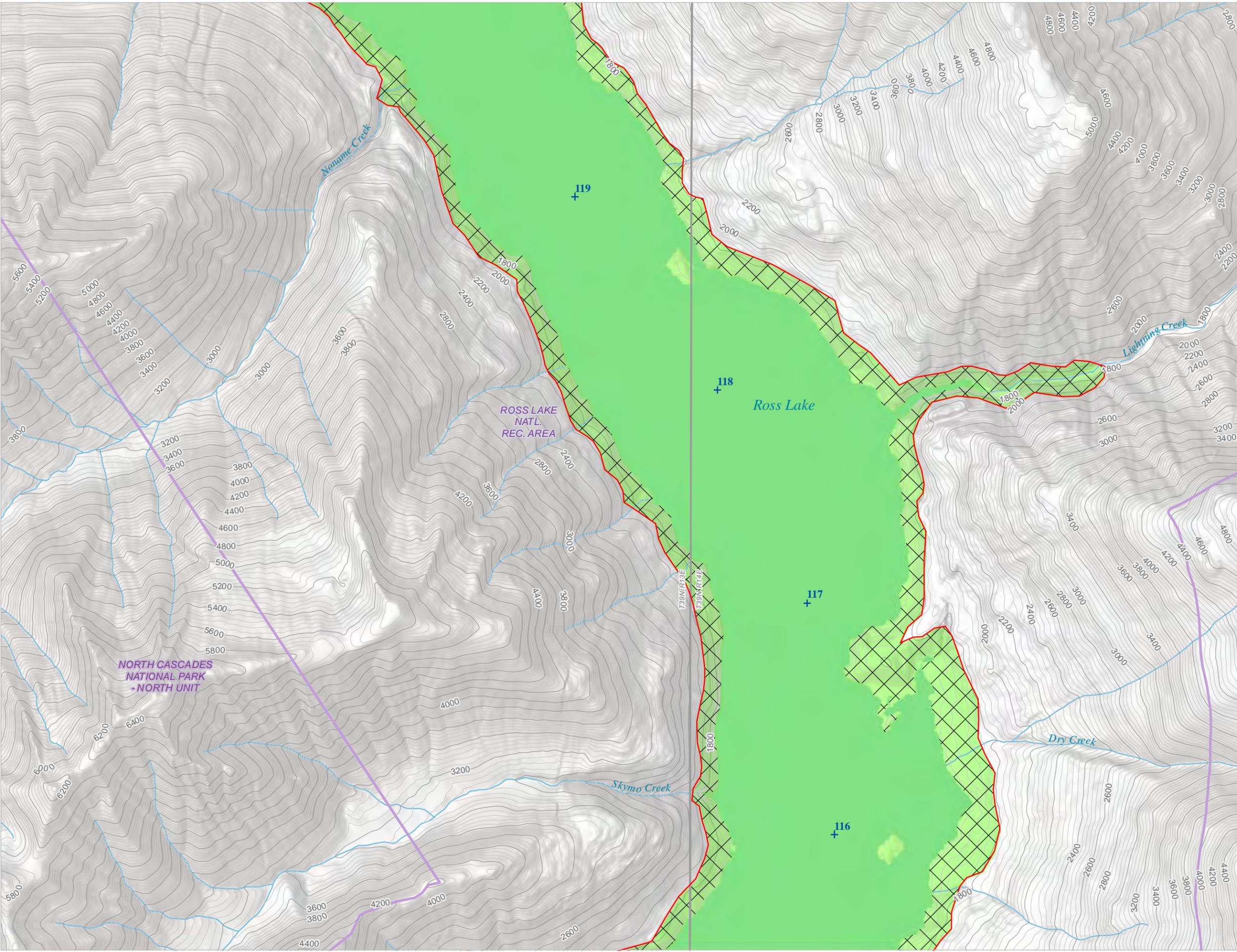
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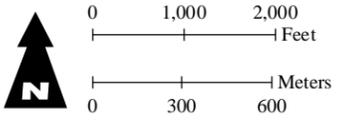
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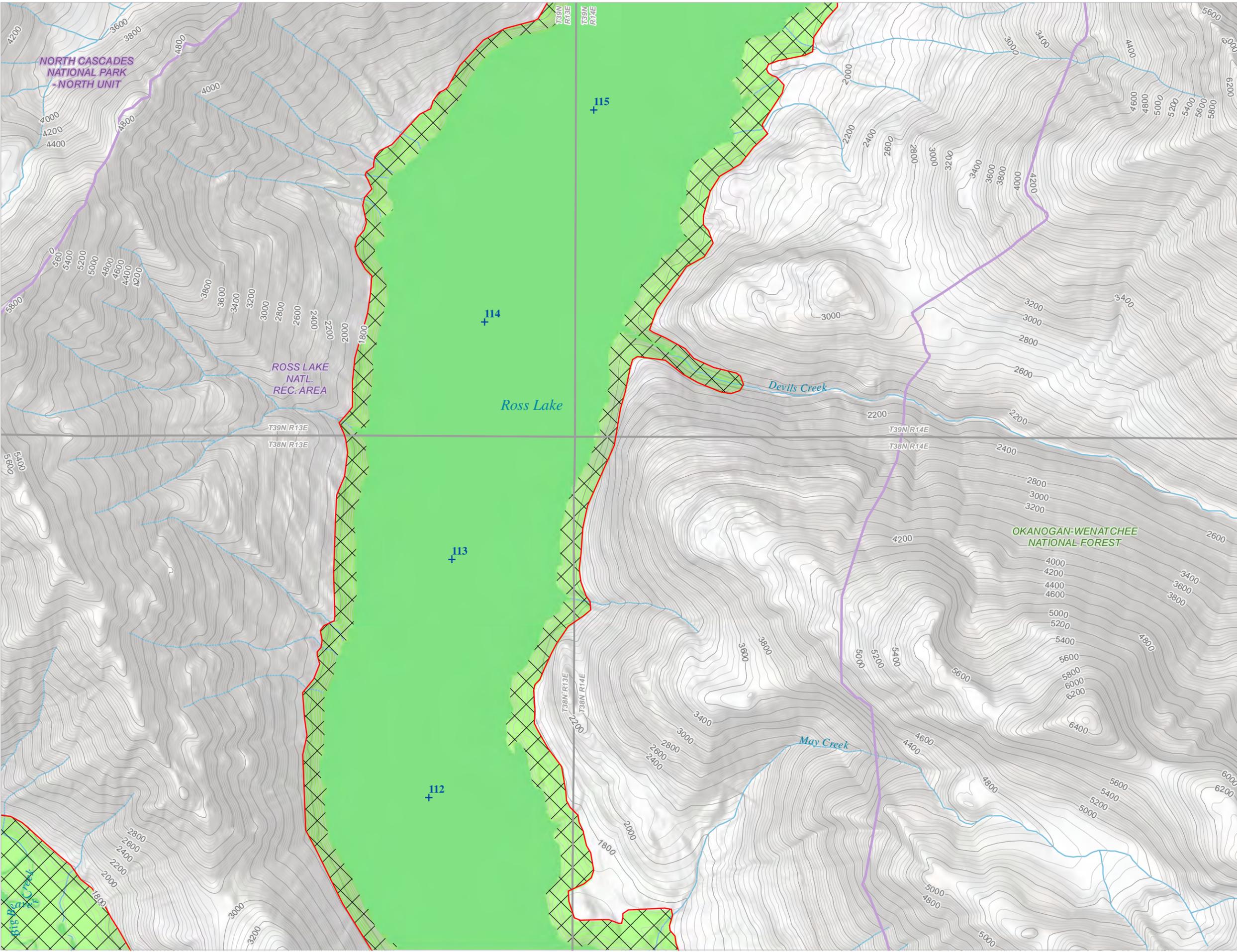
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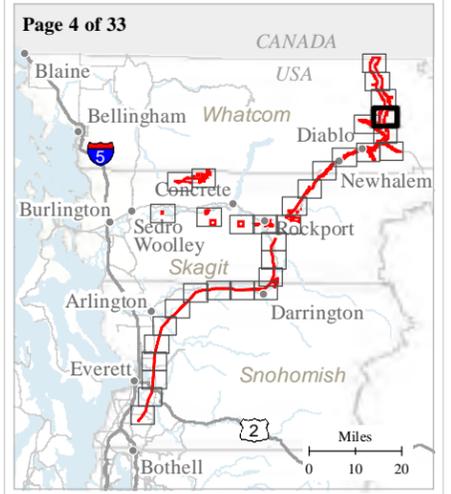
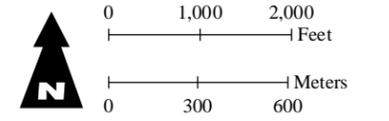
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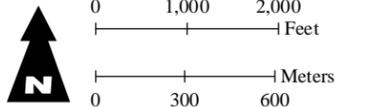
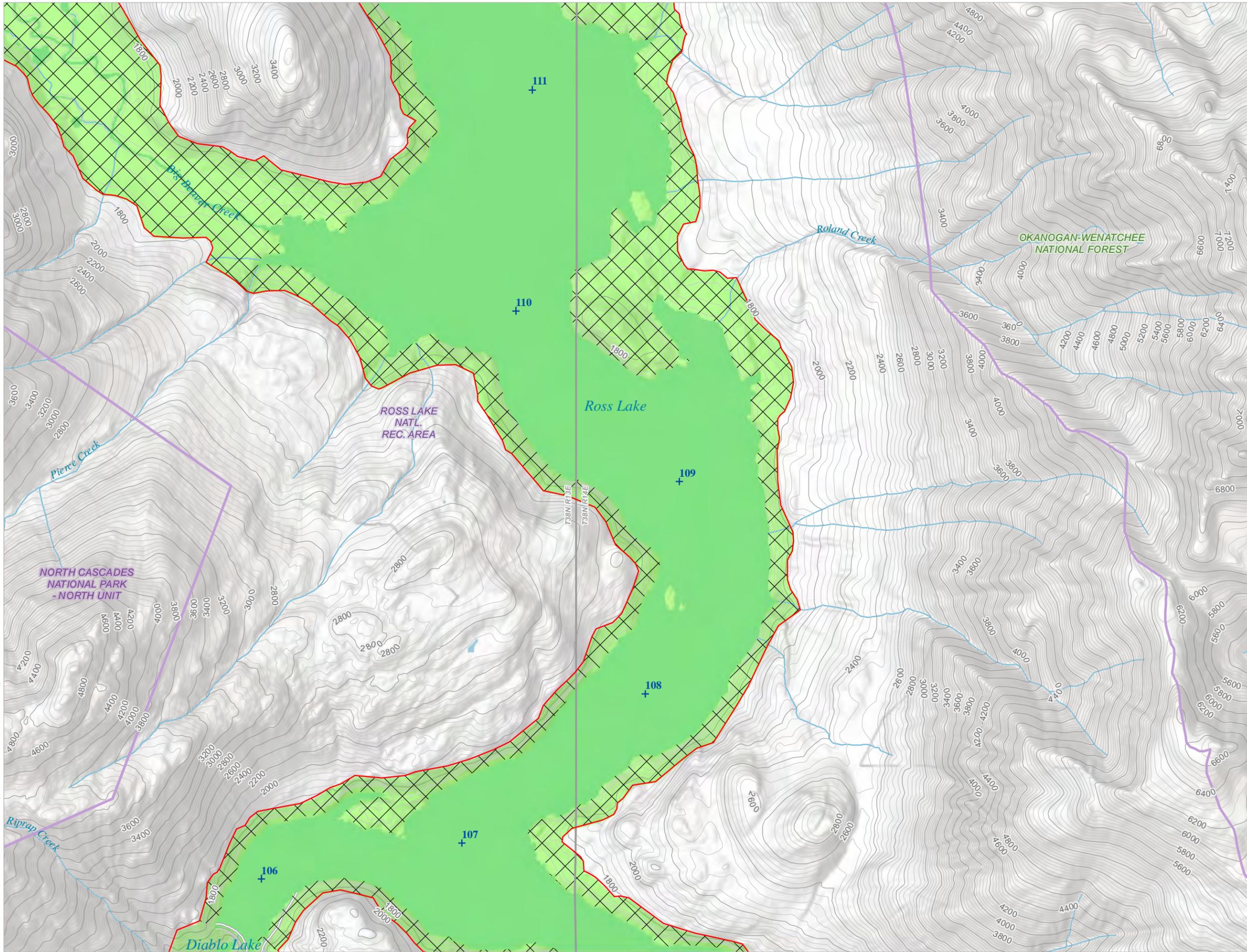
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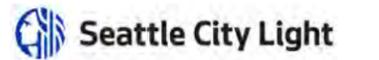
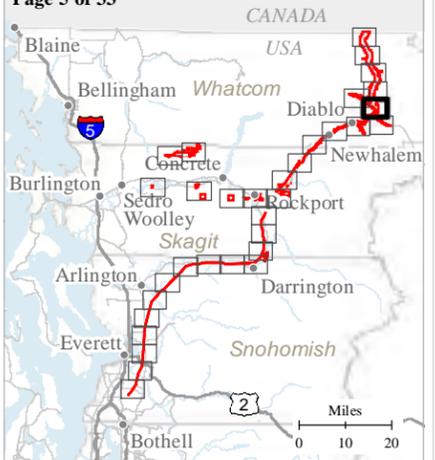
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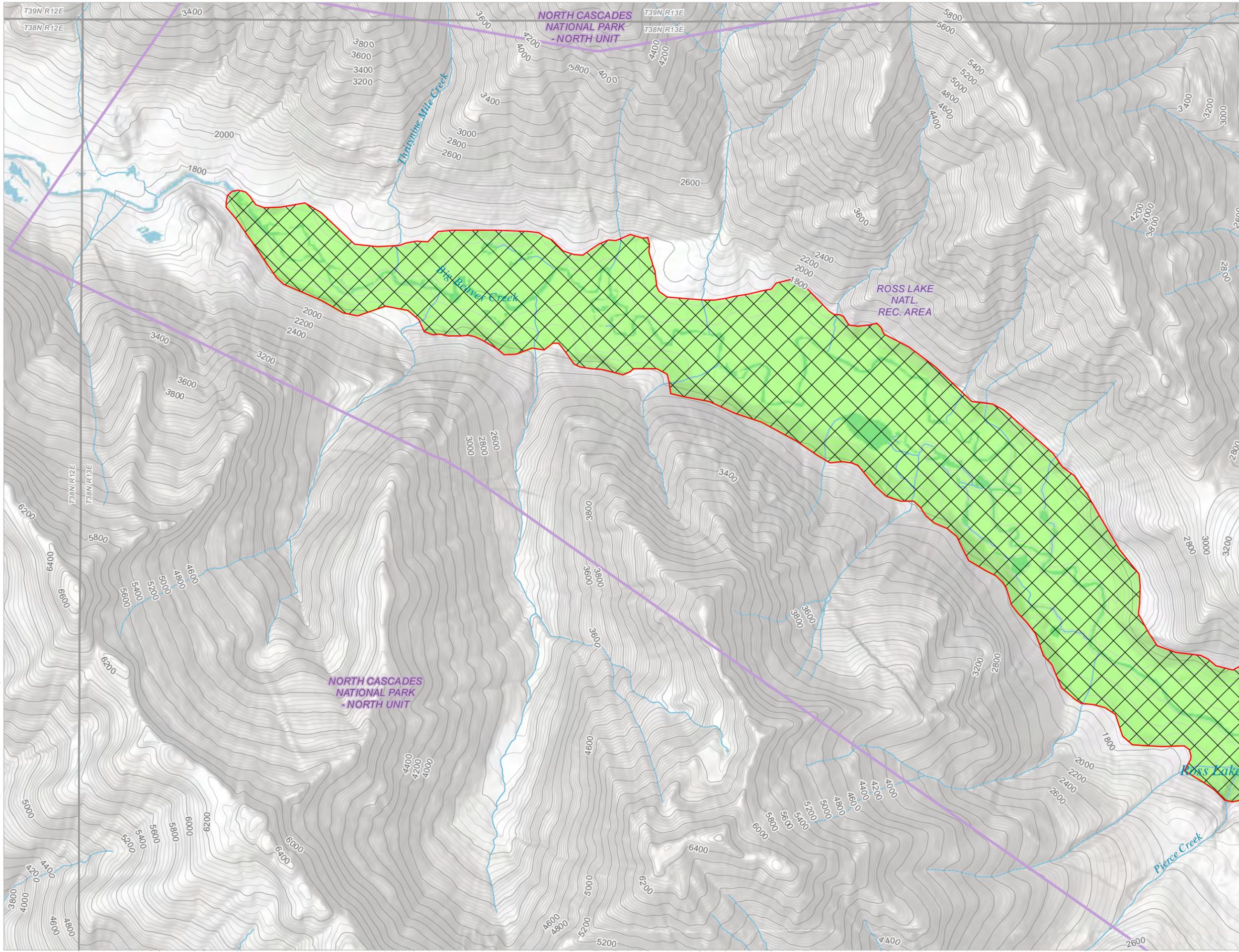


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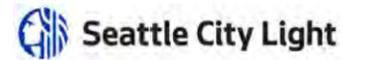
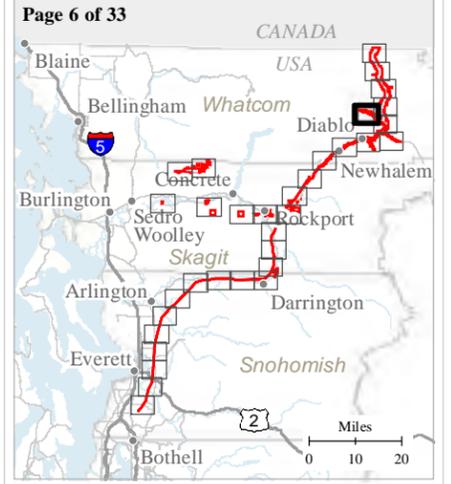
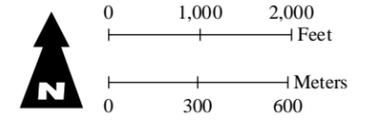
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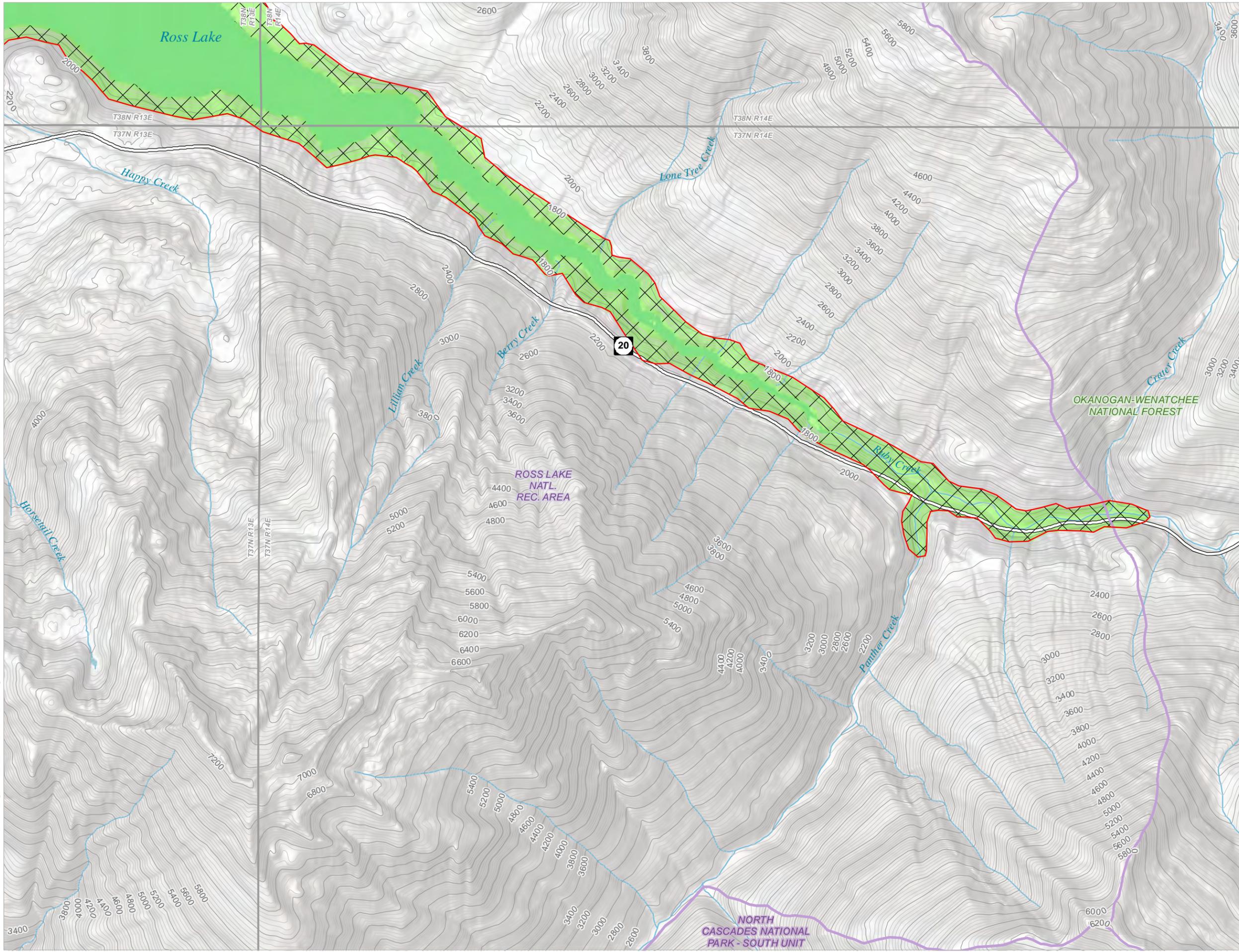
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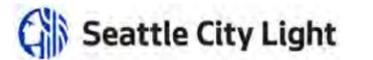
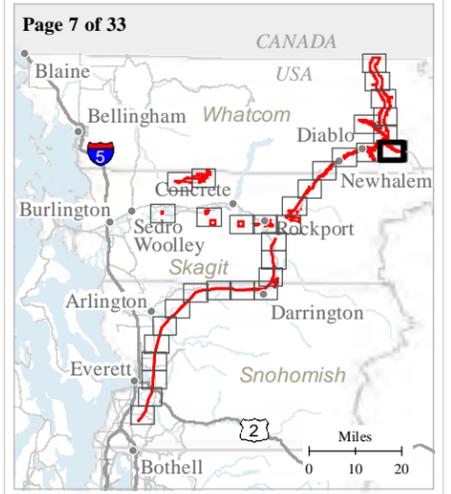
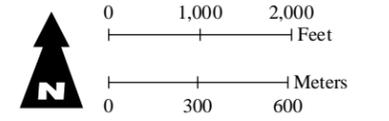
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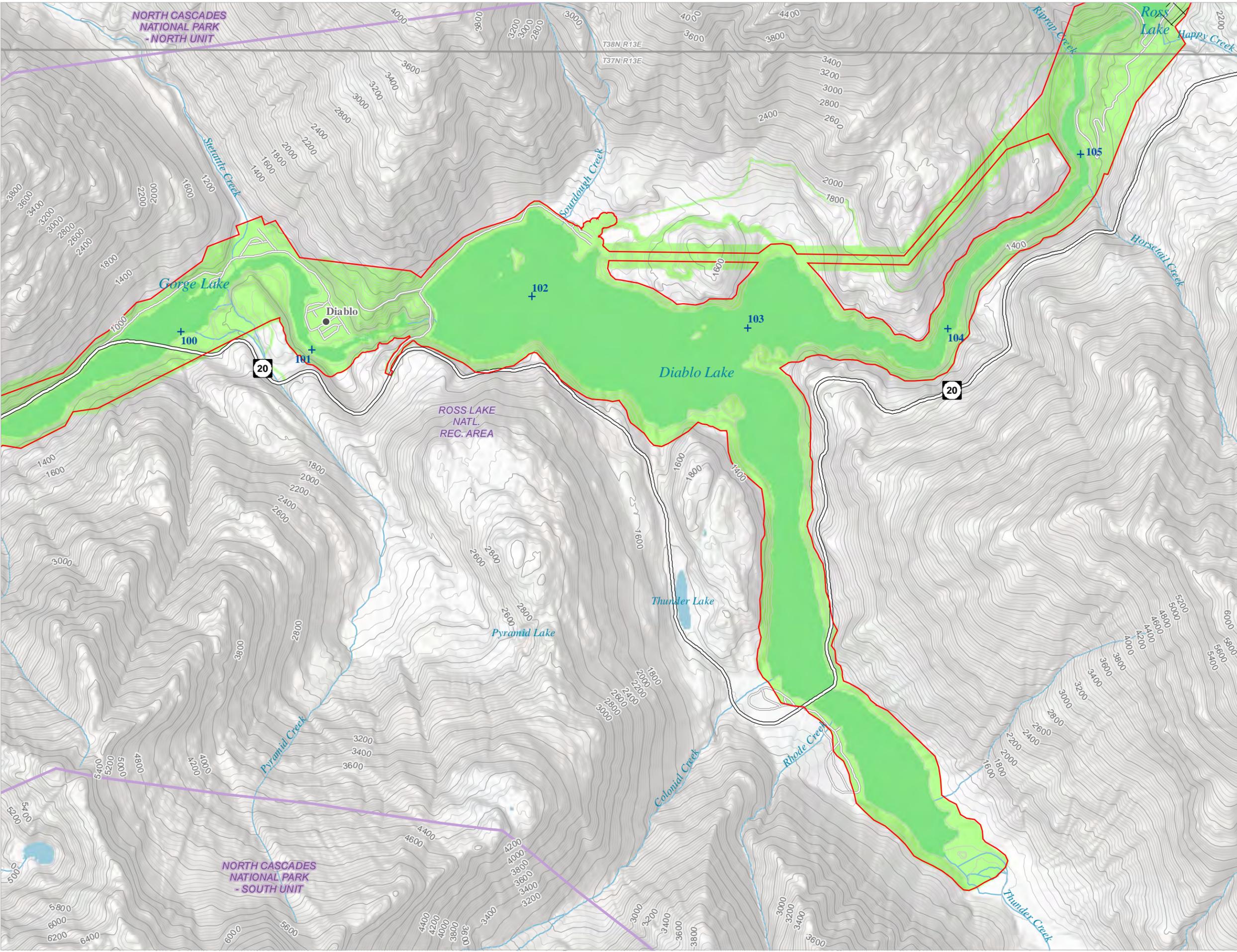
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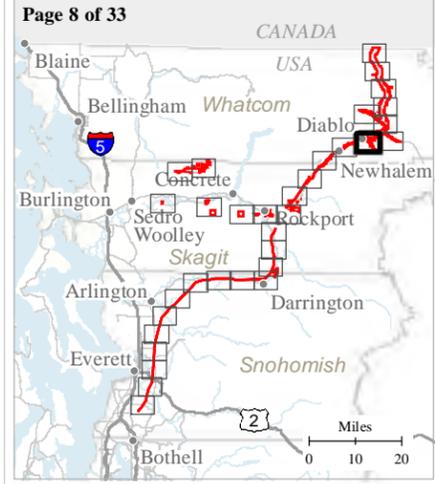
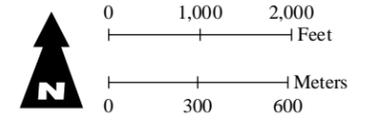
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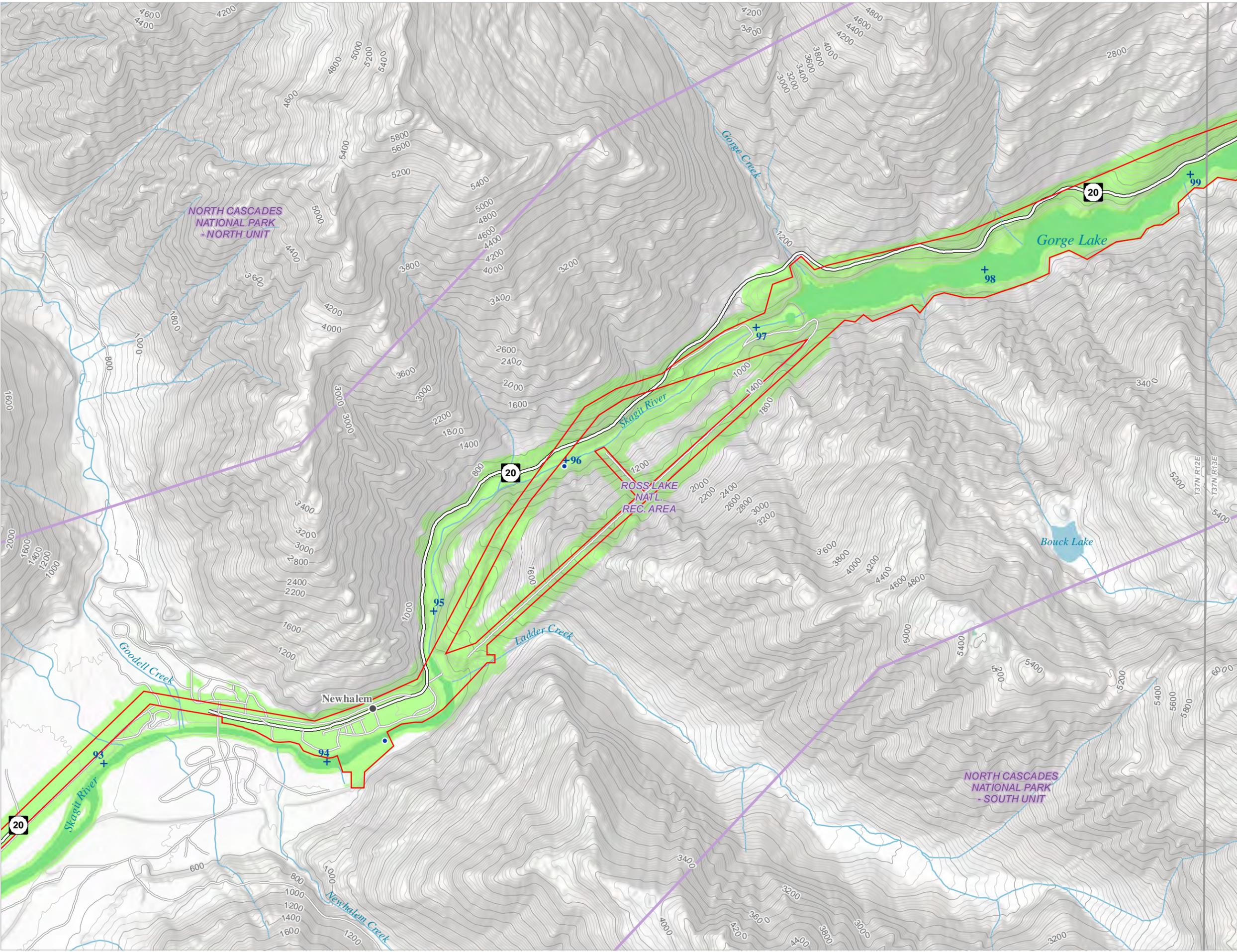
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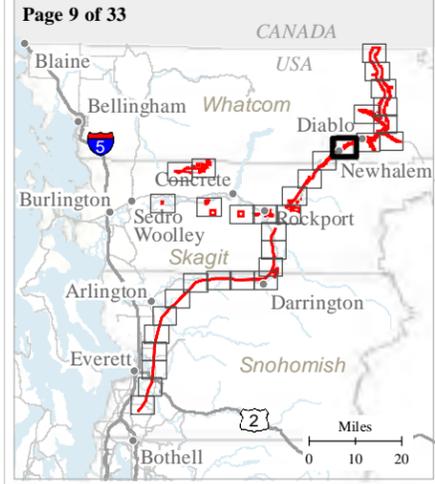
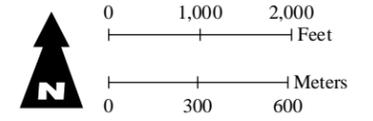
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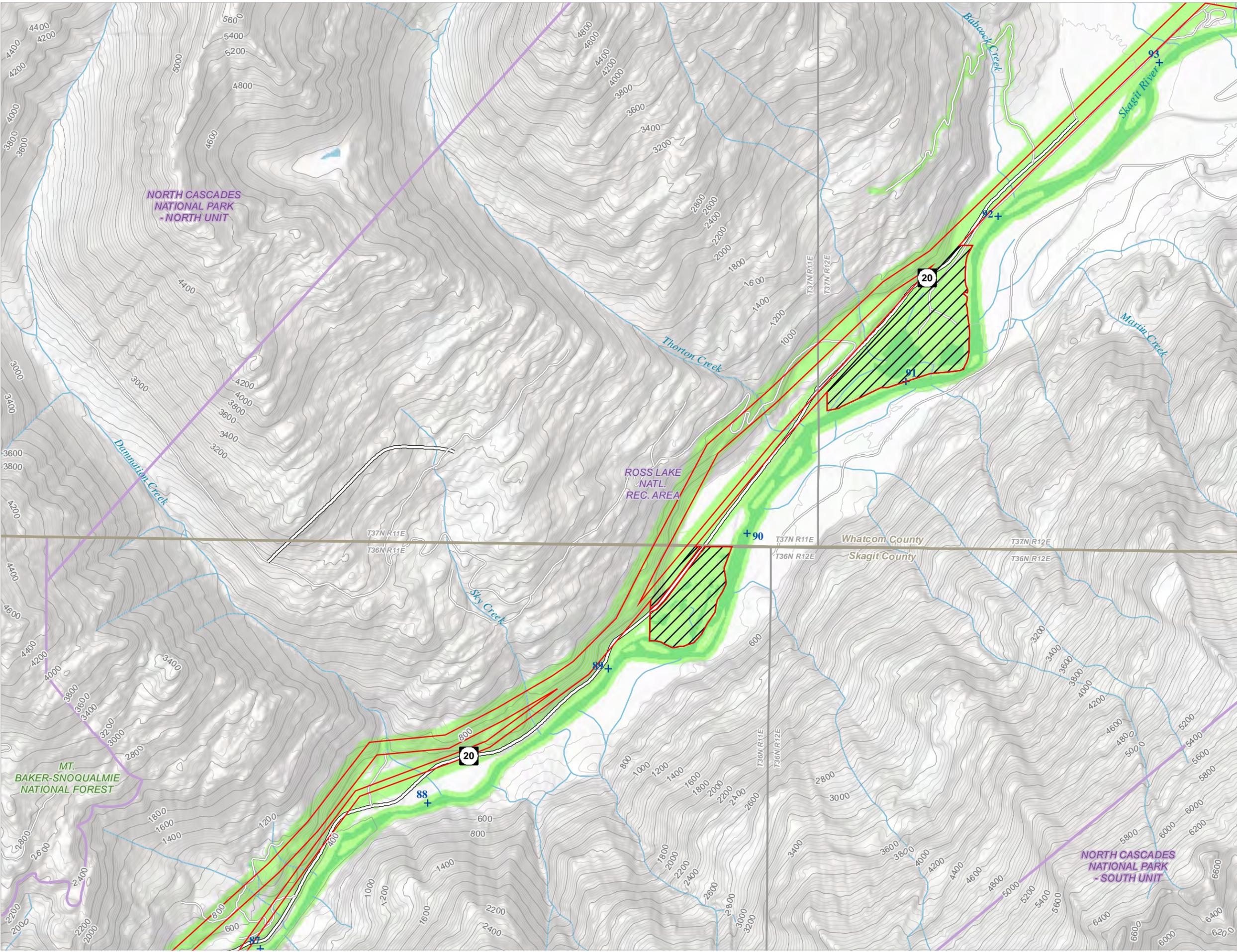
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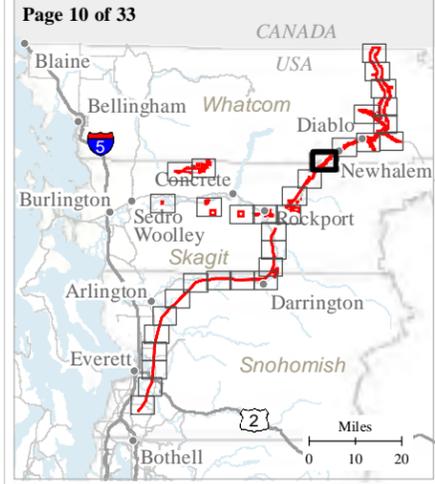
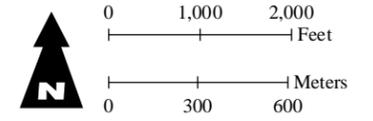
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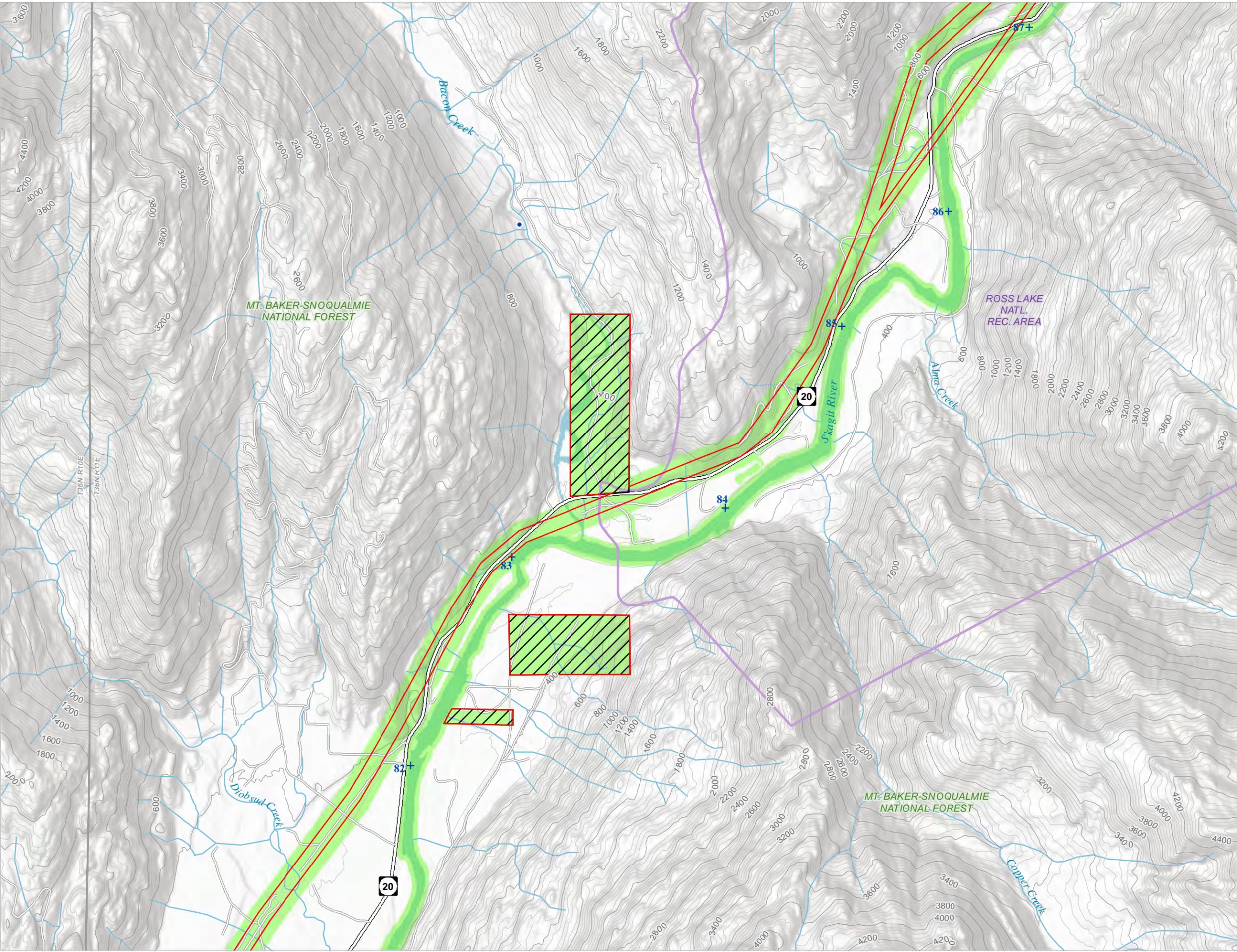
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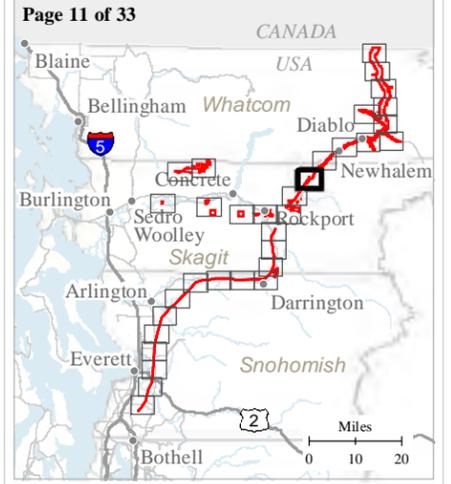
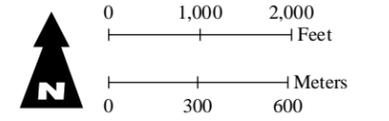
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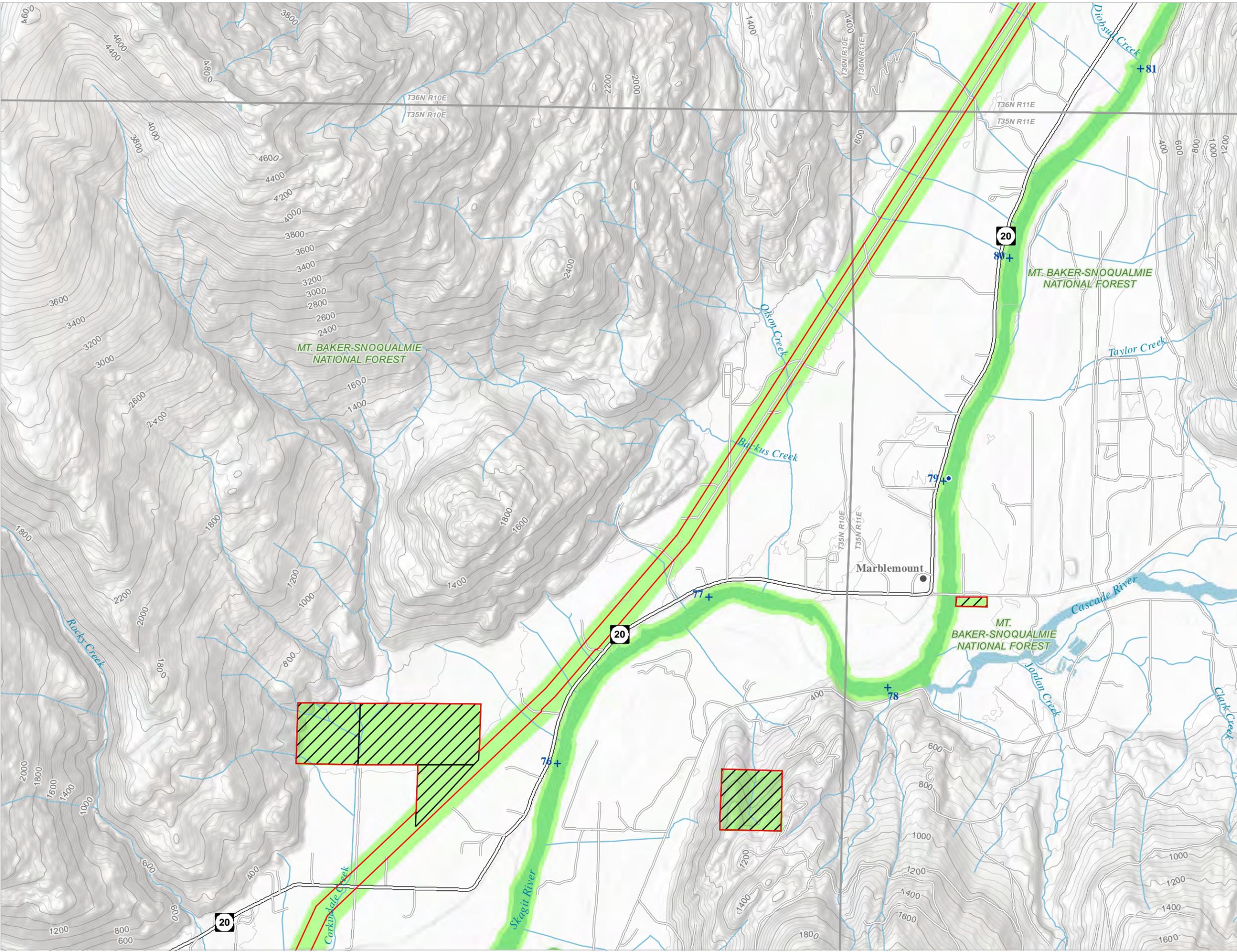
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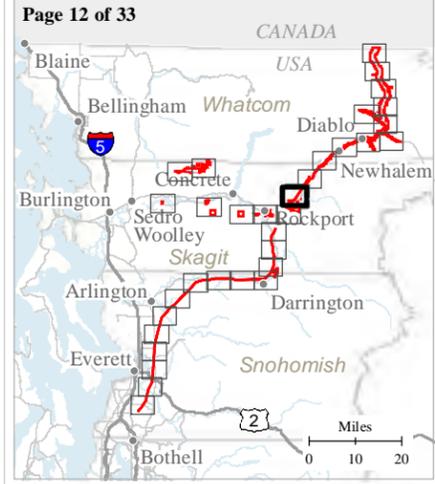
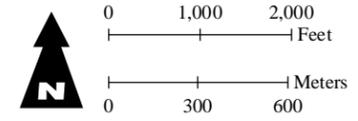
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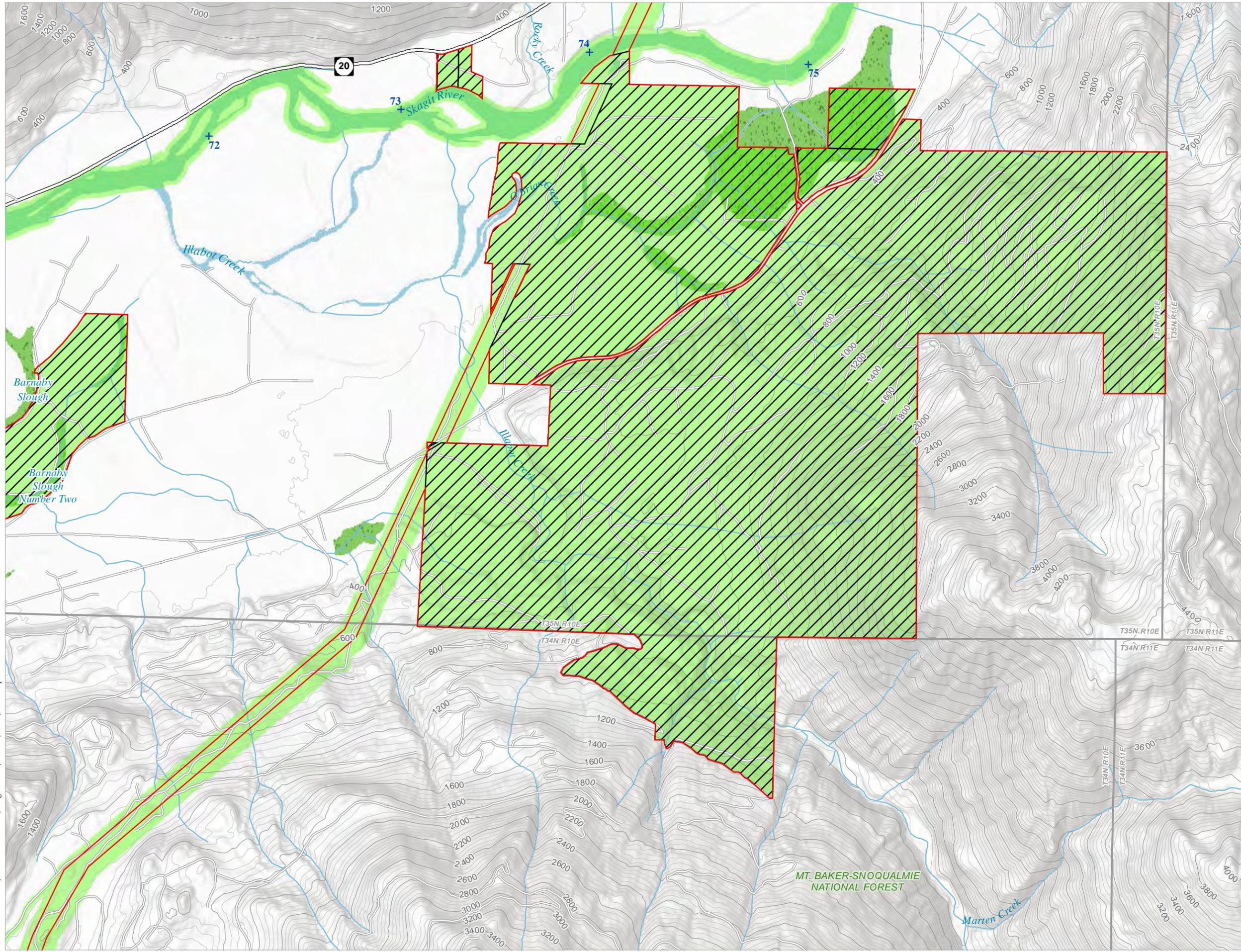
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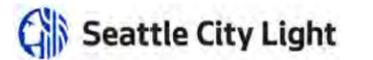
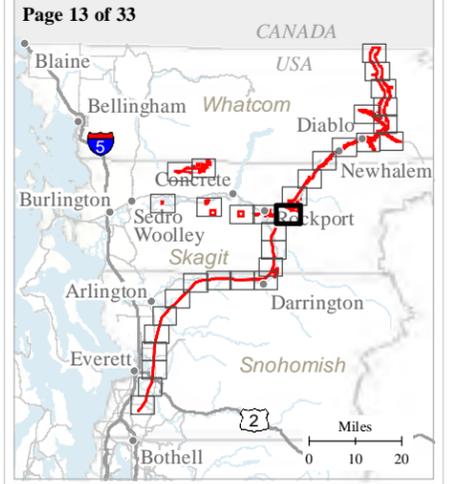
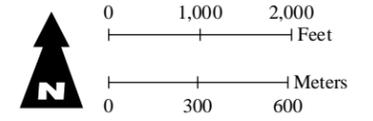
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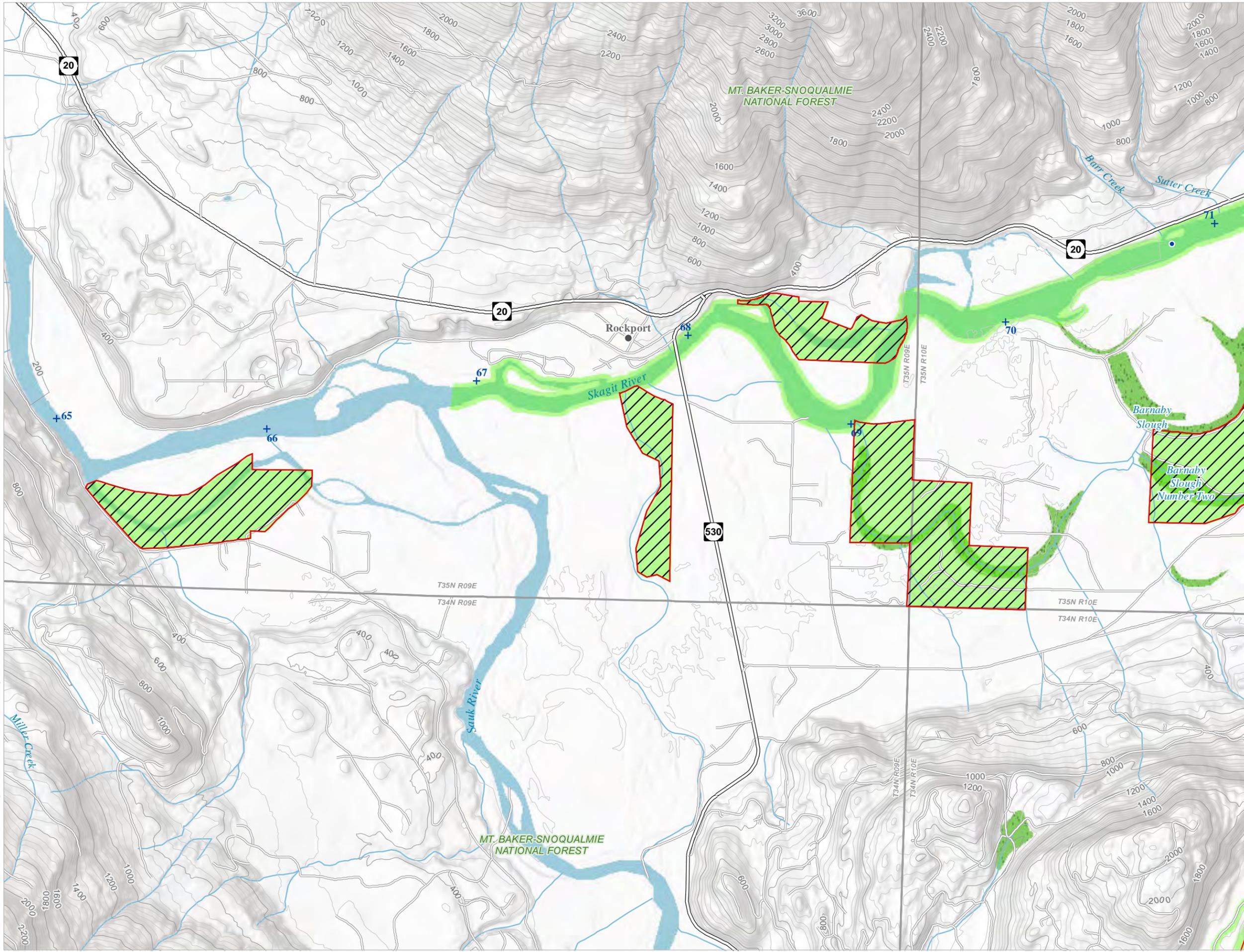
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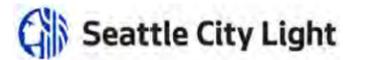
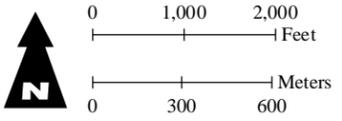
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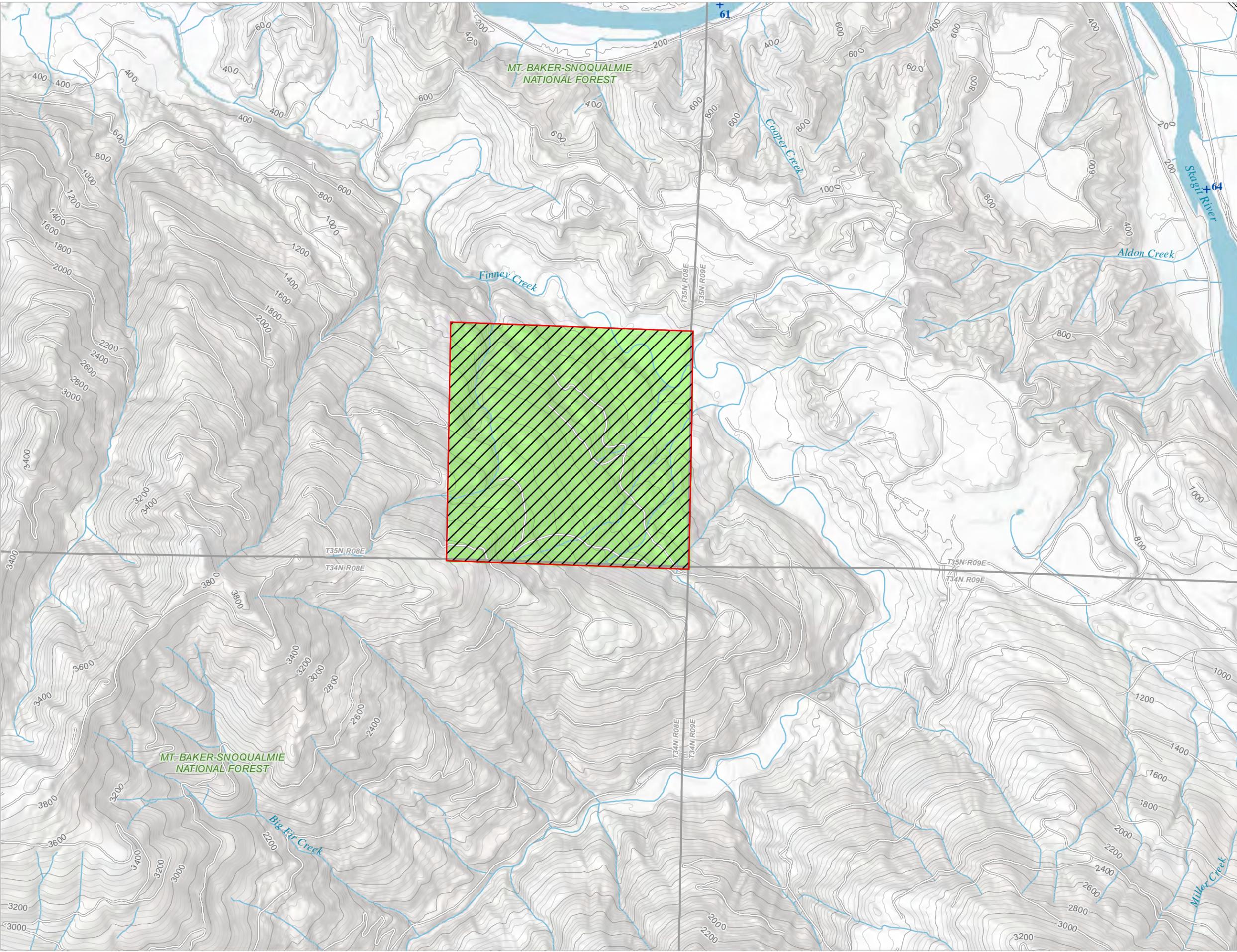
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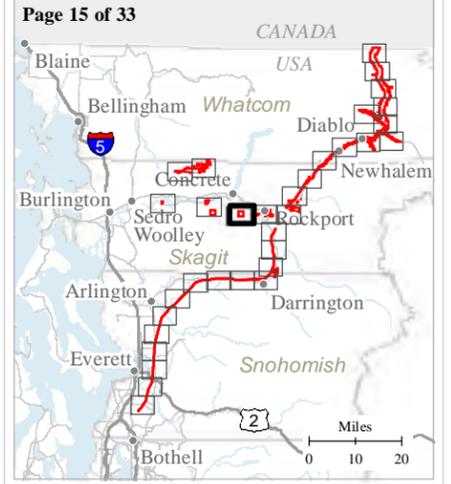
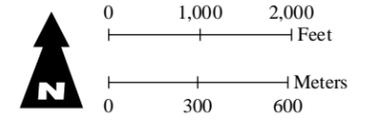
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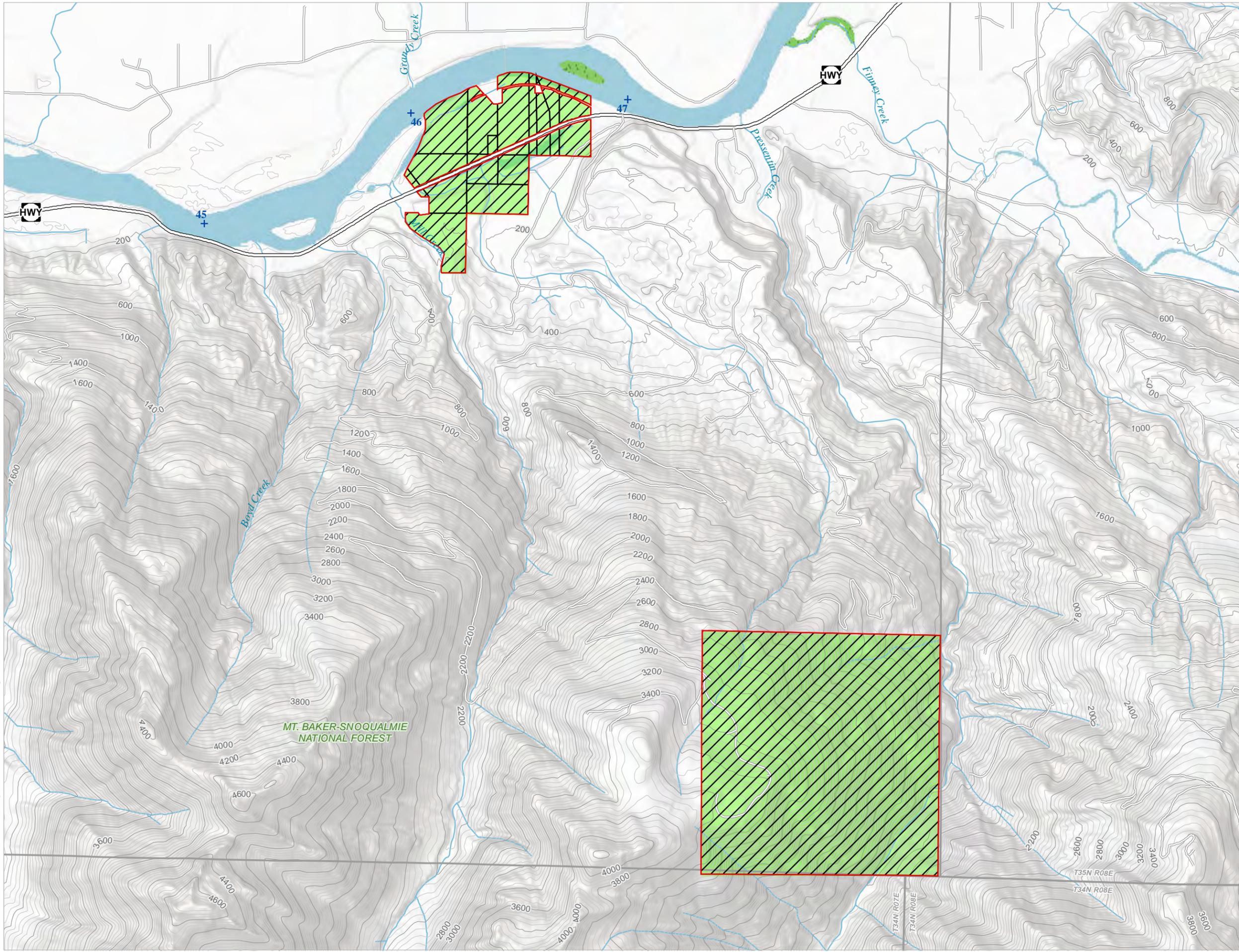
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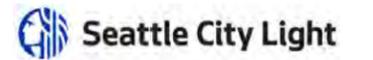
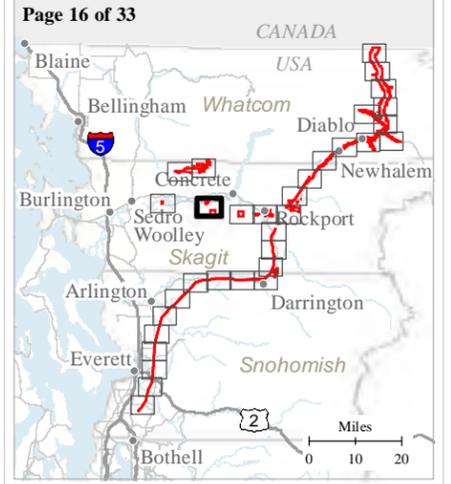
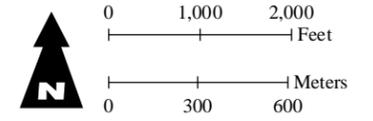
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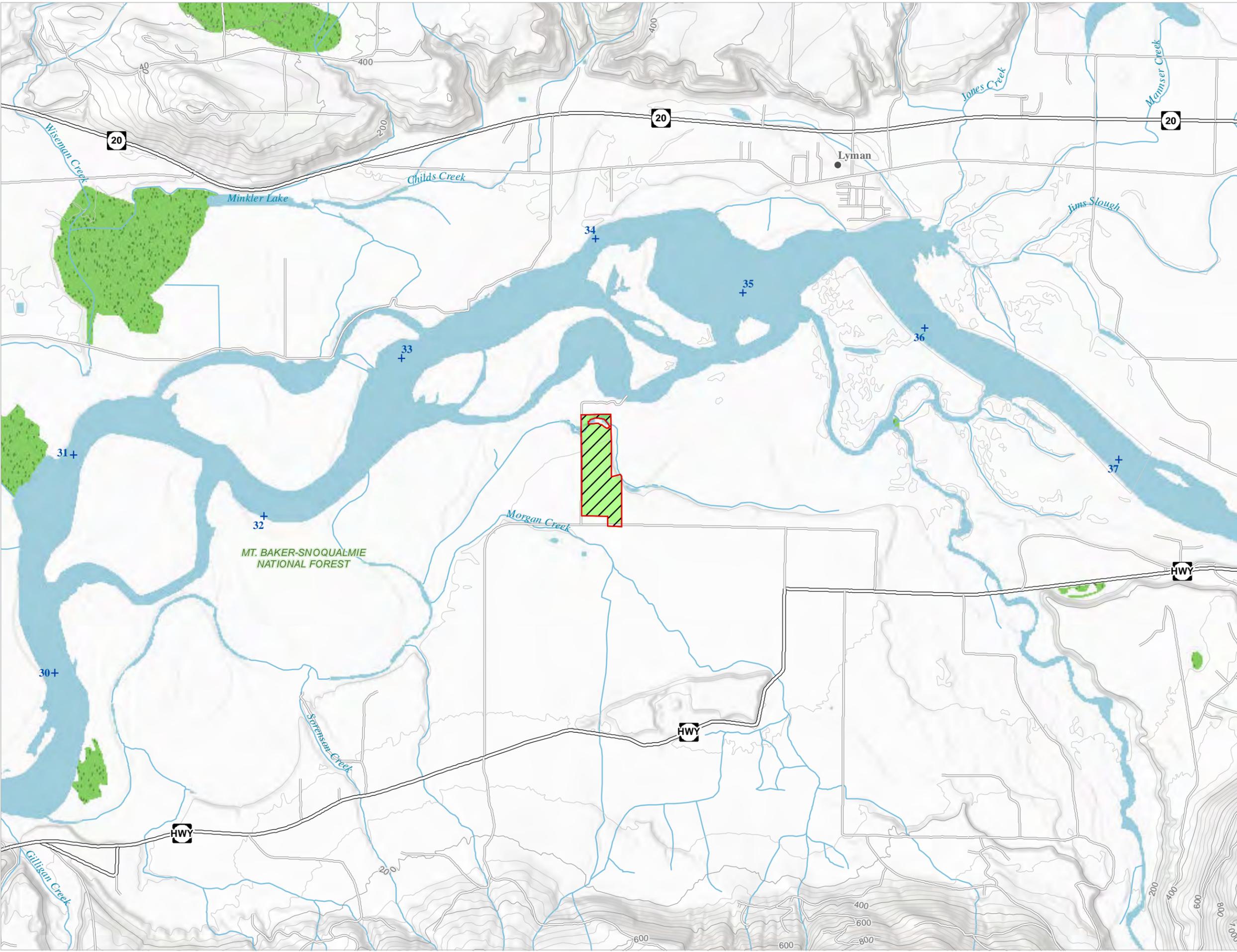
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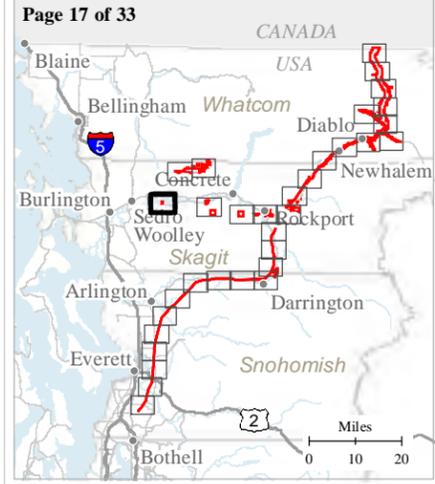
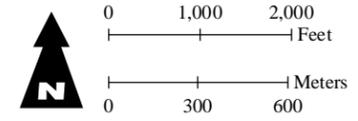
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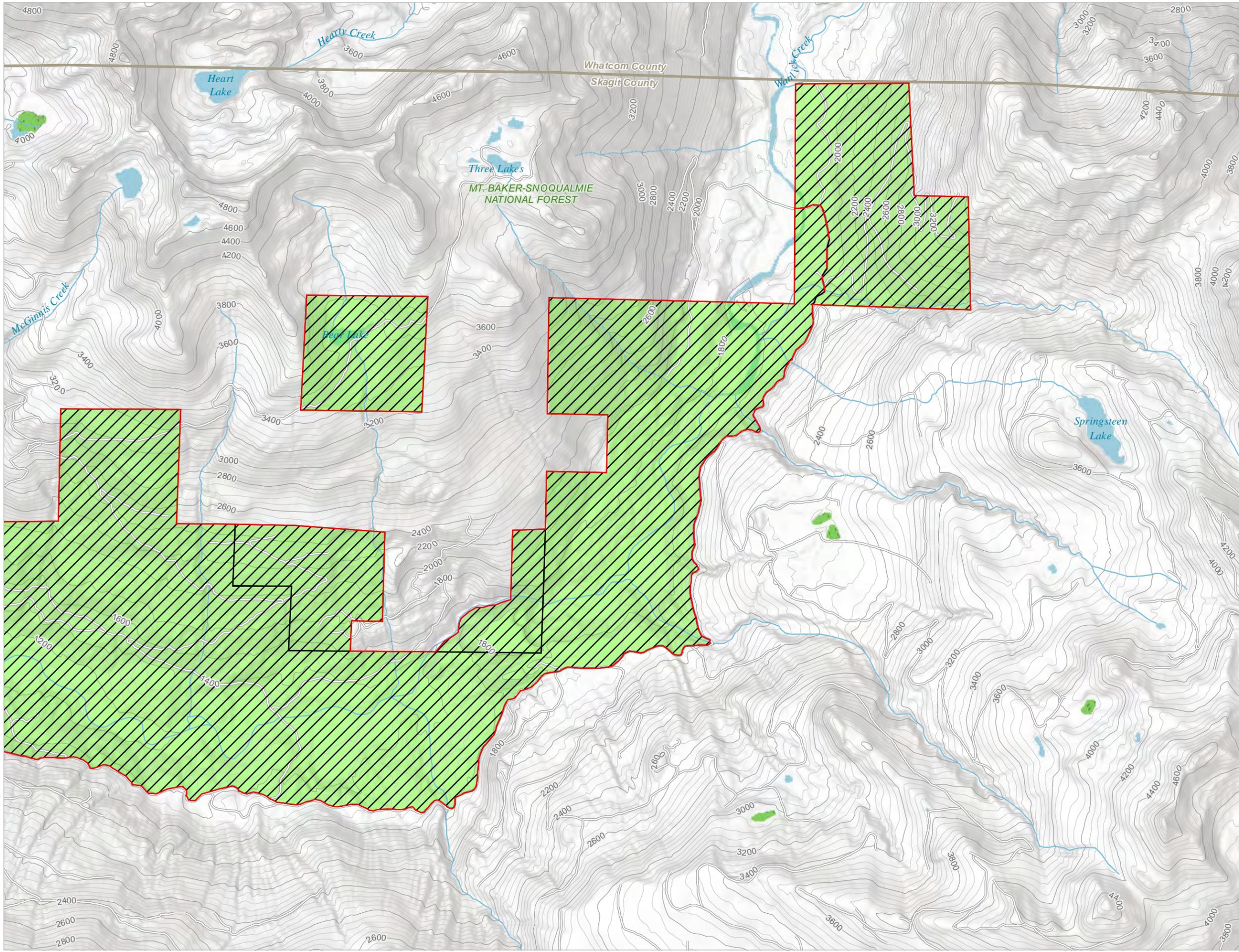
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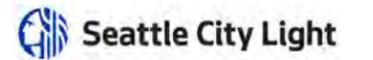
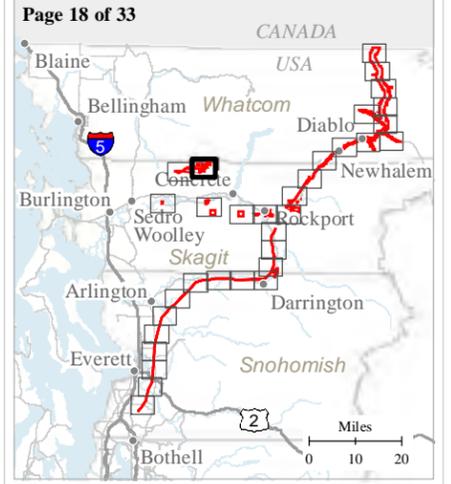
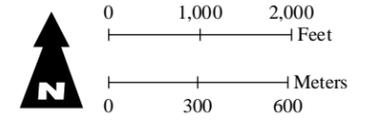
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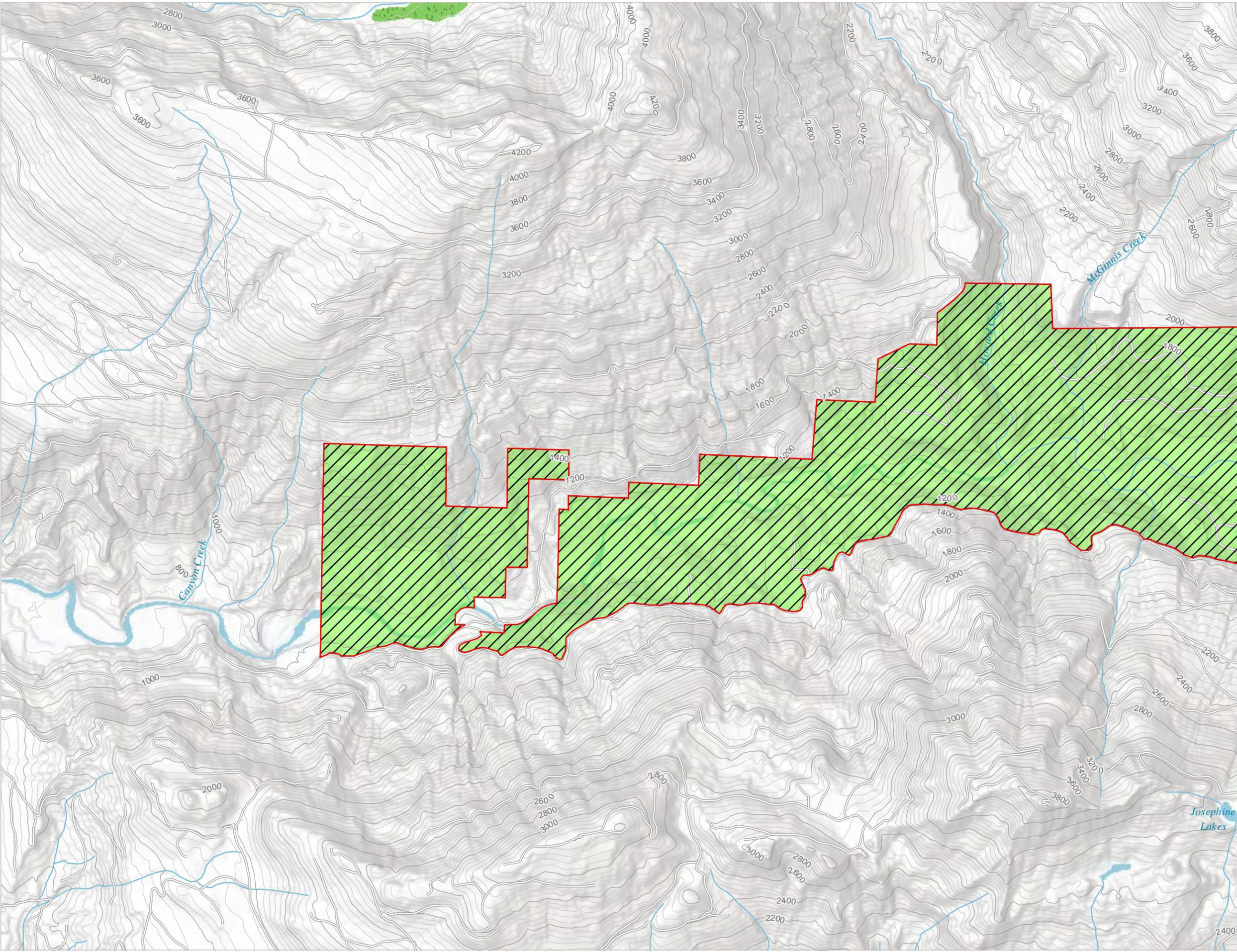
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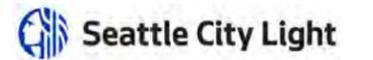
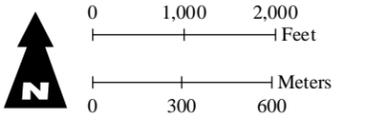
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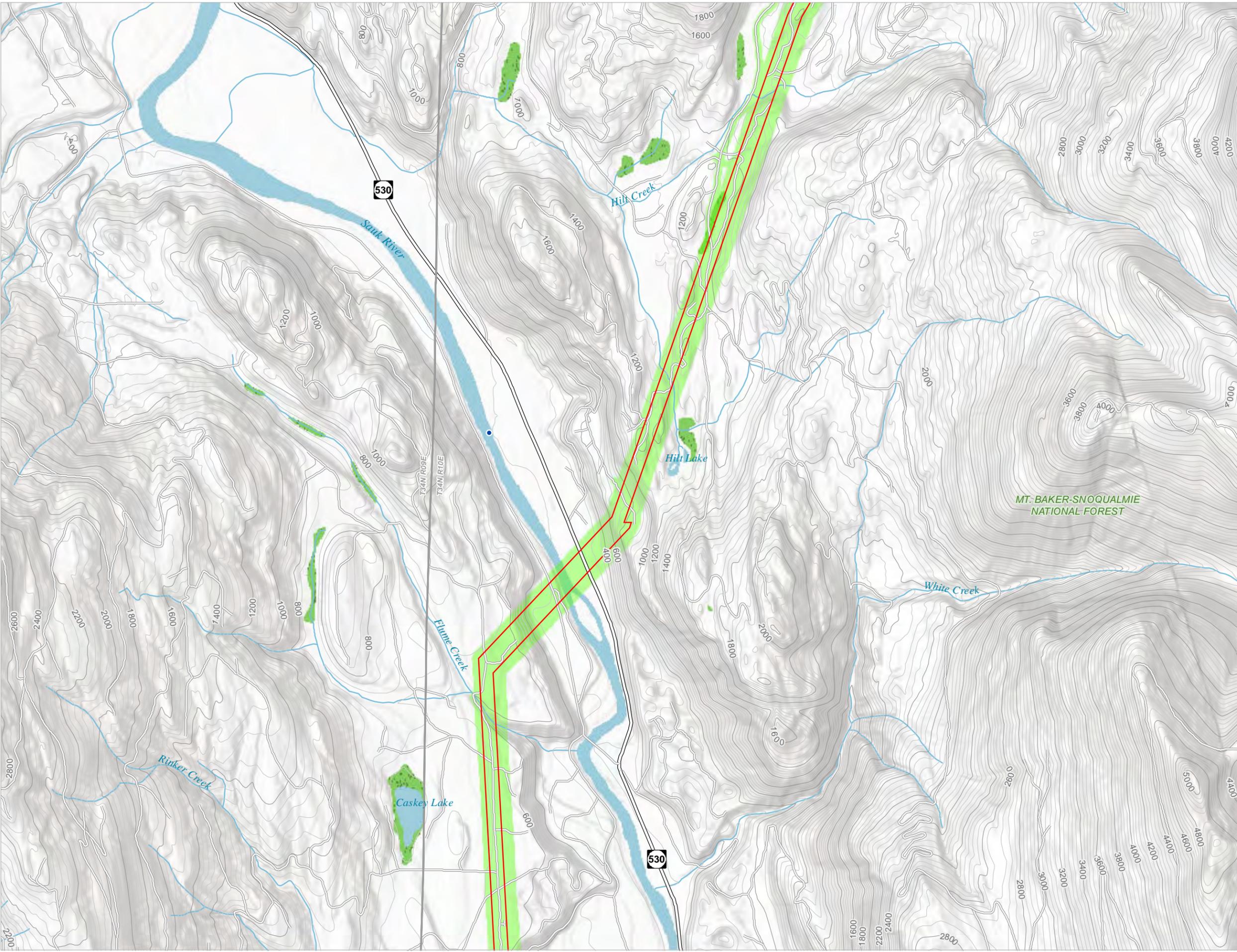
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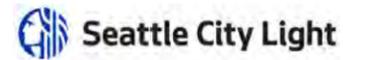
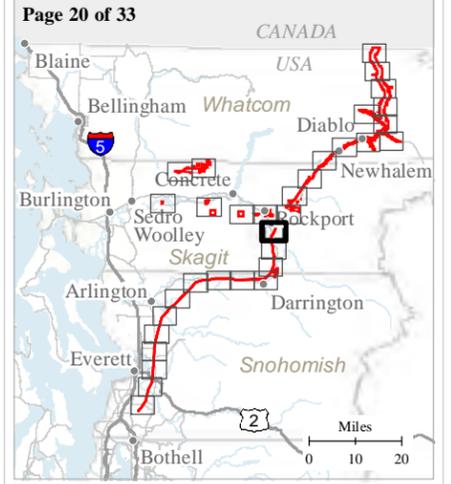
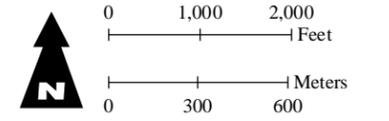
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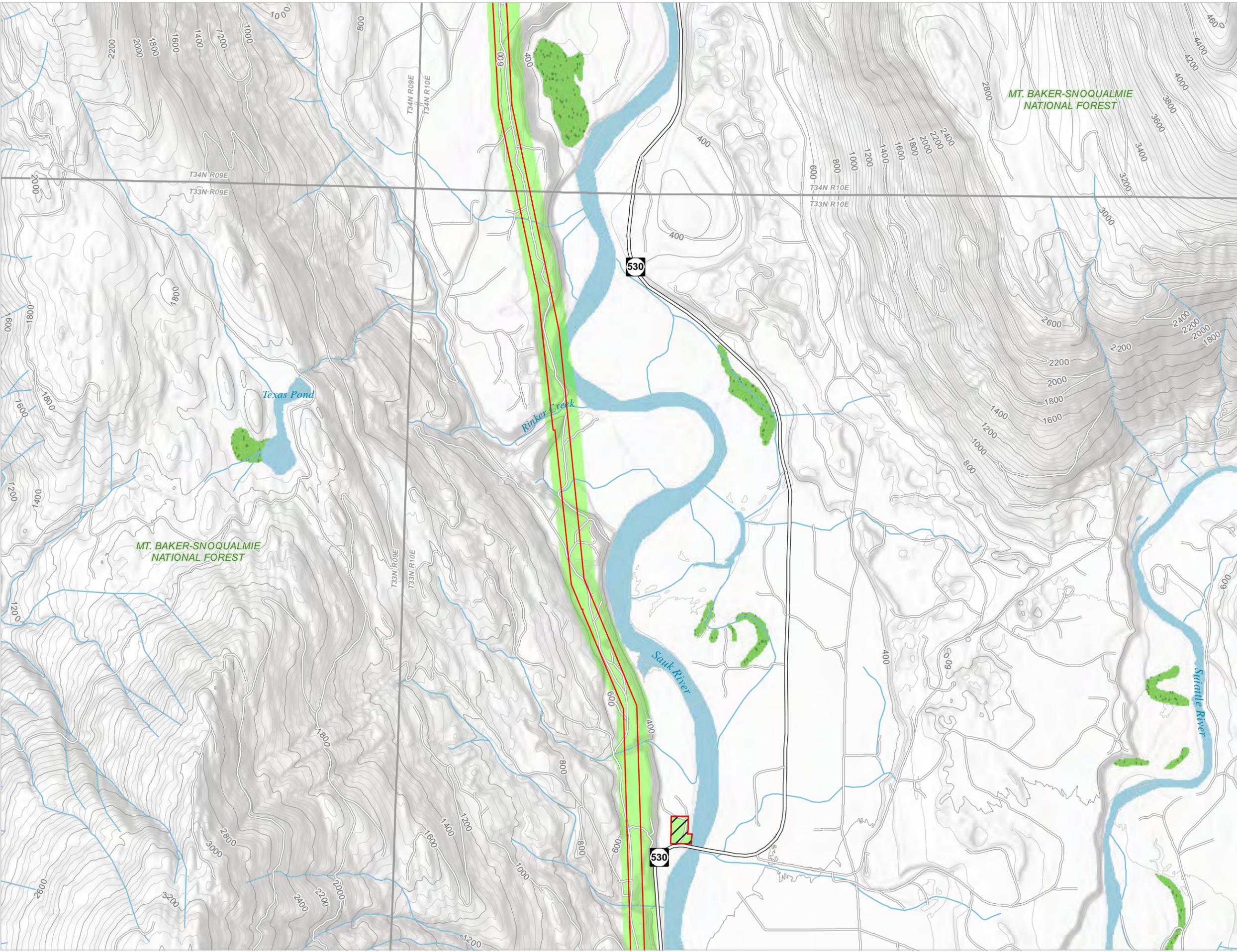
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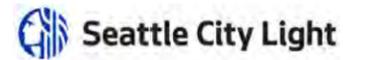
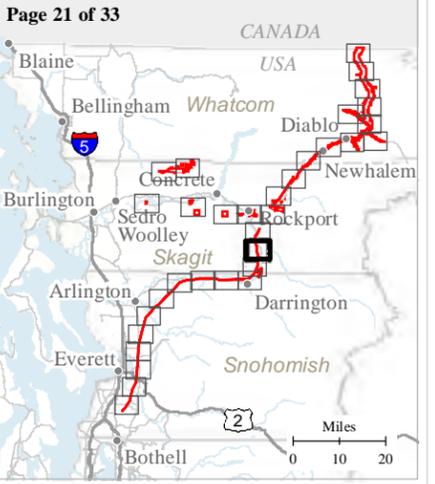
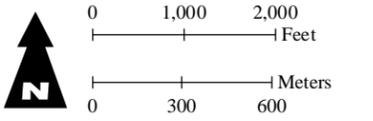
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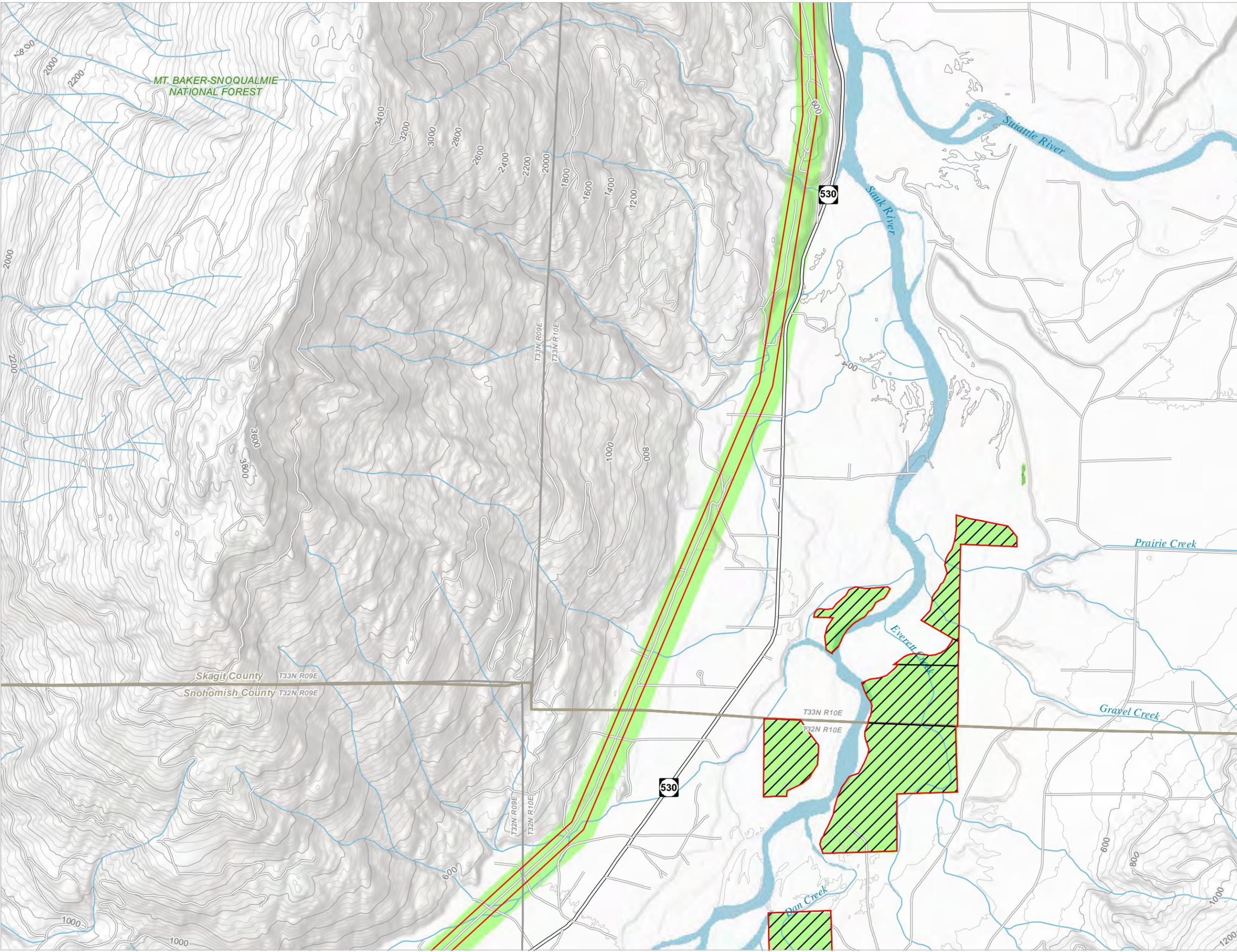
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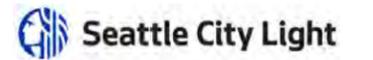
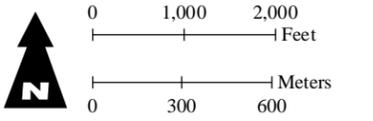
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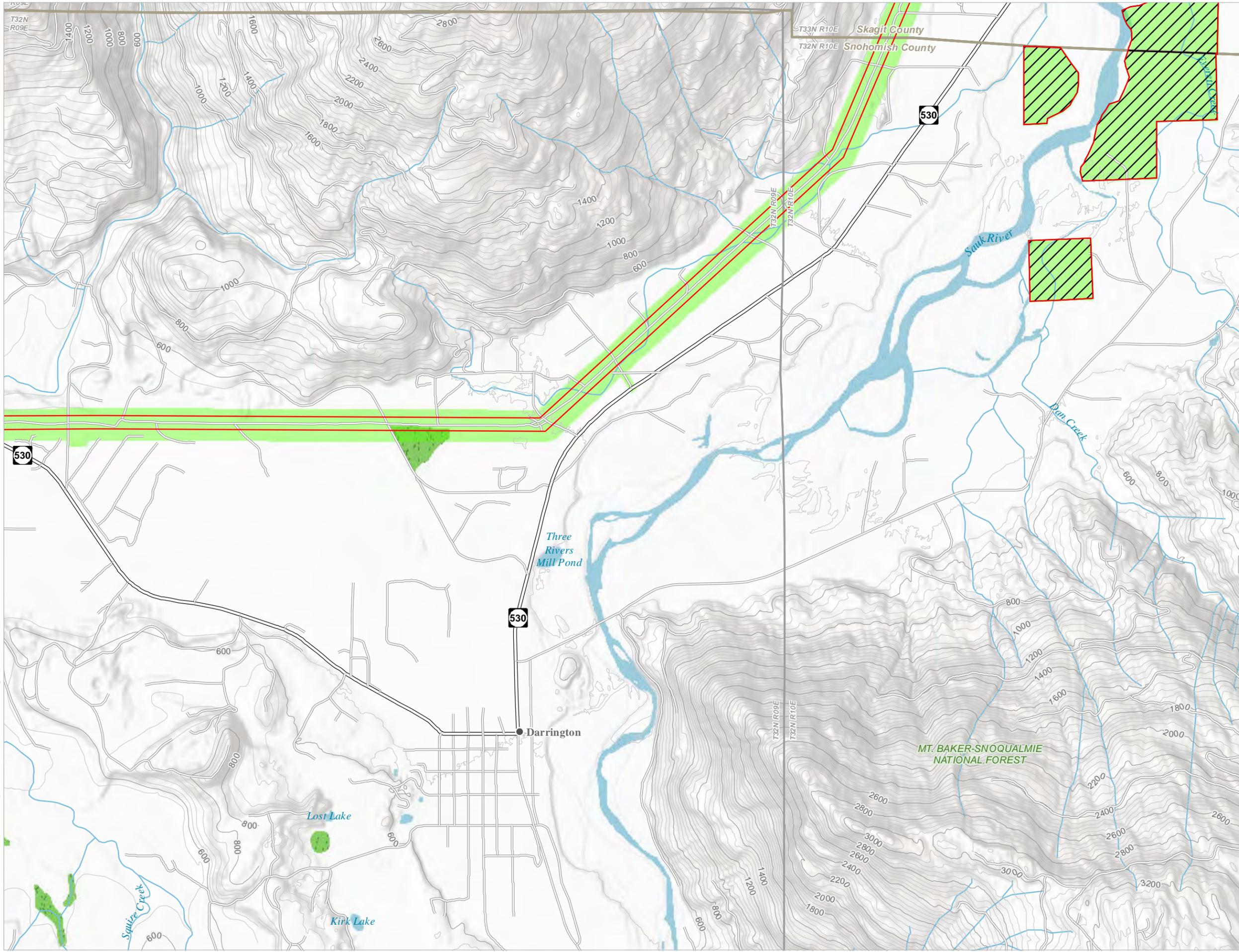
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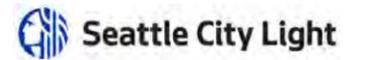
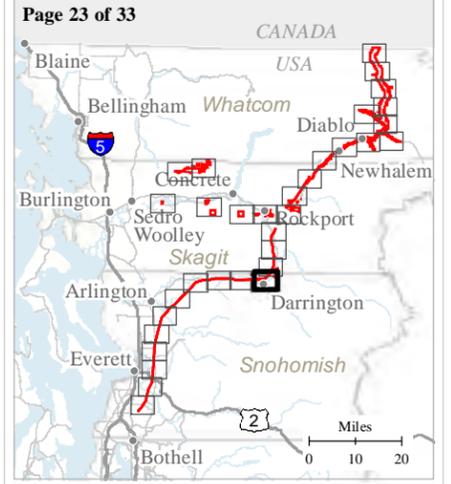
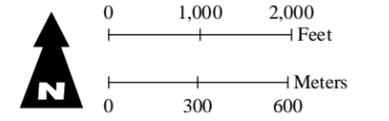
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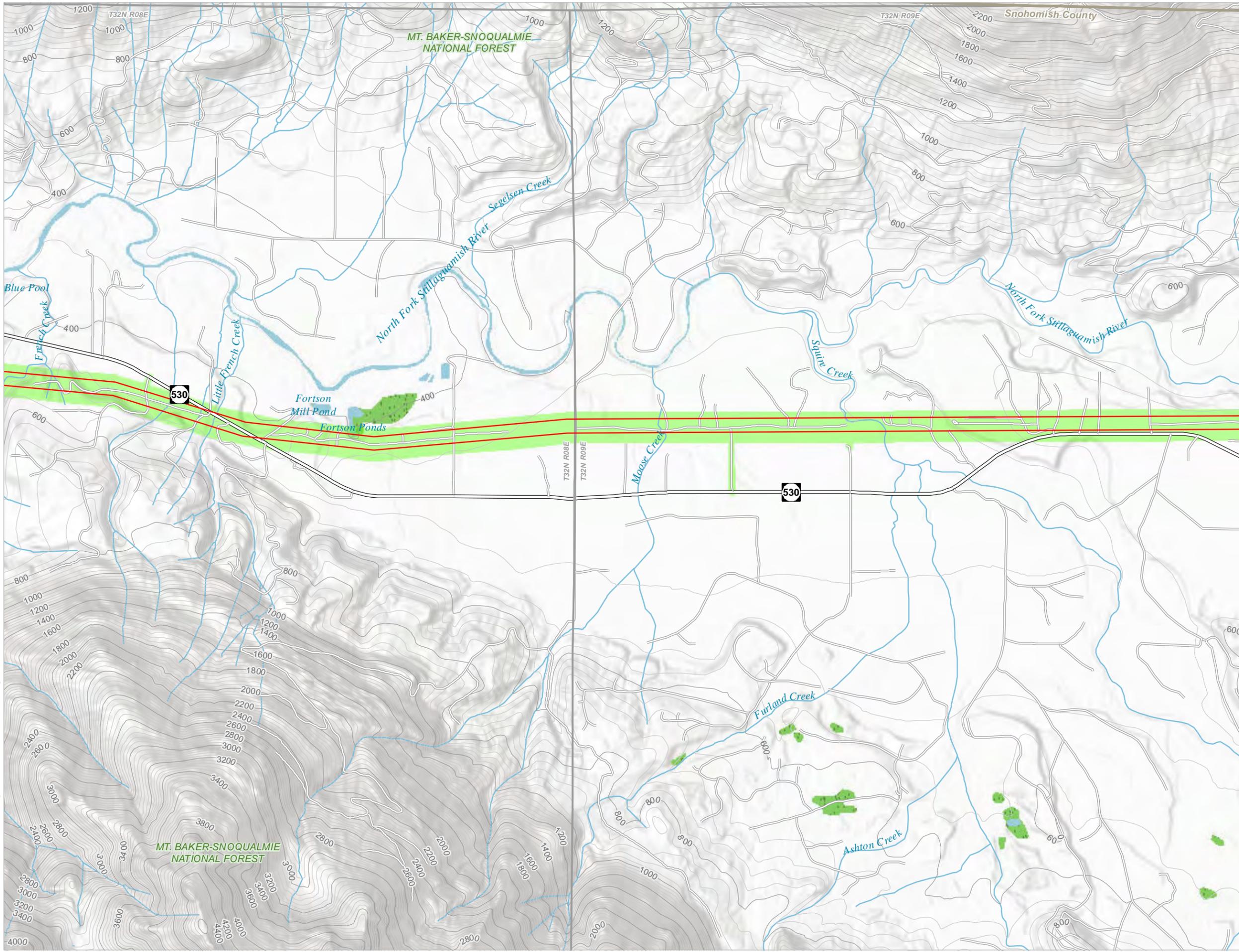
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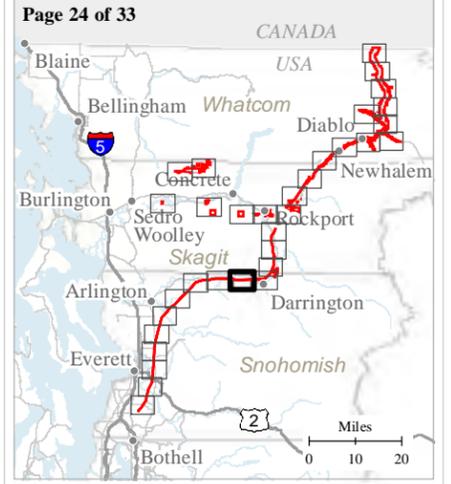
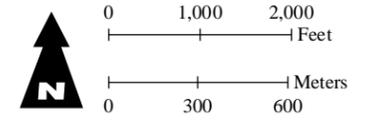
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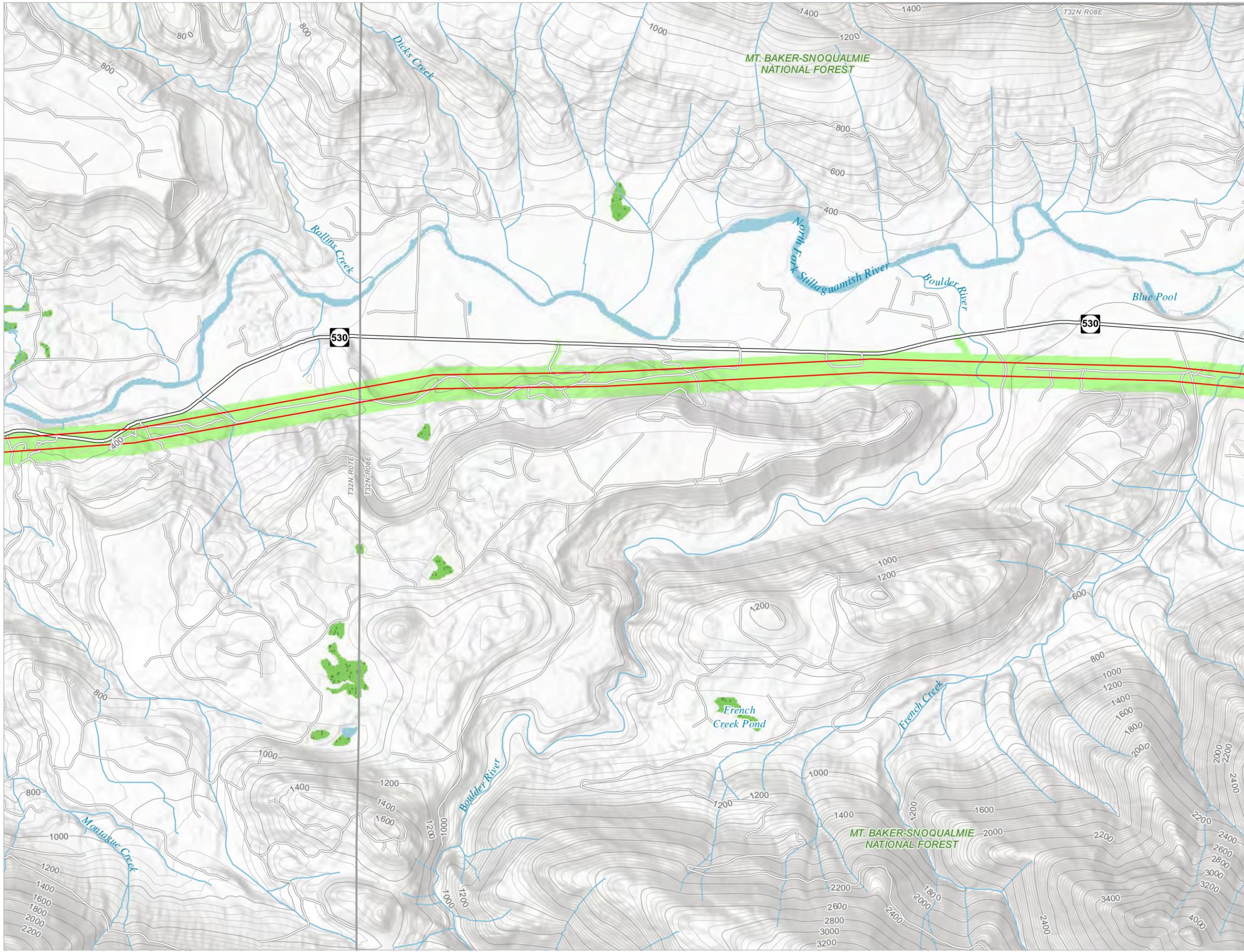
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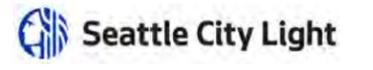
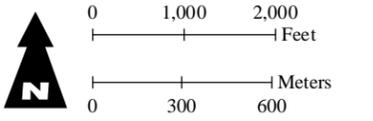
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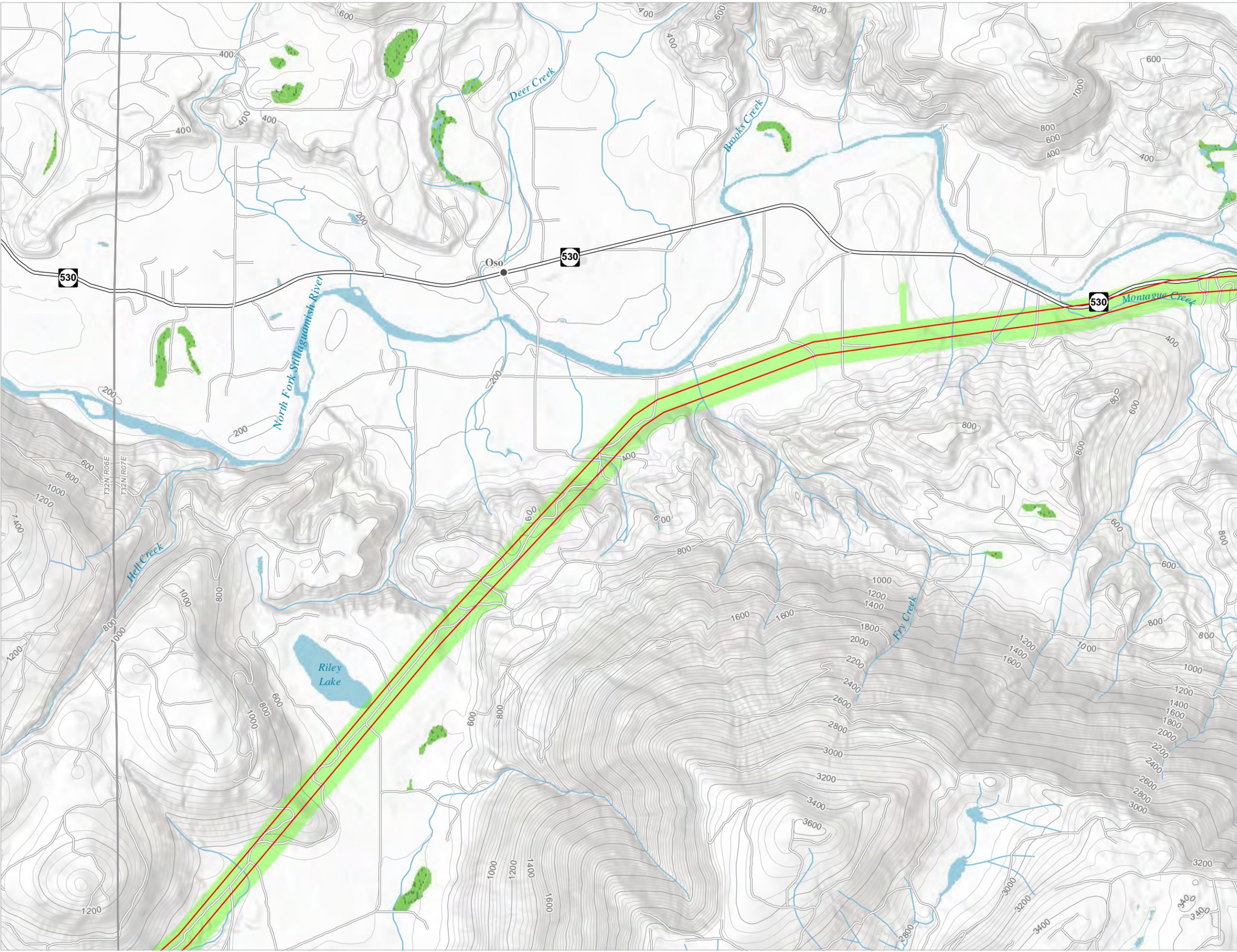
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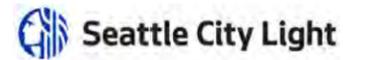
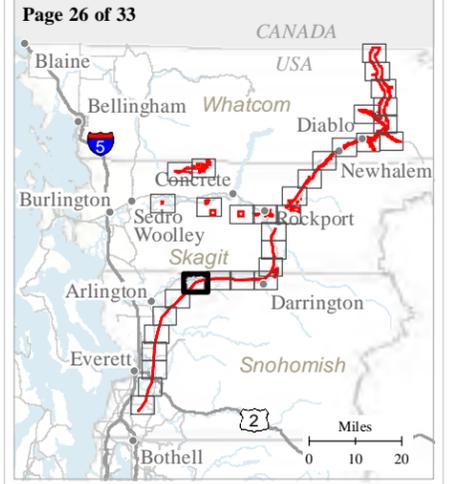
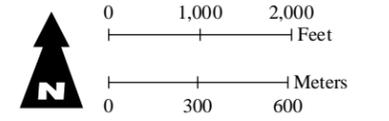
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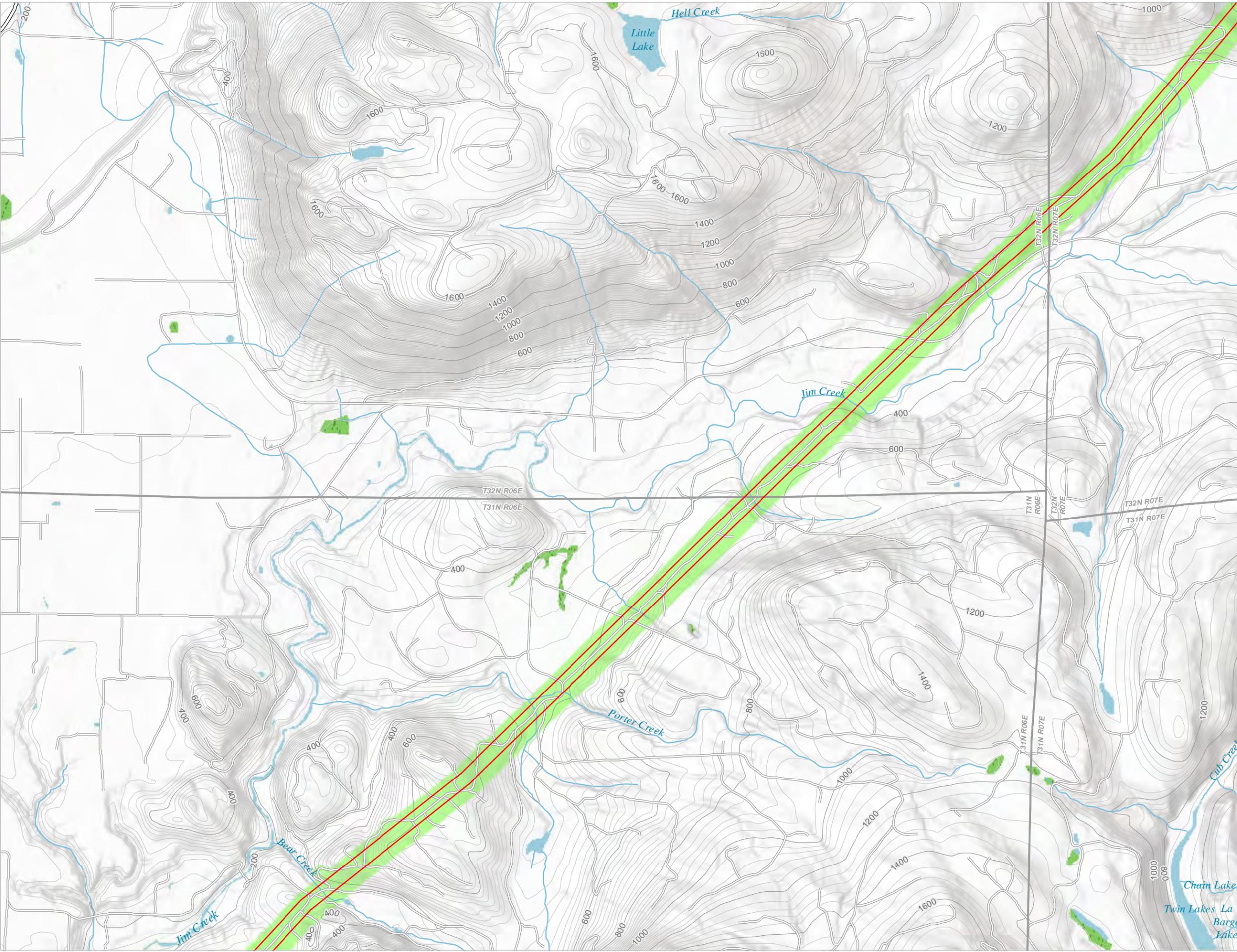
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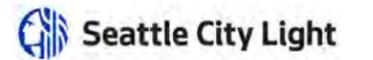
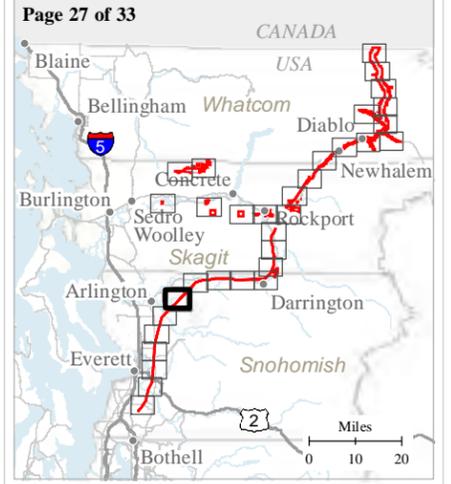
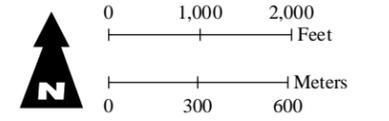
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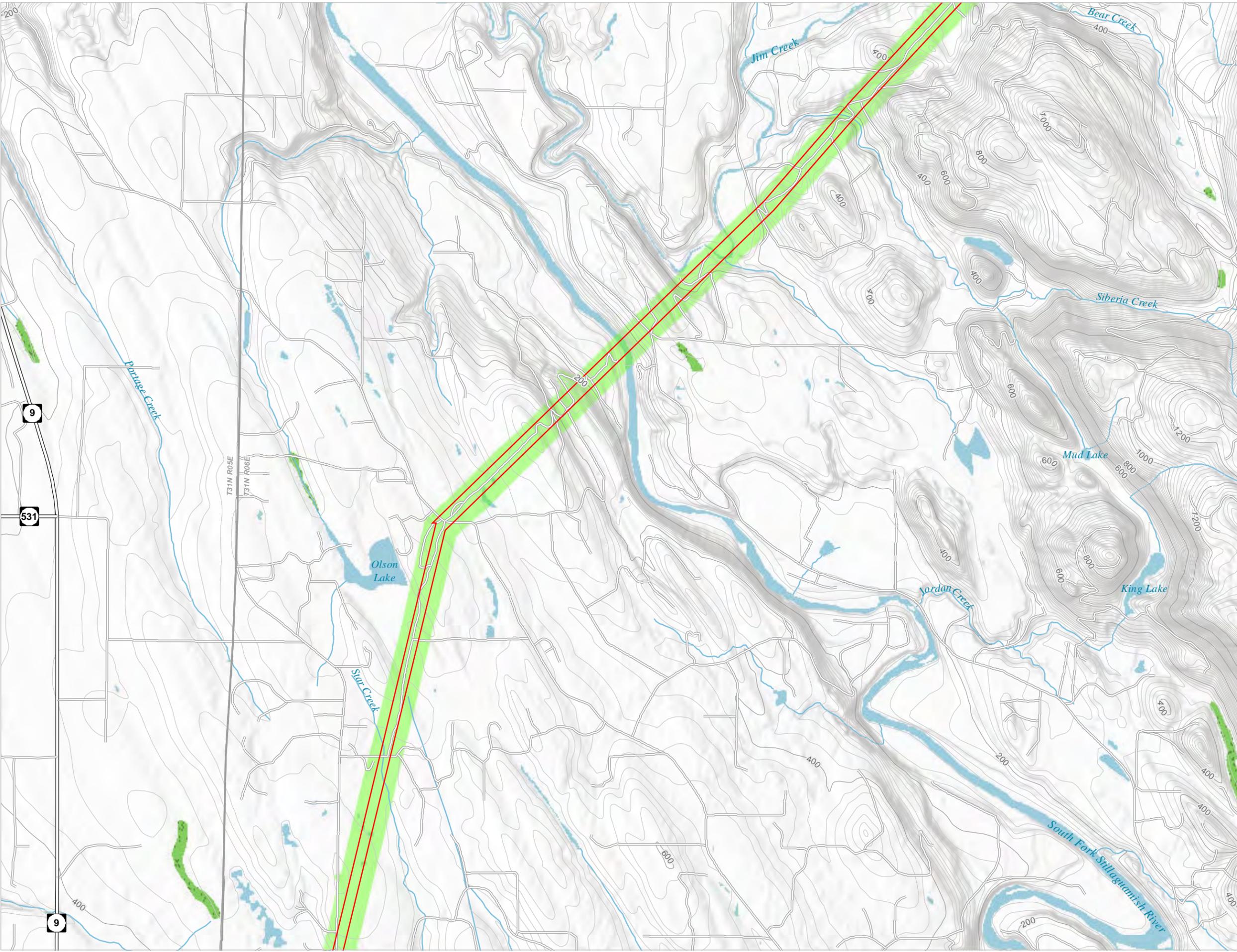
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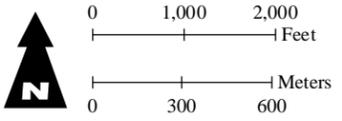
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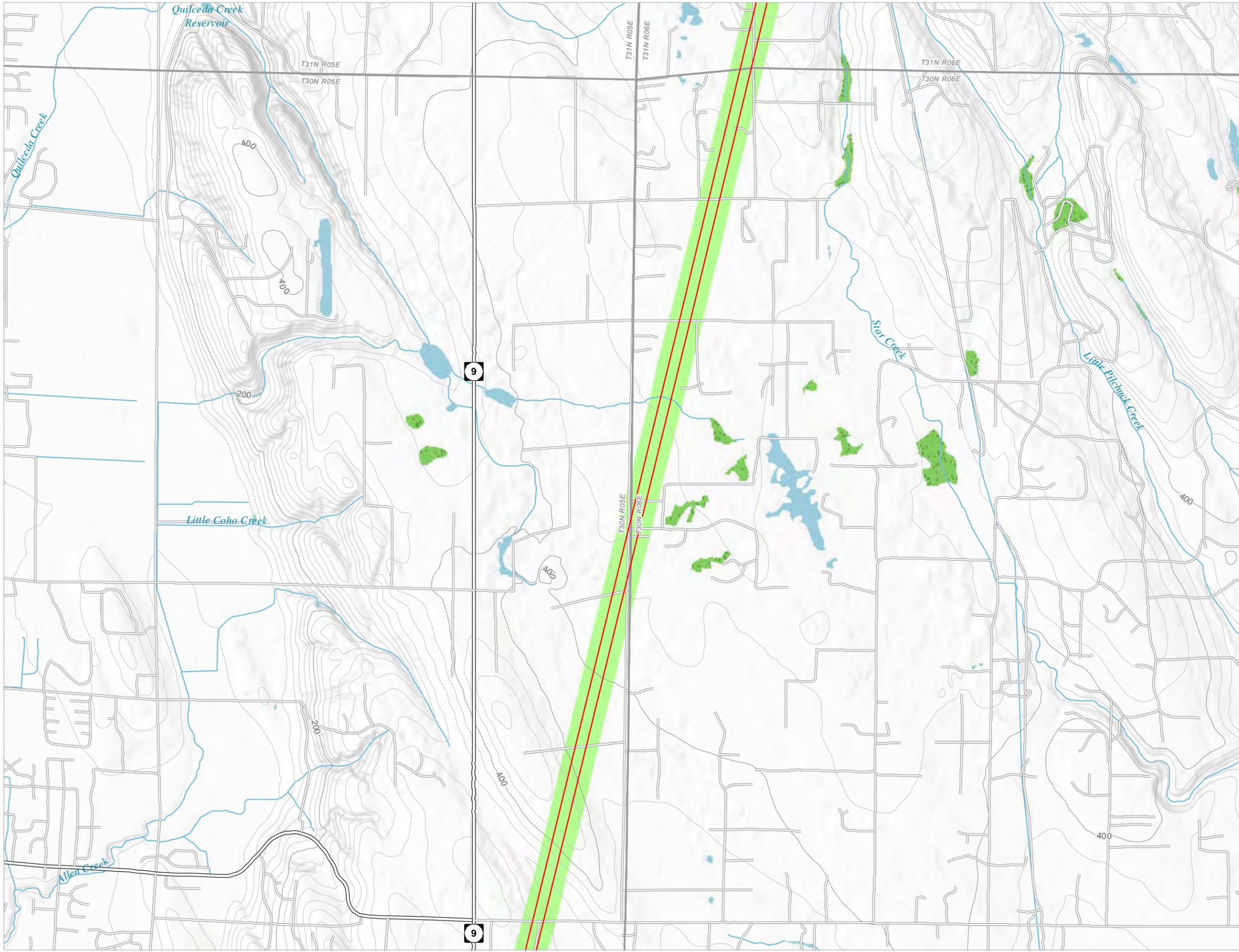
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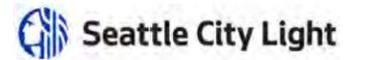
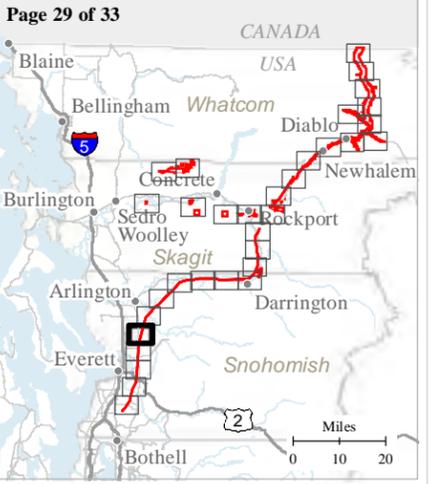
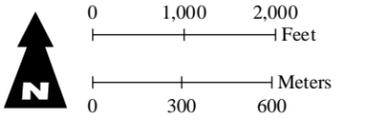
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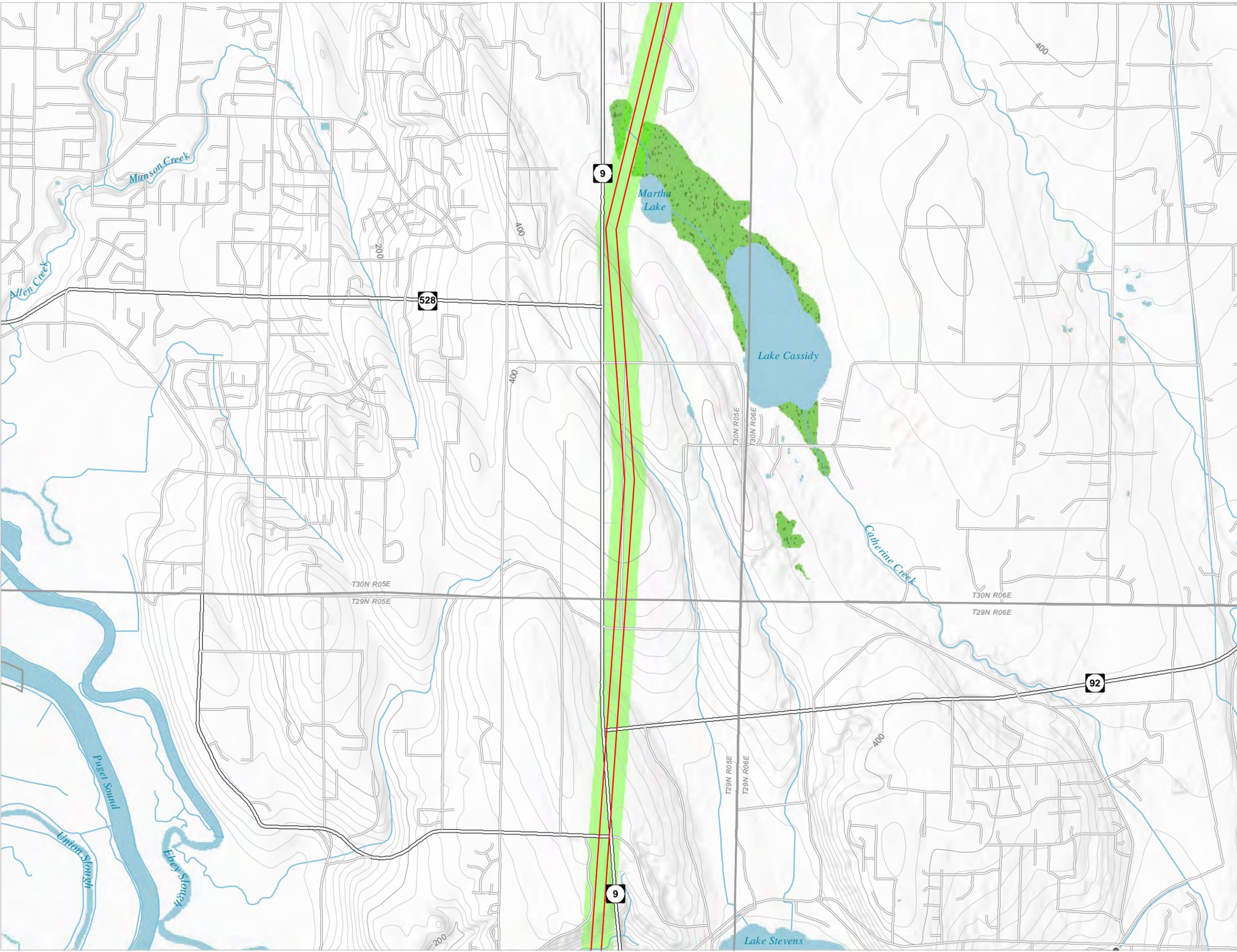
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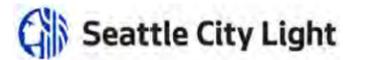
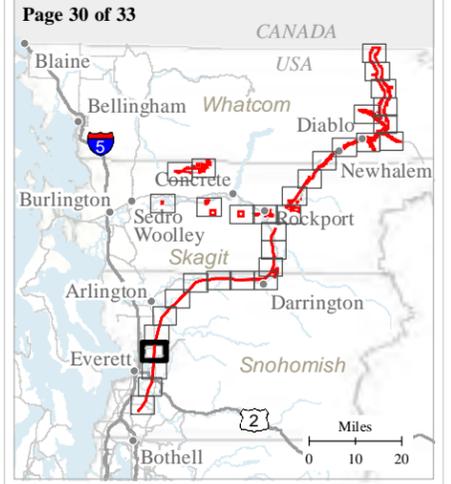
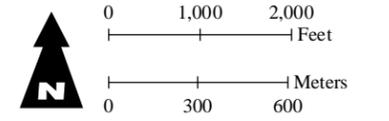
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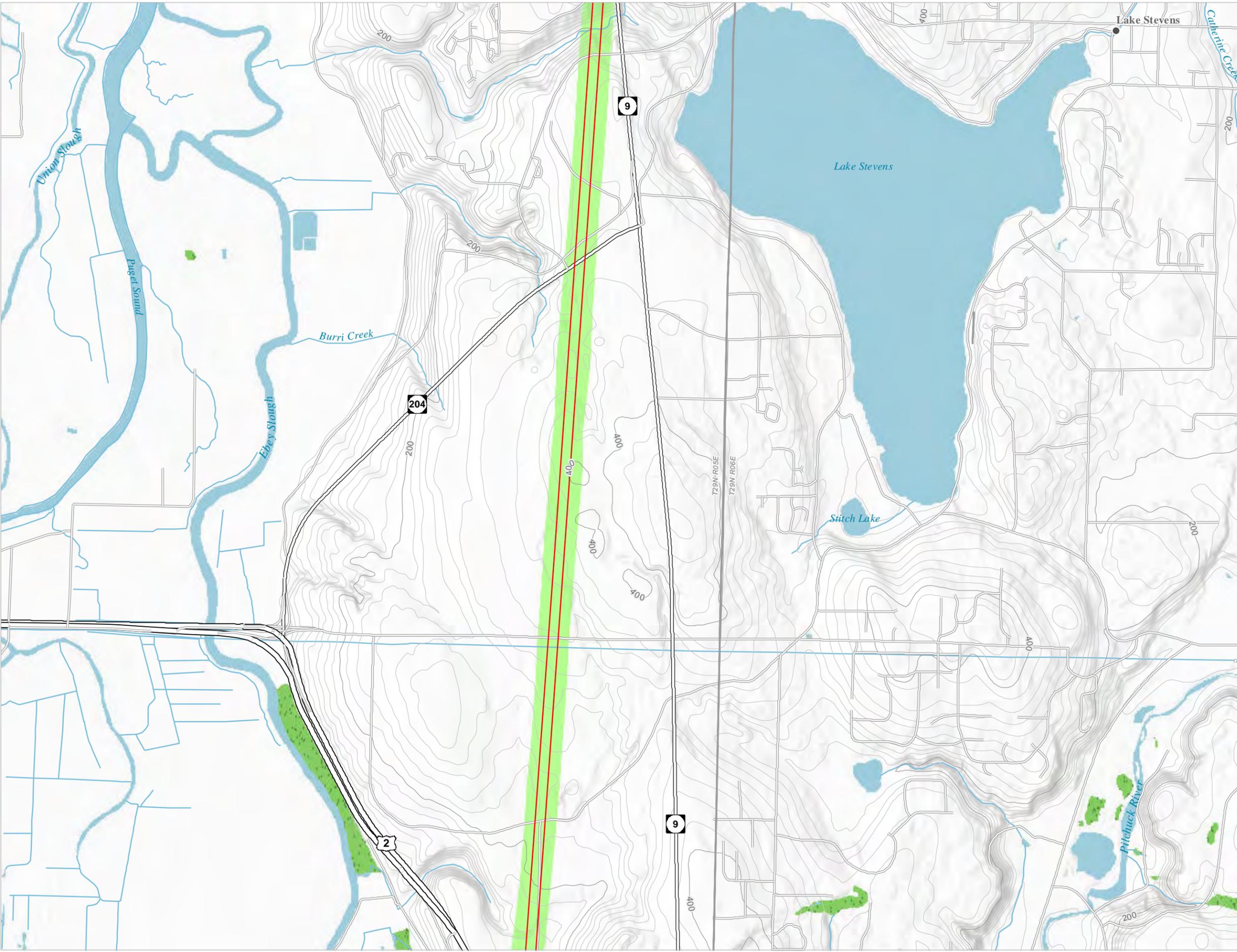
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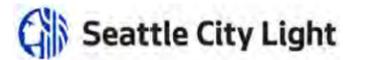
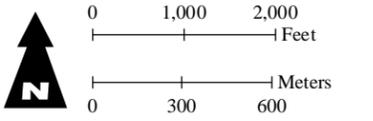
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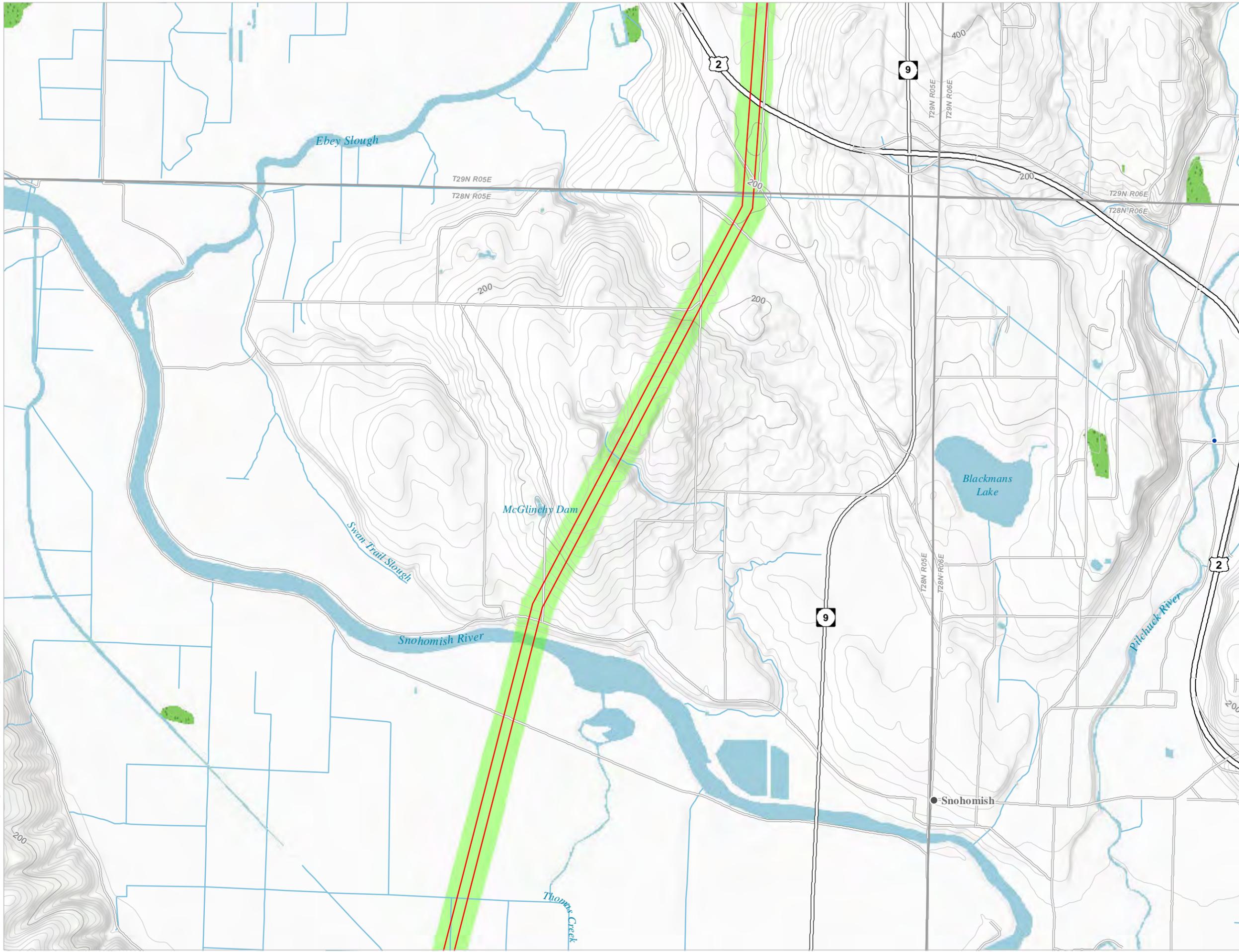
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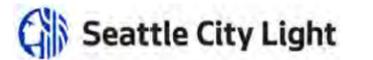
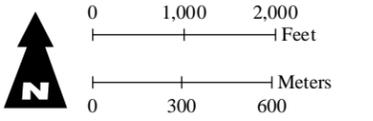
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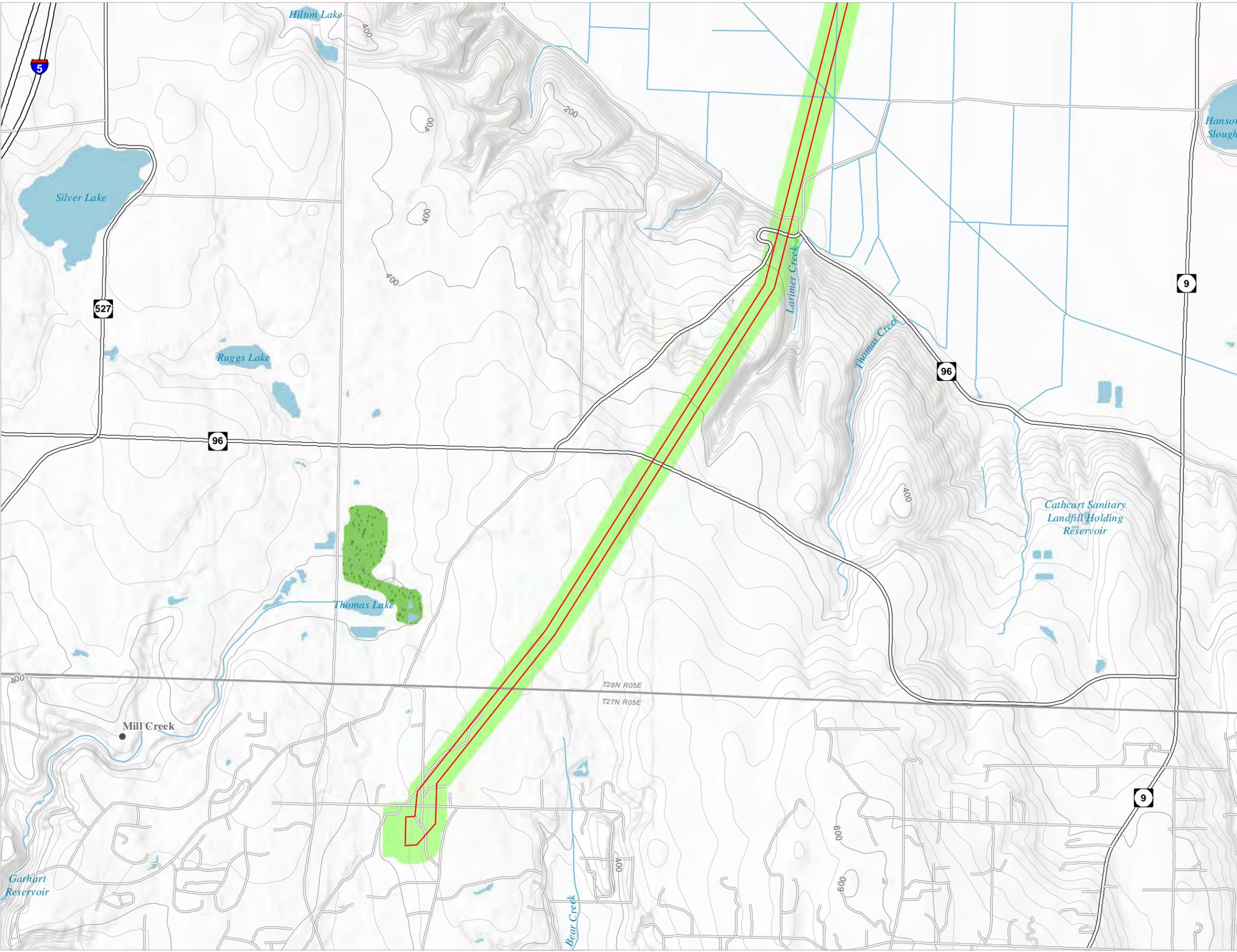
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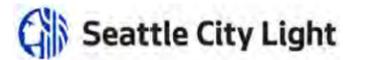
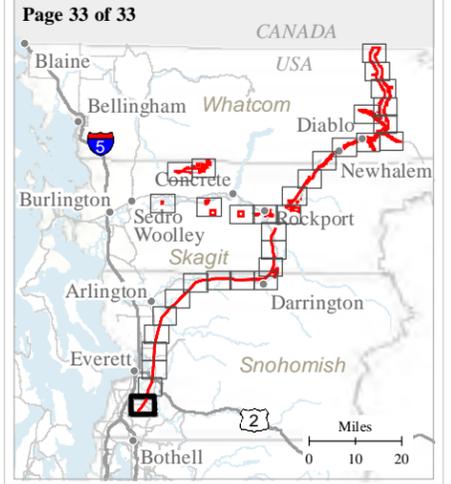
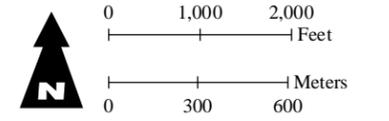
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**CULTURAL RESOURCES SURVEY
REVISED STUDY PLAN**

ATTACHMENT C

DRAFT RESEARCH DESIGN

**CR-02 CULTURAL RESOURCES SURVEY
DRAFT RESEARCH DESIGN**

**SKAGIT RIVER HYDROELECTRIC PROJECT
FERC NO. 553**

Seattle City Light

**April 2021
RSP**

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List of Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
APE	area of potential effects
ARPA	Archaeological Resources Protection Act
ARMMP	(Skagit) Archaeological Resources Mitigation and Management Plan
BIA	Bureau of Indian Affairs
CFR	Code of Federal Regulations
City Light	Seattle City Light
CR	Cultural Resources
CRWG	Cultural Resources Work Group
DAHP	Department of Archaeology and Historic Preservation
DNR	Department of Natural Resources (Washington State)
FERC	Federal Energy Regulatory Commission
ft	foot/feet
GPS	Global Positioning System
HPA	high probability area
HPI	historic property inventory
HPMP	Historic Properties Management Plan
HRMMP	(Skagit) Historic Resources Mitigation and Management Plan
LiDAR	Light Detection and Ranging
LPA	low probability area
m	meter
MPA	moderate probability area
NHPA	National Historic Preservation Act
NPS	National Park Service
NRB	National Register Bulletin
NRHP	National Register of Historic Properties
O&M	operations and maintenance
PAD	Pre-Application Document
Project	Skagit River Hydroelectric Project
PSP	Proposed Study Plan

PTRCI	properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization
RCW	Revised Code of Washington
ROW	right-of-way
RSP	Revised Study Plan
SHPO	State Historic Preservation Office or Officer
SOI	Secretary of the Interior
SP	Shovel probe
USC.....	United States Code
USFS	U.S. Forest Service
WISAARD.....	Washington Information System for Architectural and Archaeological Records Data

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1.0 INTRODUCTION

[THIS IS A DRAFT OUTLINE; FOR REVIEW AND DISCUSSION WITH CRWG]

This document presents the draft research design for implementing the CR-02 Cultural Resources Survey (the study). The study includes a cultural resources inventory of the Skagit River Hydroelectric Project (Project). The Project is licensed by FERC to The City of Seattle, Washington, and operated through its publicly-owned electric power utility Seattle City Light (City Light). The study is being implemented as part of the FERC relicensing process that is currently underway. The research design elements outlined below include the study objectives, research themes and questions, methodology, and expectations.

Relicensing of the Project by FERC is considered a federal undertaking under Section 106 of the National Historic Preservation Act (NHPA), as amended (Section 106), and its implementing regulations (36 Code of Federal Regulations [CFR] § 800). Section 106 establishes a process for federal agencies to identify, and to take into account, the effects of their undertakings on historic properties. Historic properties are defined as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance [PTRCI] to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria [36 CFR § 800.16(l)(1)].” Accordingly, the Cultural Resources Survey is being proposed in partial fulfillment of Section 106 requirements. The study will focus on archaeological and built environment resources, while another study, CR-04 Inventory of Historic Properties with Traditional Cultural Significance, will focus on PTRCIs.

The results of the Cultural Resources Survey are expected to include confidential and/or privileged information that is exempt from public release. The confidential and privileged information will be protected, in consultation with the Section 106 consulting parties. State and federal laws exempt certain types of cultural resources information from public disclosure (e.g., Revised Code of Washington [RCW] 42.56.300, 16 United States Code [USC] 470hh(a)).

To date, Section 106 consulting parties identified for the Project relicensing include: State Historic Preservation Officer (SHPO), National Park Service (NPS), FERC, Upper Skagit Indian Tribe, Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Nlaka’pamux Nation Tribal Council, and City Light. In addition to these parties, City Light anticipates additional consulting parties may include: Advisory Council on Historic Preservation (ACHP), Bureau of Indian Affairs (BIA), U.S. Forest Service (USFS), Washington Department of Natural Resources (DNR), Snohomish County, Stó:lō Nation, Confederated Tribes of the Colville Reservation, Lummi Nation, Muckleshoot Indian Tribe, Nooksack Indian Tribe, Samish Indian Nation, Snoqualmie Indian Tribe, Stillaguamish Tribe of Indians, Suquamish Tribe, and Tulalip Tribes of Washington, as well as other potential parties to be identified during Section 106 consultation.

This draft research design will be provided to the Section 106 consulting parties for review and comment prior to finalization.

1.1 Study Area

Under 36 Code of Federal Regulations (CFR) § 800.16(d), the area of potential effect (APE) for Section 106 is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Based on this regulatory definition, City Light proposes to define the APE for the Project relicensing as including all lands within the FERC-approved Project Boundary. The APE also includes lands or properties outside the Project Boundary where Project operations or Project-related recreation activities or other enhancements may cause changes in the character or use of historic properties, if any such properties exist. For the study, the proposed study area is the APE. The APE is shown in Figure 1.1-1 and 1.1-2. If Project-related effects are identified outside the APE during the course of study implementation that could affect historic properties, the APE will be expanded to include the location of these effects.

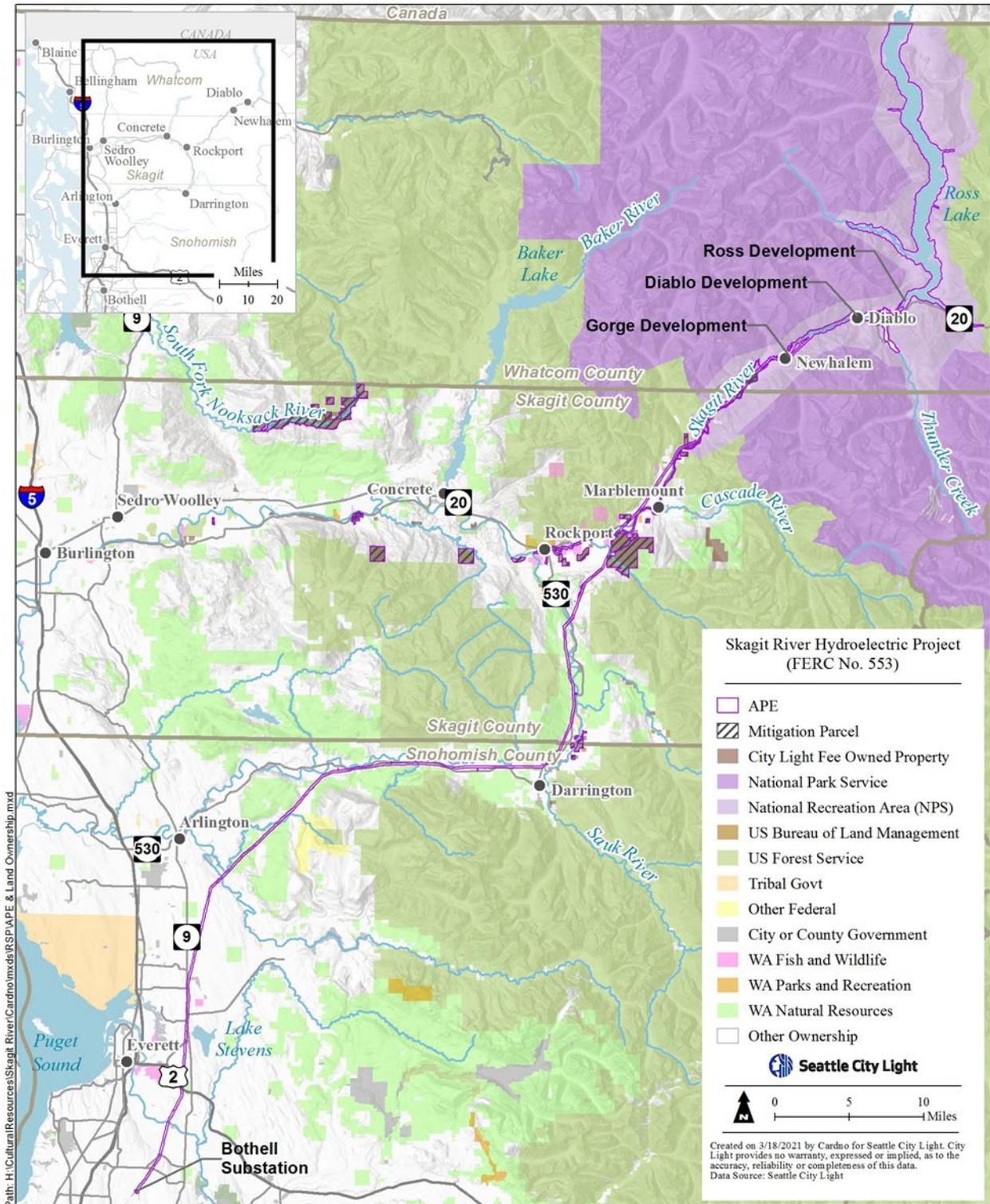


Figure 1.1-1. Location map of the Skagit River Hydroelectric Project APE.¹

¹ A larger scale mapbook of the APE is provided in an attachment to the CR-02 Cultural Resources Survey Study Plan.

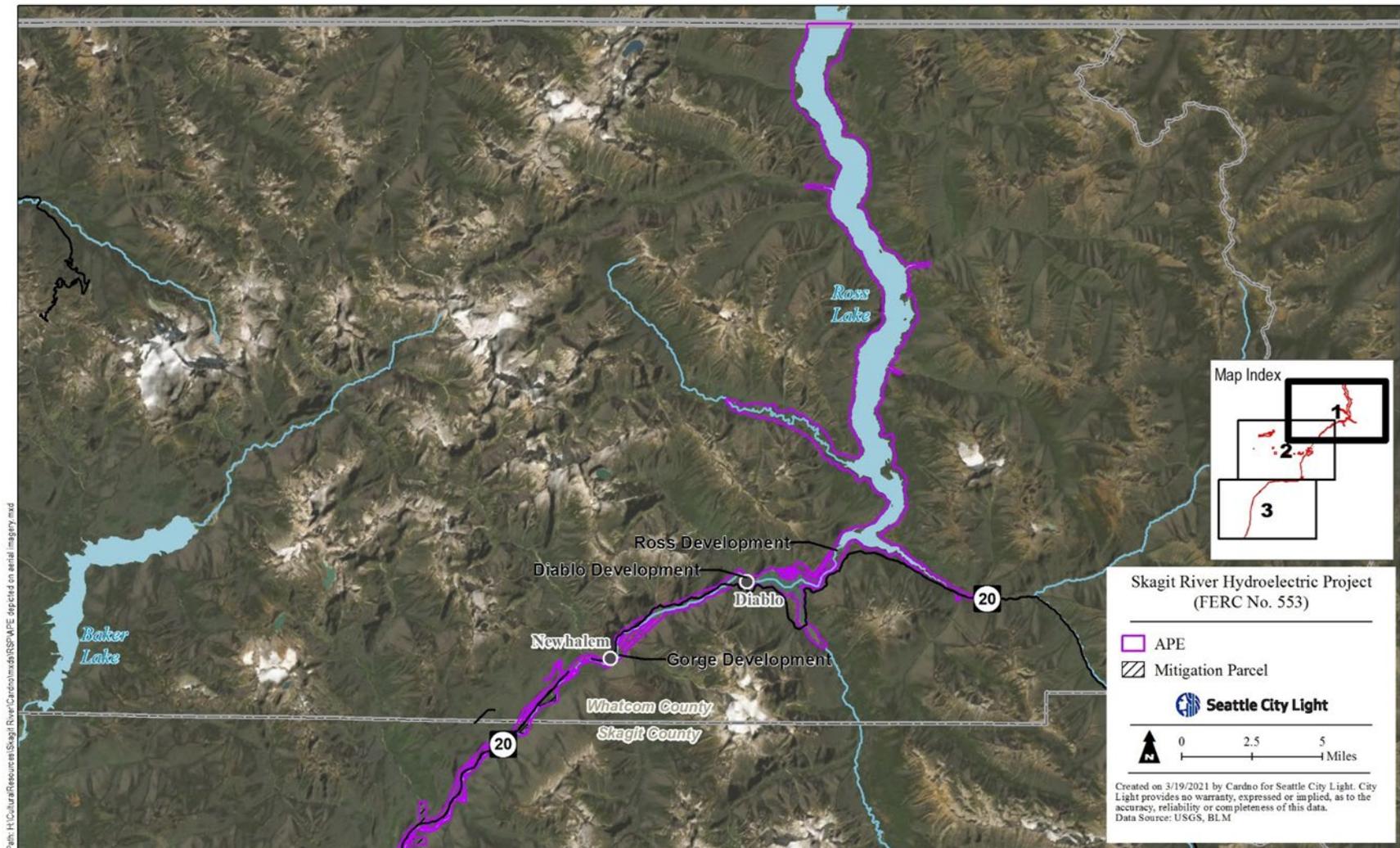


Figure 1.1-2. Skagit River Hydroelectric Project APE depicted on aerial imagery (page 1 of 3).

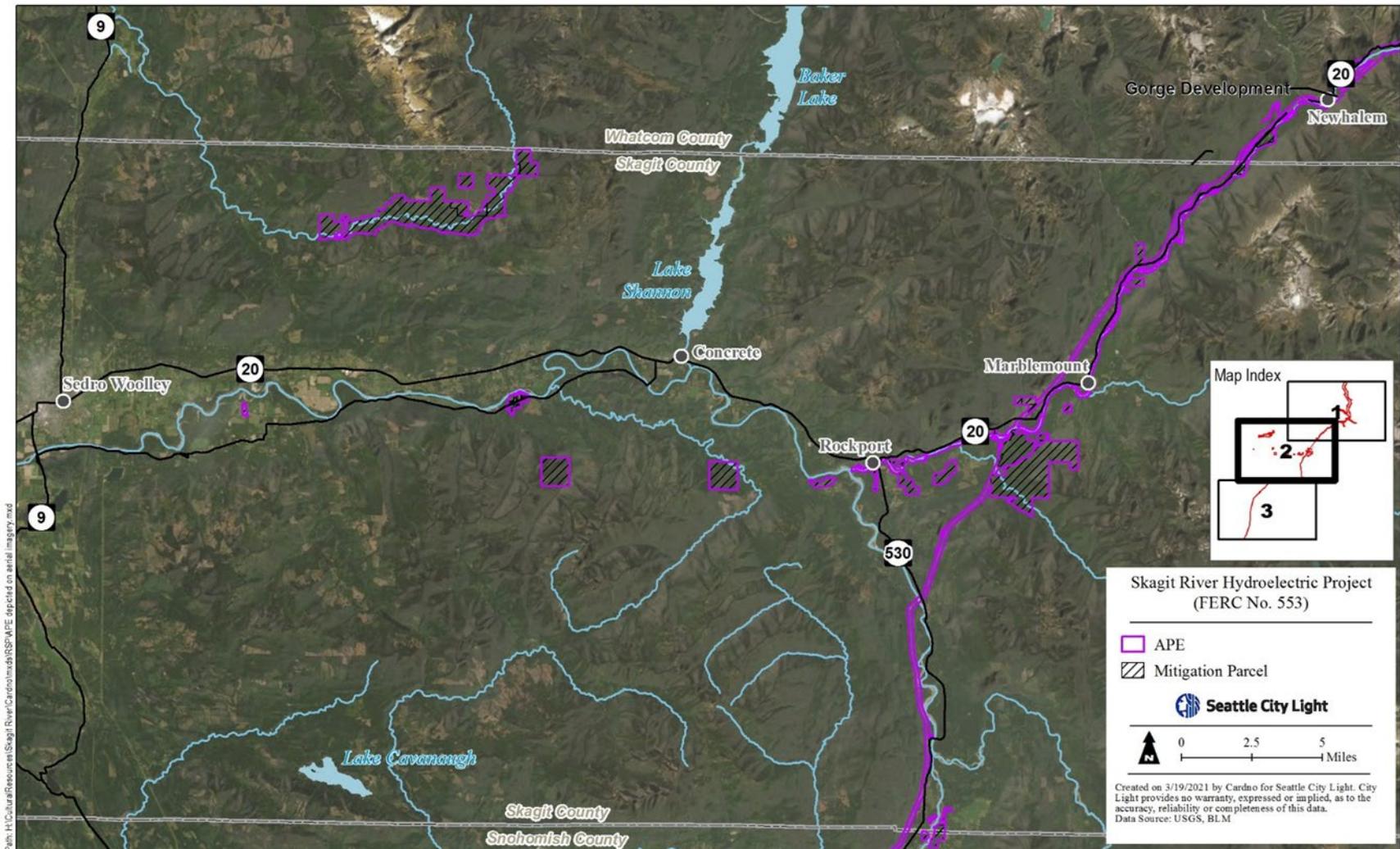


Figure 1.1-2. Skagit River Hydroelectric Project APE depicted on aerial imagery (page 2 of 3).

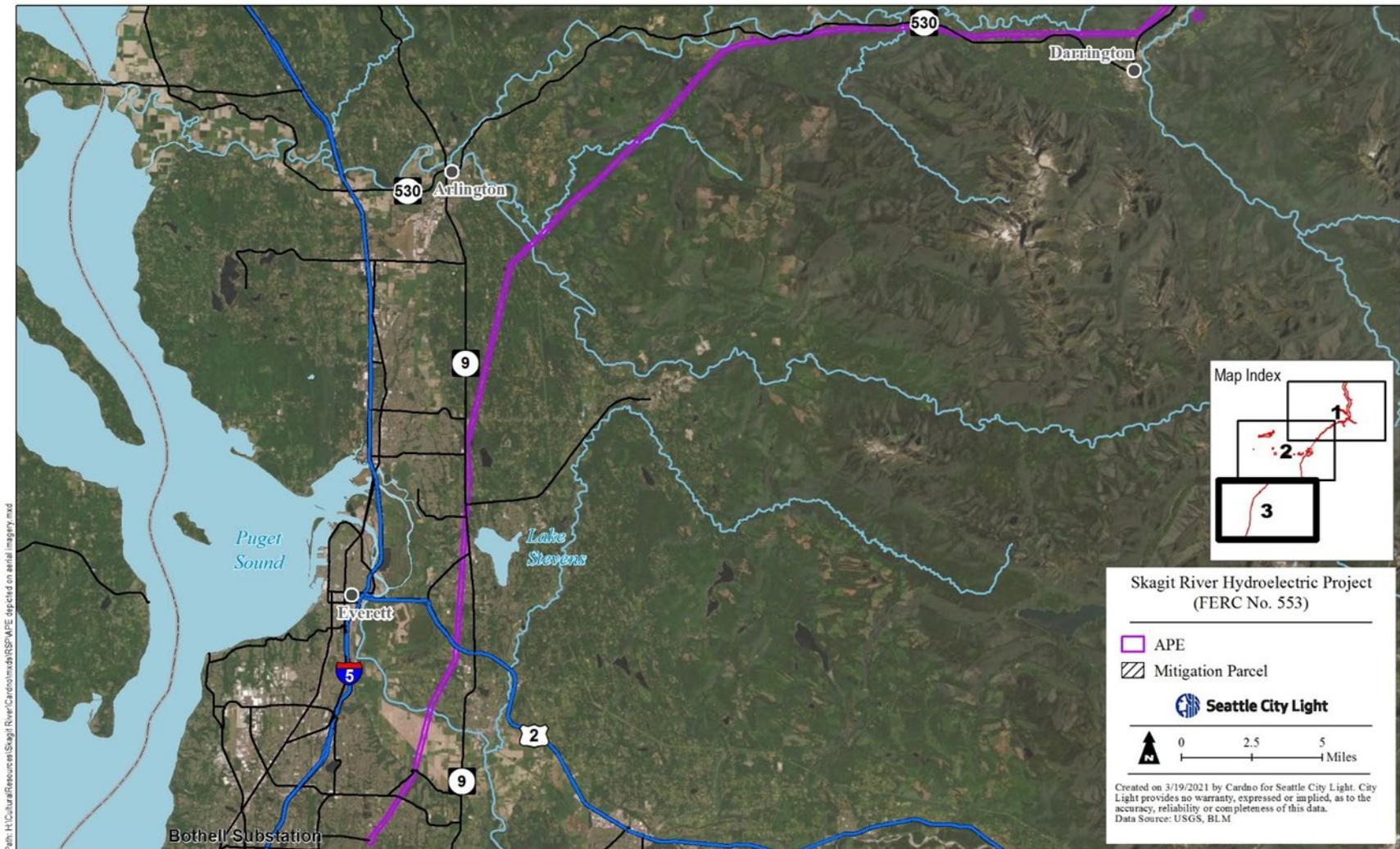


Figure 1.1-2. Skagit River Hydroelectric Project APE depicted on aerial imagery (page 3 of 3).

2.0 GOALS AND OBJECTIVES

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and includes procedures for the “identification...and evaluation of historic properties” (36 CFR § 800.4). The goal of the study is to assess the potential effects of the Project’s operations and maintenance (O&M) on cultural resources within the APE that are included in or eligible for listing in the NRHP. The primary objective of the study is to provide sufficient information to assist FERC in compliance with Section 106 of the NHPA and other cultural resources regulations and executive orders by identifying archaeological and historic built environment resources that qualify as historic properties in the study area and assessing potential Project effects to such properties. The results of the study will also be used to develop a Historic Properties Management Plan (HPMP), which will ensure that all cultural resources identified within the APE will be appropriately considered and managed during the term of the new FERC license.

3.0 BACKGROUND RESEARCH AND QUESTIONS

This section includes a summary of existing information and summarizes the pertinent research questions for the study area.

3.1 Background and Existing Information

Initial background research was conducted at the Washington Information System for Architectural and Archaeological Records Data (WISAARD) database, managed by the Department of Archaeology and Historic Preservation (DAHP), as well as City Light’s files and records and other online repositories for the development of the Pre-Application Document (PAD) (City Light 2020a). The research resulted in the identification of known historic and archaeological resources within the Project Boundary, Gorge bypass reach, and fish and wildlife mitigation lands (see Table 3.1-1).

Table 3.1-1. Summary of cultural resources within the Project vicinity and one-mile Study Area (from PAD Table 4.10-1).

Resource Type	Within One-mile Study Area (NRHP Eligibility Status)	Within Project Vicinity (NRHP Eligibility Status)	Total
Archaeological Sites	85 (2 eligible, 7 not eligible, 76 unevaluated)	190 (16 eligible as contributing to district, 174 unevaluated)	275
Historic Built-Environment Resources	133 (4 eligible, 81 not eligible, 48 unevaluated)	30 (3 eligible [2 contributing to district], 23 not eligible, 4 have been demolished)	163
Archaeological District	0	1	1
Listed Historic Properties/District	18	5 (includes 1 district)	23
Totals	236	226	462

Additional background and existing information on the APE will be developed as part of the Cultural Resources Data Synthesis, which is proposed to occur in 2020 and 2021. This detailed review of all existing cultural resources data for the Project Boundary, Gorge bypass reach, and fish and wildlife mitigation lands, and a 1-mile literature review buffer beyond the APE, will inform the cultural resources survey of the APE.

City Light understands and supports individual Indian tribes’ and First Nations’ concerns that visual and acoustic effects from the Project may occur outside the APE. This study builds upon the results of the Cultural Resources Data Synthesis. Information from the 1-mile literature review buffer will provide context for cultural resources associations in the surrounding landscape and will help gauge the potential for Project effects, including visual or acoustic effects, beyond the APE. Archaeological resources may be associated with properties with traditional religious and cultural significance. Properties with this type of significance will be inventoried under the Inventory of Historic Properties with Traditional Cultural Significance.

The study plan for the Cultural Resources Data Synthesis was provided in the PAD and was updated for the Proposed Study Plan (PSP) (City Light 2020b) and Revised Study Plan (RSP) (City Light 2021). As part of the current license, City Light is updating the National Register form for the Skagit River and Newhalem Creek Hydroelectric Projects (DT00066; NR Listing # 11000016) (Erigeron 1990; Johnson 2010; NRHP 2011). Any new information available from that update will be incorporated into this study as appropriate.

Further information will be obtained, as possible, by interviewing people with relevant cultural resources knowledge of the APE and Project activities that have potential to affect those resources. Information gathering will include reviewing existing documents or studies that are relevant to the proposed study because they overlap with, or are within one mile of, the APE. City Light documents and records will be reviewed as well as any additional documents or records made available through outreach to NPS, Indian tribes, First Nations, USFS, and Washington DNR.

3.2 Research Questions

The study area overlaps a broad geographic area that was important to people throughout the precontact and historic periods, and continues to hold significance to Indian tribes and First Nations today. Research questions focus on identifying where significant locations of human activity occurred that intersect with current or anticipated Project activities. Locations of human activity are expressed as tangible archaeological evidence or other tangible clues of traditional cultural practice. The study will also seek to identify which of those Project activities or continuing Project practices have the potential to cause adverse effects on cultural resources that are eligible for or listed in the NRHP.

General types of research questions include:

- Are there specific areas where evidence of precontact and historic use is visible? What types of archaeological evidence might be discovered and what type of human activities could be represented?
- What are common landform types or conditions where archaeological signatures are typically found in the APE? Are there any landforms or conditions where they are typically not found?
- Are there situations or places where archaeological evidence is more likely or less likely to be preserved as tangible evidence? For example, in acidic soil environments, bone, wood, and other plant remains would decompose fairly rapidly whereas in dry spaces like caverns or within burned features (where materials become carbonized), they can preserve for hundreds or thousands of years. Wet environments where items may be capped in anerobic conditions is another example of where decomposition is arrested and preservation can occur.
- Where are specific Project activities or places where project operations are most likely to put archaeological resources at risk? What types of Project activities are most likely to cause effects to historic properties (e.g., excavating, vegetation/tree clearing, changes in reservoir pool levels)? Where are those types of Project activities occurring or anticipated to occur with continued O&M of the Project (e.g., road maintenance, maintenance associated with Project facilities/housing, reservoir operation, maintenance of transmission towers and corridors, etc.)?

- Where are naturally-caused or human-caused activities that do not stem from the Project operations or activities most likely to trigger a change in operation or maintenance of the Project? For example, channel migration or severe erosional conditions could trigger the need to move a transmission line tower. Moving a tower would involve significant ground disturbance and new visual character in a different location along the transmission line.
- What are the logistical considerations for accomplishing the study (e.g., timing and accessibility, season, special equipment needed, times of year where certain areas of the project are accessible/inaccessible)? Are there any techniques or methods most likely to be effective in some areas or for discovery of some types of evidence but not in others? For example, surface survey in heavily vegetated areas is not likely effective for discovery of below ground or above ground precontact evidence but could still be effective for above ground historic evidence that could still be visible.

4.0 METHODOLOGY

The methodology for the study was initially proposed in the CR-02 Cultural Resources Survey Revised Study Plan (the study plan) (City Light 2021). The methodology laid out four steps, targeting specific milestones in the FERC relicensing process. These steps included: (1) develop research design and establish the survey areas with the Cultural Resources Work Group (CRWG) (which consists of the Section 106 consulting parties); (2) conduct cultural resources field survey; (3) perform post-field documentation and analysis; and (4) reporting. This document is the draft research design that is part of the first step in the study plan implementation procedures. This draft research design describes the survey methodology, including identifying the areas to be surveyed.

As outlined below and in compliance with the study plan, the methodology for completing the study includes field survey of the study area, documentation of any previously unrecorded archaeological isolated finds or sites and built environment resources encountered, drafting and finalizing reporting documentation, and curation of any materials collected during the field efforts. The details of this methodology are laid out below.

City Light will work with the CRWG to further develop the draft research design. The following steps will be used to finalize the research design and to refine areas that will be surveyed under the study:

- (1) Review DAHP predictability model, which has been condensed into three probability areas (i.e., high, moderate, low) for this study and are viewable as mapbooks and kmz files;
- (2) Review and overlay existing survey and resource data from DAHP (previous surveys, archaeological sites/isolated finds and built environment) onto maps and kmz files;
- (3) Review relationships between types of landforms and areas or conditions with high incidence of discovery and artifact or archaeological feature preservation;
- (4) Review and overlay the Project facilities, roads, and other areas of operations onto maps and kmz files;
- (5) Identify the highest potential for O&M activities to affect known and unknown cultural resources;
- (6) Refine with detailed geospatial analysis (e.g., slope, large rockfall areas, caches, vertical rock faces, aspect, accessibility and points of access; and soils data and;
- (7) Refine with historic records, maps, CR-01 Cultural Resources Data Synthesis Study results, interviews, etc.

4.1 Field Survey of the Study Area

This section describes the areas within the APE where field survey will occur, along with the methodology that will be implemented during field survey efforts.

4.1.1 Identification of Survey Areas

City Light has reviewed the WISAARD data, which includes the previously recorded cultural resources data and surveys, historic maps, soil data, and the probability model. Additionally, City

Light has reviewed historical literature/documents, ethnographic data, and other information sources, and has consulted with the CRWG to identify locations of specific archaeological concern. Based on these sources, City Light has identified high, moderate, and low probability areas for cultural resources sensitivity as described below. These probability areas were then overlaid with Project facility locations to determine proposed survey locations. Targeted survey areas included those locations with high and moderate probability and those locations where Project facilities are located.

4.1.1.1 Archaeological Resources

As discussed with the CRWG during the 2019 Study Plan Development Process and 2020-2021 meetings and collaboration, archaeological survey areas will be initially delineated by review of existing historic aerial imagery, historic maps, and Light Detection and Ranging (LiDAR) data within the APE. Additional information from the Cultural Resources Data Synthesis, which summarizes known ethnographic and archaeological information, will also be used to identify survey areas. An Archaeological reconnaissance level pedestrian survey will be conducted throughout the Project transmission line corridor. Other areas in the APE will be further refined based on the identification of high, moderate, and low probability areas as described below.

Archaeological Expectations and Tangible Signatures

A broad range of human activities have occurred across the landscape over millennia, but only some of these are discoverable through the archaeological evidence left behind. Archaeological evidence can augment and corroborate Indian tribe and First Nations communities' understandings and can also yield some surprising and fascinating results. Similarly, historic activities may be documented in a written history yet the archaeological evidence can augment that history, or in some cases, reveal untold, unrecorded stories.

In addition to establishing the likely locations where human activity has occurred based upon known and documented archaeological evidence, written history or mapped features, and types of landforms and features where people have been most drawn to for different activities or resources, the types of lasting tangible evidence which could be left behind are also important to consider when preparing to survey in a particular geographic area. In other words, calibrating to the types of evidence one might find based on the known set of artifacts and feature types for the geographic area, helps to build where on the geographic landscape evidence could be found, and where preservation of evidence is most likely to occur.

The types of known archaeological resources within the APE and near the APE include lithic scatters, historic debris scatters, rockshelters, precontact and historic camps, precontact and historic cairns, precontact and historic features, precontact villages, precontact and historic trails, historic structures, historic homesteads, historic logging features, historic hydroelectric features, and precontact and historic burials. Historic built environment resources include farmsteads, single-family residences, bridges, trails, homesteads, houses, ranger stations, cabins, schools, churches, train stations, and general stores. Similar types of archaeological materials are expected during study implementation.

Preservation of archaeological materials is challenging in the soil types present within the APE. However, cultural materials such as stone artifacts are expected. Locations where preservation of

organic materials may occur are in rock shelters or caches, under rock overhangs, and within wet sites and freshwater shell midden matrices. Additionally, certain features may be more visible on the landscape than others, such as house depressions, hearths, and culturally modified trees. It is also expected that places of traditional cultural importance may overlap or incorporate archaeological sites and that the evidence from CR-04 Inventory of Historic Properties with Traditional Cultural Significance may be considered relevant to this study and vice versa.

Identifying Likely Locations for Archaeological Evidence

Examples of likely locations to find precontact archaeological evidence include the following:

- Flat to semi-flat areas 15 percent slope or less (South-facing aspect can also be key) including river and creek terraces, ridges/ridge toes, saddles, base of slope, bluffs, natural lake or spring margins, confluence of rivers/streams, alluvial fans
- Areas of identified human activity based on ethnographic and ethnohistoric records that could leave lasting archaeological evidence (e.g., camp sites, villages, ceremonial places; resource gathering areas, identified fishing locales, stream crossings, travel routes, anthropogenic burning)
- Midslope elevation above river channel migration zone (e.g., potential trail/encampment locales, portage areas)
- Accessible rock faces with smooth surfaces (e.g., for rock art)
- Accessible rock faces or bedrock with exposed chert bands or other rock types desirable for flintknapping
- Rocky slopes near other relatively flat topographic features (e.g., places where food caches might be, places near ridge tops where ceremonial sites or pit burials may be)
- Stands of large trees (potential for culturally-modified trees)
- Rock prominences, knolls (or other easily recognizable features during distance travel)
- Ridge toes or base of slope
- Saddles
- Areas with large boulders or landslides (i.e., potential overhangs, shelters, burials, food caches)
- Areas where soil is exposed and erosion has occurred
- Areas next to rivers where large eddies persist
- High preservation environments which intersect likely locations for human activity

Examples of likely locations to find historic archaeological evidence include the following:

- Flat to semi-flat areas 15 percent slope or less (South-facing aspect can also be key) including river and creek terraces, ridges/ridge toes, saddles, base of slope, bluffs, natural lake or spring margins, confluence of rivers/streams, alluvial fans
- Midslope elevation above river channel migration zone (e.g., potential trail/encampment locales, portage areas)

- Areas with documented homesteads
- Areas with non-native vegetation (cultivars) typically found around homesteads or other historic buildings or features (e.g., lilacs, iris, roses, non-native domestic fruit trees and shrubs).
- Areas of native vegetation with particular cultural importance and discrete growing conditions (i.e., plant communities which are not ubiquitous) can sometimes signal a pre-contact anthropogenic landscape and may be associated with archaeological evidence
- Areas of historic mining claims
- Historically documented areas of human activity (homesteading, mining, timber harvest, work camps, administrative cabins and facilities)
- Accessible rock faces with smooth surfaces (e.g., for rock art)
- Stands of large trees (potential sites for culturally-modified trees)
- Rock prominences knolls
- Ridge toes or base of slope
- Saddles
- Areas where exposed ground and erosion have occurred
- Historic travel routes (i.e., trails, roads, railroads)
- Historically documented stream crossings and ferry landings
- High preservation environments which intersect likely locations for human activity

Identification of High Probability Areas (HPA)

- The HPAs will be identified during the collaborative development of the research design with the CRWG.
- HPAs are defined as those with high potential for containing archaeological resources.

The probability model available on WISAARD, NPS landform mapping, local topography, soils data, data obtained during the literature review (Step 2 below), historic mining claim data, and results of the Cultural Resources Data Synthesis will be used to help establish areas with highest probability for discovery of archaeological evidence, as feasible. Data include quantitative data for the distribution of sites by major landform types in and around Ross Lake (Mierendorf et al. 1998:78–81) which may be applicable to other areas throughout the Project APE.

Completing Survey in HPAs

Completing archaeological resources surveys in HPAs will be prioritized based on three categories: existing Project effects (i.e., where Project O&M activities are known to occur); potential Project effects (i.e., where Project O&M activities may occur); and no current planned activities or no Project effects. Each of these categories are briefly described below. Surveys within these categories are dependent upon ability to access locations due to topography, inundation, or other safety concerns. Those geographic areas that are incurring Project effects will be surveyed. City Light will work with their consultant team and the CRWG to identify areas where Project

activities are known to be occurring that could be affecting historic properties, if any such properties exist in these areas.

(1) Existing Project effects

- HPAs that are being affected or have potential to be affected by Project O&M in the new license term will be surveyed. Areas of high potential for Project effects will be derived from information collected during the current license period and projections for Project operations in the new license term. Information from concurrent relicensing studies that focus on Project effects on other types of resources (e.g., fisheries, wildlife, recreation, plant communities, water, and air quality, and operations modeling) will aid in formulating a basis for setting priorities for cultural resources surveys that match the scope of the Project's O&M. For example, repeated or periodic maintenance or use could cause direct effects related to ground disturbance where there is high potential for archaeological sites. Sedimentation and erosion along reservoir or river shorelines due to wave action or changes in hydrologic flow could directly affect shoreline areas with known or high archaeological potential. Project activities involving ground disturbance could include augmentation of side channel habitat for salmon, vegetation removal, planting, or fencing installations on lands left largely dormant for wildlife.
- Areas of direct effects are those locations where Project O&M cause physical, visual, auditory, and/or atmospheric changes at the same time and place with no intervening cause. Examples include:
 - Ground disturbing work associated with Project O&M.
 - Widening or maintenance outside the footprint of existing study roads – 20-meter (m) (66 feet [ft]) buffer from both shoulders of roads to be widened or maintained.
 - Development of new staging/stockpiling/maintenance yards or expansion beyond the existing footprint – 20 m (66 ft) buffer.
 - Development of new access trails for maintenance work or maintenance outside the existing footprint – 20 m (66 ft) buffer from both shoulders of trail.
 - Replacement or moving transmission towers – survey extent would cover the footprint of the new tower pad plus 20 m (66 ft) buffer, plus staging area and access road as outlined above.
 - Hazardous fuel reduction (i.e., vegetation clearing) – 20 m (66 ft) buffer around location of reduction.
 - O&M work on Project facilities – 10 m (33 ft) buffer.
 - Use/maintenance in existing footprint of study roads – 5 m (16 ft) buffer from both shoulders of roads.
 - Use of existing staging/stockpiling/maintenance yards – 5 m (16 ft) buffer.
 - Maintenance in existing footprint of existing access trails – 5 m (16 ft) buffer from both shoulders of trail.

- Maintenance in existing footprint of transmission line right-of-way (ROW) – 76 m (250 ft) buffer from both sides of outside shoulders.
- (2) Potential Project effects
- HPAs where there is potential for Project-related effects to occur will be surveyed. Potential for Project effects will be informed by O&M, emergency response, and information regarding Project activities gathered from other relicensing studies.
- (3) No current planned activities or no Project effects
- HPAs that are not incurring Project effects will not be prioritized for survey. City Light will survey these as feasible, and management of these areas will be outlined in the HPMP for the new license.
 - Over the course of the new license period, individual undertakings not anticipated during relicensing, would follow the Section 106 process and can be surveyed at the time an undertaking is proposed. This study will focus on HPAs that are incurring or will likely incur Project effects. HPAs that are not incurring Project effects will not be prioritized for survey in this study. City Light will survey these as feasible, which will be outlined in the HPMP for the new license.

Identification of Moderate Probability Areas (MPA)

- Areas with moderate probability for containing cultural resources will be identified through evaluation of source materials (i.e., known archaeological, ethnographic and ethnohistoric data and former survey results, archaeological expectations and types/nature of archaeological evidence most likely to be found given the body of archaeological expectations).
- MPAs will be surveyed where they incur project effects. Areas with moderate probability where there are no current or anticipated project effects would not be surveyed.

Identification of Low Probability Areas (LPA)

- Areas with low probability for containing cultural resources will be identified during the development of the research design.
- LPAs will be pedestrian surveyed where they incur Project effects.
- LPAs where there are no current or anticipated Project effects would not be surveyed.

4.1.1.2 Historic Built Environment Resources

- Historic built environment resources will be identified based on existing records and build dates.
- All historic built environment resources estimated to be 40 years old or older within 20 m (66 ft) of Project O&M will be documented if they have not already been included and updated in the historic district (DT0066) as part of the current license. This includes those historic built environment resources that were not updated as part of the 2020–2021 NRHP nomination form update. Resources managed in the Historic Resources Mitigation and Management Plan (HRMMP) will be included as necessary (City of Seattle 1991).

4.1.2 Cultural Resources Survey Implementation

City Light will acquire necessary archaeological permits and conduct cultural resources surveys in the prioritized areas for both archaeological and historic built environment resources in compliance with the Washington State Standards for Cultural Resources Reporting (DAHP 2020), NPS guidelines, Archaeological Resources Protection Act (ARPA), Organic Act, and Section 106 of the NHPA. The study will be overseen by an archaeologist who meets the Secretary of Interior (SOI) Professional Qualifications Standards for Archaeology and by an architectural historian who meets the SOI Professional Qualifications Standards for Architectural History (36 CFR § 61).

Areas where high potential for historic properties intersects with potential Project O&M activities will be prioritized for survey. Survey areas where there are existing Project effects would be completed first, followed by areas where there are proposed activities with potential to cause reasonably foreseeable Project effects. Logistics, seasonal timing, and safety will be additional considerations for prioritizing timing of surveys in different areas throughout the study period. Representatives of Indian tribes and First Nations will be invited to participate in the cultural resources surveys.

In the State of Washington, an archaeological site is defined as a geographic locality that contains two or more artifacts and/or features of human construction (DAHP 2020). An archaeological site may span multiple time periods and could include multiple components consisting of historic and precontact resources, as well as associated historic built environment resources. An isolated artifact consists of a single item without associated features or deposits (DAHP 2020).

4.1.2.1 Archaeological Resources

The archaeological survey will be undertaken as described below.

Pedestrian Survey

A pedestrian survey will be conducted by archaeologists walking on foot and visually inspecting the ground surface. The pedestrian archaeological survey will be undertaken for safely accessible areas of the HPA and MPA that are prioritized for survey as well as along the entire Project transmission line corridor (including low probability areas) within the study area. Survey will exclude areas that are too steep or too vegetated to safely survey or are inundated, and excluding areas where City Light does not conduct any activities (i.e., areas where the transmission line spans rivers or ravines).

- HPA/MPA survey areas will include unsurveyed lands, as well as previously surveyed lands where the date of survey is older than 10 years.
- Parallel transects will be set at intervals of 20 m or less depending upon survey width, topography, and sensitivity. Irregular transects may be necessary due to steep, uneven terrain and to avoid natural hazards in the survey area.
- Anchor points on transects will be recorded by a hand-held Global Positioning System (GPS) unit that achieves submeter accuracy in the field. For areas where submeter accuracy cannot be achieved using GPS, alternate traditional mapping methods will be used to achieve the greatest accuracy possible.

- Overview photographs will be taken of all survey areas. Surrounding vegetation and ground visibility will be documented and representative examples will be photographed.
- No slopes greater than 30 degrees will be walked but will be visually assessed from above or below the slope as feasible.

Subsurface Survey

A subsurface archaeological survey will be undertaken within HPAs and MPAs that are prioritized for survey as described above and based upon on-the-ground inspection. If a subsurface survey is unable to be completed during the study period, in these targeted areas, further intensive level survey will be provided for in the HPMP.

The subsurface survey will occur after the pedestrian survey in the prioritized areas and will include the following elements:

- HPA/MPA subsurface survey areas will include unsurveyed lands, as well as previously surveyed lands where the date of survey is older than 10 years.
- Subsurface probes using a shovel or auger will be placed within HPAs at the discretion of the Principal Investigator and/or Field Director(s). The shovel probes will be placed in approximate 20 m intervals as possible where sediments are not inundated and in areas that are not too steep. Shovel probe transect intervals may be tightened in areas of higher probability.
- Small diameter soil cores (e.g., an Oakfield soil probe with < 2 cm bit diameter) may be used in some areas to help refine where subsurface probes could yield subsurface archaeological data, by identifying whether buried intact sediments are or are not present.
- Shovel probes will measure approximately 40–50 centimeters in diameter, will be excavated to the maximum extent reasonably possible (generally 1 m), and observations on soil types and stratigraphic changes will be described.
- Some of the shovel probes may be supplemented by auger probes to reach depths not feasible with shovel alone, if possible, and at the discretion of the Principal Investigator and/or Field Director(s). It is expected that shovel and auger probes together may reach a maximum depth of 2 m.
- Shovel probe excavation will be terminated if glacial deposits or impenetrable materials (e.g., cobbles or roots) are encountered.
- All materials excavated in shovel probes will be screened through ¼ inch mesh.
- A sediment profile will be recorded for each of the excavated probes using standard field methods (see Thien 1979). All probes will be photographed.
- The locations of all probes will be recorded on a survey map and with a GPS unit that achieves submeter accuracy in the field.
- No excavations will occur within known archaeological sites as part of the survey following DAHP guidelines (DAHP 2020). Newly identified site boundaries will be delineated by the excavation of shovel probes in all four cardinal directions 20 m from the farthest identified artifacts. If those shovel probes are negative, then additional probes will be excavated at 10 m or 5 m (to be determined by recovery) away from the farthest identified artifacts. If the 20 m

probes are positive for cultural materials, an additional probe will be excavated another 20 m out until a negative probe is identified.

For the Project transmission line corridor in particular, locations suitable for subsequent shovel probing will be identified during the pedestrian survey. A subsurface survey along the transmission line corridor would focus on locations of proposed or anticipated Project-related activities, such as road repairs or anticipated transmission line tower relocations.

Collection and Recordation

No collection will occur as part of the inventory unless authorized by appropriate permits from the NPS, USFS, and/or DAHP. The NPS permit includes limited collection of artifacts that are uncovered during excavation and those that are at risk of being illegally collected.

Any collected artifacts would be curated in accordance with federal and state laws, as applicable (see below).

- All identified artifacts will be recorded and photographed in the field.
- If identified on the ground surface, the artifact(s) will be left on the ground surface unless collection of an artifact type discovered is directed through the archaeological permit stipulations and authorized by the permitting agency.
- If diagnostic artifacts are identified in a shovel probe, the artifact(s) will be bagged, tagged, and collected in accordance with the archaeological permit stipulations and authorized by the permitting agency.
- Non-diagnostic artifacts, if encountered, will be analyzed in the field and reburied in the respective shovel probe.

All archaeological resources estimated to be 40 years old or older within the survey areas will be documented during pedestrian and subsurface survey. Previously recorded archaeological resources will be revisited during the pedestrian survey.

Modern recreation trails and roads in and adjacent to archaeological resources will also be noted for subsequent assessment of effects. The presence of modern recreation trails and roads have the potential to increase risk of damage to archaeological resources due to accessibility, frequent use, maintenance, or other Project-related effects.

Newly observed archaeological resources will be recorded on State of Washington Site/Isolate Inventory Forms. Site/Isolated Inventory Forms will be updated for all revisited archaeological resources. Updated documentation will include recordation of all newly identified cultural materials and features, reporting of any materials or features that are no longer visible or present, resource condition, and integrity.

4.1.2.2 Historic Built Environment Resources

The historic built environment resources including buildings, structures, objects, historic districts and cultural landscapes will be surveyed at the reconnaissance level as follows:

- Historic built environment resources will be identified based on existing records and build dates.
- All historic built environment resources estimated to be 40 years old or older within the APE will be documented. Resources managed in the HRMMP will be included as necessary (City of Seattle 1991). Many of the historic built environment resources have already been documented and evaluated for the NRHP. Additionally, City Light is currently working on historic built environment documentation and evaluation efforts related to the current license HRMMP. As such, this study will not duplicate this previous or ongoing work, but instead will summarize the findings of this previous/ongoing work in order to meet the goals of this study.
- The survey will include an analysis of the physical characteristics of the historic built environment resource's exterior, including an architectural description of those characteristics, including but not limited to:
 - a. Building plan, size, and layout;
 - b. Foundation;
 - c. Form type;
 - d. Exterior cladding;
 - e. Roof type and material;
 - f. Structural system;
 - g. Windows and entrances; and
 - h. Other pertinent physical characteristics, features, and materials.
- Each resource will be photographed and address/location recorded on a map and with a hand-held GPS unit that achieves submeter accuracy in the field. For areas where submeter accuracy cannot be achieved using GPS, alternate traditional mapping methods will be used to achieve the greatest accuracy possible.
- Physical descriptions will be supported by detailed reviews of existing historic photographs and maps, ownership history, and historic use.

4.2 Post-field Documentation and Analysis

Post-field documentation will consist of completing archaeological site forms, historic property inventory (HPI) forms, data analysis, maps, and developing cultural and historic contexts for identified archaeological and historic built environment resources.

4.2.1 Evaluating NRHP Eligibility

Recommendations of NRHP eligibility will be developed based on the contexts, background information, integrity, and field data, as feasible. Resources listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, prehistory, architecture, archaeology, engineering, and culture and that possess integrity of location, design, setting, material, workmanship, feeling, and association.

The NRHP is maintained by the National Park Service (NPS) on behalf of the SOI. The DAHP administers the statewide NRHP program under the direction of the Washington SHPO, located in

Olympia, Washington. The NPS has developed NRHP Criteria for Evaluation (36 CFR § 60.4) to guide the evaluation of cultural resources that may be either listed in or eligible for the NRHP. Section 106 requires the determination of eligibility for the NRHP as a tool for identifying significant historic properties. If a property is determined eligible for the NRHP under the Section 106 process, it does not automatically result in the listing of the property in the NRHP. As described in the NPS's National Register Bulletin (NRB) 15 "How to Apply the National Register Criteria for Evaluation," the four criteria used to determine eligibility are that the property (NPS 1997):

- Criterion A: Is associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: Is associated with the lives of persons significant in our past; or
- Criterion C: Embodies the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: Has yielded, or may be likely to yield, information important in prehistory or history.

NRB 15, "How to Apply the National Register Criteria for Evaluation" and NRB 36, "Guidelines for Evaluating and Registering Archaeological Resources," provide guidance on evaluating resources for listing in the NRHP (NPS 1997, 2000). For a property to be eligible under Criteria A, the property must be associated with an event, a series of events, or a trend important in the defined historic context of the property. The event or trends must clearly be important within the associated context, which can mark an important moment in American prehistory or history or a pattern of events or a historic trend that made a significant contribution to the development of a community, a state, or the nation (NPS 1997:12). To be considered for listing under Criterion B, a property must be associated with individuals whose specific contributions to history can be identified and documented. Such persons "significant in our past" are those individuals whose activities are demonstrably important within a local, state, or national historic context (NPS 1997:14). Criterion C applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork (NPS 1997:17). Under Criterion C, a property must meet at least one of the requirements listed above, and described as follows. The first requirement, that properties "embody the distinctive characteristics of a type, period, or method of construction," refers to the way in which a property was conceived, designed, or fabricated by a people or culture in past periods of history (NPS 1997:17). "The work of a master" refers to the technical or aesthetic achievements of craftsman or architect (NPS 1997:17). "High artistic values" relates to the expression of aesthetic ideals or preferences and applies to aesthetic achievement (NPS 1997:17). The last requirement under Criterion C, "resources that represent a significant and distinguishable entity whose components may lack individual distinction" refers to districts defined under Criterion C (NPS 1997:17). Lastly, to be considered for listing under Criterion D, a property must have the potential to answer, in whole or in part, research questions that contribute to our understanding of human history (NPS 1997:21). Importantly, this criterion necessitates that those questions are answered through the actual physical materials of cultural resources (NPS 1997:21). Archaeological sites are primarily assessed under Criterion D though may qualify under the other criteria.

In addition to these criteria, for a property to be determined eligible for the NRHP, it must continue to possess sufficient physical characteristics that reflect its historical significance, defined as “integrity” (NPS 1997). Integrity is the ability of a property to convey its significance whereby historic properties either retain integrity or they do not. The NRHP criteria recognize seven aspects or qualities that, in various combinations, define integrity. There are seven aspects of integrity, as listed below:

- Location
- Design
- Setting
- Materials
- Workmanship
- Feeling
- Association

To retain historic integrity, a property will always possess several, and usually most, of these aspects. The significance of a property must be established before historic integrity can be assessed. As outlined in NRB 15 (NPS 1997), the steps in assessing integrity are:

- Define the essential physical features that must be present for a property to represent its significance;
- Determine whether the essential physical features are visible enough to convey their significance;
- Determine whether the property needs to be compared with similar properties; and
- Determine, based on the significance and essential physical features, which aspects of integrity are particularly vital to the property being nominated and if they are present. Ultimately, the question of integrity is answered by whether or not the property retains the identity for which it is significant.

Amendments to Section 106 of the NHPA specify that properties of religious and cultural significance (including TCPs) may be determined to be eligible for inclusion in the NRHP. In carrying out their responsibilities under Section 106, federal agencies are required to consult with any Indian tribe that attaches religious or cultural significance to any such properties (NRB 38 [Parker and King 1998]). These types of properties will be studied under CR-04 Inventory of Historic Properties with Traditional Cultural Significance.

If recommendations of NRHP eligibility require additional fieldwork, the resource(s) would be considered unevaluated. If Project effects are anticipated on any unevaluated resources, those resources will either be evaluated for NRHP eligibility or avoided by the project until such evaluations are completed.

4.2.2 Identifying and Assessing Effects on NRHP Eligible Properties

Potential effects that may be associated with this undertaking include any Project-related effects associated with the day-to-day O&M of the Project and any new activity proposed under the new license. Types of effects may include direct (i.e., the result of Project activities at the same time and place with no intervening cause), indirect (i.e., the result of Project activities later in time or further removed in distance but reasonably foreseeable), and/or cumulative (e.g., caused by a Project activity in combination with other non-Project past, present, and foreseeable future activities) (ACHP 2019). City Light will document existing conditions, ongoing effects, and potential effects on historic properties.

Section 106 of the NHPA requires federal agencies to consider direct, indirect, and cumulative adverse effects of their undertakings on historic properties. In this case, the undertaking is FERC's issuance of a new license for the Project. As required under 36 CFR 800.5, City Light will identify and assess, in consultation with Section 106 consulting parties, any adverse effects on historic properties or potential historic properties resulting from the Project. 36 CFR § 800.5(a)(1) states that:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

City Light will document existing conditions, ongoing effects, and potential effects on historic properties. If evaluations of Project effects are not feasible, the resource will be avoided until such evaluations are completed.

4.3 Prepare Reports

The results of the survey and post-field documentation and analysis will be presented in two study reports that comply with Section 106 of the NHPA, NPS, and DAHP reporting guidelines. Archaeological resources data will be reported upon separately from historic built environment resources due to confidentiality for sensitive archaeological resources. A description of any archeological features or artifacts unearthed during the course of this study, including the depth and characteristics of the find, will be included in a confidential document. Due to confidentiality requirements for archaeological site locations, distribution of the reports will be restricted as per RCW 42.56.300. The archaeological study report(s) will be filed with FERC as confidential.

NRHP eligibility recommendations and initial assessments of Project effects on historic properties will be included in the reports, as feasible. The initial assessment of Project effects will include discussion of ways to avoid or minimize adverse effects on NRHP-eligible or listed cultural resources (i.e., historic properties), which may include treatment, such as site protection, fencing, monitoring, etc. The site and HPI forms will be included as appendices in the reports, as appropriate. The findings in the reports will be used to inform the development of the HPMP for

the new license. If evaluations of NRHP eligibility and Project effects are not feasible, the reports will provide recommendations regarding ways to accomplish those evaluations. Unevaluated resources will be treated as if they are historic properties until or unless they are formally evaluated for the NRHP.

The Section 106 consulting parties will have the opportunity to review and comment on the draft reports, including recommendations of NRHP eligibility and Project effects.

4.4 Curation

All collected artifacts from within the North Cascades National Park will be prepared for curation at the NPS curation facility in Marblemount. Curation will comply with the federal standards as presented in 36 CFR Part 79, Curation of Federally-Owned and Administered Archaeological Collections. Cataloged specimens will be housed in archival clear, self-sealing polyethylene bags with a minimum thickness of 4 milliliters. Every cataloged item will be accompanied by a bag label listing the bag contents and provenience information. The bag labels will be printed on archival acid-free and lignin-free paper. All associated documentation related to the field effort and final report will be submitted with the specimen collection for permanent storage at the repository.

If artifacts are collected from non-NPS lands (e.g., private, state, USFS), curation will occur as outlined in those specific collection permits. Curation will comply with the federal standards (36 CFR Part 79), as well as any standards applicable to the specific permit.

5.0 EXPECTED RESULTS

City Light anticipates that a substantial body of precontact and historic archaeological resources and historic built-environment resources will be recorded as part of this study. Much of the APE has not been previously surveyed so these results will help to fill data gaps within this geographic region and help to inform development of a HPMP for the new license.

6.0 REFERENCES

- Advisory Council on Historic Preservation (ACHP). 2019. Memorandum: Recent court decision regarding the meaning of “direct” in Sections 106 and 110(f) of the National Historic Preservation Act. [Online] URL: http://shpo.nv.gov/uploads/documents/OGC_memo_to_ACHP_staff_re_meaning_of_direct_6-7-19.pdf. Accessed November 19, 2020.
- City of Seattle. 1991. Skagit River Hydroelectric Project FERC No. 553 Historic Resources Mitigation and Management Plan. Prepared by City of Seattle, City Light Department. On file, City Light Department, Seattle.
- Department of Archaeology and Historic Preservation (DAHP). 2020. Washington State Standards for Cultural Resources Reporting. Updated January 2, 2020. [Online] URL: <https://dahp.wa.gov/sites/default/files/CR%20Update%20Dec%202019%20.pdf>. Accessed January 2, 2020.
- Erigero, Patricia C. 1990. Skagit River and Newhalem Creek Hydroelectric Projects: National Register of Historic Places Registration Form. Prepared by National Park Service, Seattle. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- Johnson, Larry E. 2010. National Register of Historic Places Nomination Form: Skagit River and Newhalem Creek Hydroelectric Projects (DT0066). Prepared by The Johnson Partnership, Seattle. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- Mierendorf, Robert R., David J. Harry, and Greg M. Sullivan. 1998. *An Archaeological Site Survey and Evaluation in the Upper Skagit River Valley, Whatcom County, Washington*. Report submitted to City of Seattle, City Light Department. Report prepared by the National Park Service, North Cascades National Park Service Complex, Sedro-Woolley, Washington.
- National Park Service (NPS). 1997. National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation. Published by the History and Education Department of the NPS, U.S. Department of the Interior.
- _____. 2000. National Register Bulletin 36, Guidelines for Evaluating and Registering Archaeological Resources. Published by the History and Education Department of the NPS, U.S. Department of the Interior.
- National Register of Historic Places (NRHP). 2011. Skagit River and Newhalem Creek Hydroelectric Projects. Whatcom County, WA. National Register #96000416 (1996) and #11000016 (2011).
- Parker, Patricia, and Thomas F. King. 1998. Guidelines for Evaluating and Documenting Traditional Cultural Properties. National Register Bulletin 38. USDOJ, National Park Service, Interagency Resources Division, Washington, D.C.
- Seattle City Light (City Light). 2020a. Pre-Application Document (PAD) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2020.
- _____. 2020b. Proposed Study Plan (PSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. December 2020.

_____. 2021. Revised Study Plan (RSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2021.

Thien, S.J. 1979. A Flow Diagram for Teaching Texture by Feel Analysis. *Journal of Agronomic Education*. 8:54-55.

**CR-03 GORGE BYPASS REACH
CULTURAL RESOURCES SURVEY
REVISED STUDY PLAN**

**SKAGIT RIVER HYDROELECTRIC PROJECT
FERC NO. 553**

Seattle City Light

**April 2021
RSP**

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List of Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
APE	area of potential effects
BIA	Bureau of Indian Affairs
CFR	Code of Federal Regulations
City Light	Seattle City Light
CRWG	Cultural Resources Work Group
DAHP	Department of Archaeology and Historic Preservation
DNR	Department of Natural Resources (Washington State)
ELC	Environmental Learning Center
EO	executive order
FERC	Federal Energy Regulatory Commission
HPA	high probability area
HPMP	Historic Properties Management Plan
HRMMP	(Skagit) Historic Resources Mitigation and Management Plan
ISR	Initial Study Report
LP	licensing participant
m	meter
NAGPRA	Native American Graves Protection and Repatriation Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Properties
O&M	operation and maintenance
OHWM	ordinary high water mark
PAD	Pre-Application Document
PME	protection, mitigation, and enhancement
PRM	Project River Mile
Project	Skagit River Hydroelectric Project
PSP	Proposed Study Plan
PTRCI	properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization
RCW	Revised Code of Washington

- RLNRA.....Ross Lake National Recreation Area
- RMriver mile
- RSPRevised Study Plan
- RWGResource Work Group
- SHPOState Historic Preservation Officer
- SOISecretary of the Interior
- TCPtraditional cultural property
- U.S.C.....United States Code
- USFS.....U.S. Forest Service
- USGSU.S. Geological Survey

1.0 INTRODUCTION

1.1 General Description of the Project

The Skagit River Hydroelectric Project (Project), licensed to The City of Seattle, Washington, and operated through its publicly-owned electric power utility Seattle City Light (City Light), is located in northern Washington State and consists of three power generating developments on the Skagit River – Ross, Diablo, and Gorge – and associated lands and facilities. The Project generating facilities are in the Cascade Mountains of the upper Skagit River watershed, between Project River Miles (PRM) 94.7 and 127.9 (U.S. Geological Survey [USGS] RMs 94.2 and 127).¹ Power from the Project is transmitted via two 230-kilovolt powerlines that span over 100 miles and end just north of Seattle at the Bothell Substation. The Project also includes two City Light-owned towns, an Environmental Learning Center (ELC), several recreation facilities, and several parcels of fish and wildlife mitigation lands.

Project generating facilities are all located in Whatcom County, although Ross Lake, the most upstream reservoir, crosses the U.S.-Canada border and extends for about one mile into British Columbia at normal maximum water surface elevation. Gorge Powerhouse, the most downstream facility, is approximately 120 miles northeast of Seattle and 60 miles east of Sedro-Woolley, the nearest large town. The closest town is Newhalem, which is part of the Project and just downstream of Gorge Powerhouse. The primary transmission lines cross Whatcom, Skagit, and Snohomish counties; the fish and wildlife mitigation lands are in the same counties.

The Project Boundary is extensive, spanning over 133 miles from the Canadian border to the Bothell Substation just north of Seattle, Washington. In addition, there are “islands” of fish and wildlife mitigation lands and recreation facilities within the Skagit, Sauk, and South Fork Nooksack watersheds that are also within the Project Boundary. Project generating facilities are entirely within the Ross Lake National Recreation Area (RLNRA), which is administered by the National Park Service (NPS) as part of the North Cascades National Park Complex. The RLNRA was established in 1968 in the enabling legislation for North Cascades National Park to provide for the “public outdoor recreation use and enjoyment of portions of the Skagit River and Ross, Diablo, and Gorge lakes.” The legislation maintains the Federal Energy Regulatory Commission’s (FERC) jurisdiction “in the lands and waters within the Skagit River Hydroelectric Project,” as well as hydrologic monitoring stations necessary for the proper operation of the Project (16 United States Code [U.S.C.] § 90d-4; Public Law 90-544. Sec. 505 dated October 2, 1968, as amended by Public Law 100-668. Sec. 202 dated November 16, 1988).

1.2 Relicensing Process

The current FERC license for the Project expires on April 30, 2025, and City Light will apply for a new license no later than April 30, 2023. City Light formally initiated the relicensing process by filing a Notice of Intent and Pre-Application Document (PAD) with FERC on April 27, 2020 (City Light 2020a). The PAD includes descriptions of the Project facilities, operations, license

¹ City Light has developed a standard Project centerline and river mile system to be used throughout the relicensing process, including the study program, to replace the outdated USGS RM system. Given the long-standing use of the USGS RM system, both it and the Project River Mile (PRM) system are provided throughout this document. For further details see Section 7.0 of the main body RSP.

requirements, and Project lands as well as a summary of the extensive existing information available on Project area resources and early consultation on potential resource issues to be addressed during the relicensing. The PAD also includes an outline of the goals and objectives of this study.

In 2019-2020, City Light convened a series of Resource Work Groups (RWGs) to engage agencies and other licensing participants (LPs) in the Study Plan Development Process. Discussions with LPs continued in early 2021 with a series of topic-based discussions following filing of the Proposed Study Plan (PSP) on December 8, 2020 (City Light 2020b). This study plan reflects discussions during the RWGs and with LPs and study requests and comments submitted by LPs.

1.3 Study Plan Development

Relicensing of the Project by FERC is considered a federal undertaking under Section 106 of the National Historic Preservation Act (NHPA), as amended, and its implementing regulations (36 Code of Federal Regulations [CFR] § 800). Section 106 establishes a process for federal agencies to identify, and to take into account, the effects of their undertakings on historic properties, as defined below:

Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization [PTRCI] and that meet the National Register criteria [36 CFR § 800.16(1)(1)].

City Light's continued operations and maintenance (O&M) of the Project under a new FERC license may affect historic properties. Therefore, City Light is proposing four studies to assist FERC with its Section 106 compliance requirements. These studies consist of:

- (1) CR [cultural resources]-01 Cultural Resources Data Synthesis
- (2) CR-02 Cultural Resources Survey
- (3) CR-03 Gorge Bypass Reach Cultural Resources Survey
- (4) CR-04 Inventory of Historic Properties with Traditional Cultural Significance Study

This study plan, Gorge Bypass Reach Cultural Resources Survey, is proposed in partial fulfillment of Section 106 requirements and is intended to identify historic properties and to assess potential Project-related effects to historic properties within the bypass reach study area.

A study of the Gorge bypass reach was specifically requested during the 2019 Study Plan Development Process (see Issue Form CR06, Bypass Reach Survey) because this area has not been subjected to a comprehensive cultural resources survey. The Gorge bypass reach may be a sensitive area for historic properties. Participants in City Light's 2019 Study Plan Development Process recognized the Gorge bypass reach as a key area with potential for cultural resources and Project effects to intersect, and they requested that a survey occur early for the Gorge bypass reach and in advance of defining the formal area of potential effects (APE) for the overall Skagit River Project.

City Light is working with Section 106 consulting parties on the delineation of the APE as FERC's non-federal representative² for carrying out informal consultation under Section 106 of the NHPA. A survey for archaeological and historic built environment resources within remaining areas of the APE will be addressed in a separate study plan, the Cultural Resources Survey.

On March 13, 2020, City Light released the Gorge Bypass Reach Cultural Resources Survey Draft Study Plan for LP review and comment. On March 19, 2020, the draft study plan was discussed at a Cultural Resources Work Group (CRWG) meeting. City Light reviewed all comments received, and it released a revised version of the draft study plan on April 27, 2020. The revised draft was discussed on May 4, 2020 at a CRWG meeting. City Light reviewed additional comments received, and it released a second revised version of the draft study plan on June 19, 2020. Written comments were received from Nlaka'pamux Nation, NPS, and Upper Skagit Indian Tribe and responded to in an attachment to this study plan. A Status Draft of the study plan was provided to LPs on August 6, 2020.

City Light is filing this study plan with FERC as part of its Revised Study Plan (RSP), an update to the version that was filed with the PSP and incorporating additional consultation with LPs prior to the filing date. No formal study requests related to this study were filed with FERC.

No PSP comments to the study plan were filed with FERC. Modifications made to the study plan since the PSP include the addition of a draft research design as an attachment to the study plan (the details of the study methodology have been moved into the research design).

The results of the Gorge Bypass Reach Cultural Resources Survey are expected to include confidential and/or privileged information exempt from public release. The confidential and privileged information will be protected, in consultation with the Section 106 consulting parties. State and federal laws exempt certain types of cultural resources information from public disclosure (e.g., Revised Code of Washington [RCW] 42.56.300, 16 U.S.C. 470hh(a)).

² On June 26, 2020, FERC issued a *Notice of Intent to File License Application for a New License and Commencing Pre-filing Process* within which FERC designated City Light as its non-federal representative for carrying out informal consultation pursuant to Section 106 (FERC Filing Accession no. 20200626-3024).

2.0 STUDY PLAN ELEMENTS

2.1 Study Goals and Objectives

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and includes procedures for the “identification...and evaluation of historic properties” (36 CFR § 800.4). The goal of this study is to assess the potential effects of the Project’s O&M on cultural resources within the Gorge bypass reach that are included in or eligible for listing in the NRHP. The survey and study report will be developed in consultation with the Section 106 consulting parties.

In the current FERC license period, Section 106 consulting parties include: State Historic Preservation Officer (SHPO), NPS, FERC, Upper Skagit Indian Tribe, Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Nlaka’pamux Nation Tribal Council, and City Light. In addition to these parties, City Light anticipates additional consulting parties may include: Advisory Council on Historic Preservation (ACHP),³ Bureau of Indian Affairs (BIA), U.S. Forest Service (USFS), Washington Department of Natural Resources (DNR), Snohomish County, Stó:lō Nation, Confederated Tribes of the Colville Reservation, Lummi Nation, Muckleshoot Indian Tribe, Nooksack Indian Tribe, Samish Indian Nation, Snoqualmie Indian Tribe, Stillaguamish Tribe of Indians, Suquamish Tribe, Tulalip Tribes of Washington, as well as other potential parties to be identified during Section 106 consultation, which FERC initiated when it issued public notice on June 26, 2020, of City Light’s filing of the PAD and Notice of Intent (NOI).

The primary objective of the study is to provide sufficient information to assist FERC in compliance with Section 106 of the NHPA and other cultural resources regulations and executive orders. Information collected during the survey will be used to identify archaeological and historic built environment resources that qualify as historic properties in the Gorge bypass reach study area and to assess potential Project effects.

The specific objectives of the study are as follows:

- Define the study area in consultation with Section 106 consulting parties. The Gorge bypass reach study area is incorporated in the APE.
- Review and synthesize existing archaeological, historical, and ethnographic data within a 1.0 mile (1.6 km) buffer of the proposed Gorge bypass reach study area to provide cultural context.
- Complete a cultural resources survey of the proposed Gorge bypass reach study area. The survey will include both an archaeological and historic built environment resources survey.
- Identify and record cultural resources within the proposed Gorge bypass reach study area.

³ City Light invited ACHP to participate in the CRWG on March 12, 2021 via email. Mr. John Eddins, Program Analyst for Federal Permitting, Licensing, and Assistance Section, responded via email on March 15, 2021 declining to participate at this time.

- Complete initial evaluation of NRHP eligibility for identified cultural resources, if possible, at this inventory level of effort.⁴
- Preliminarily evaluate the potential effects on NRHP-listed and -eligible cultural resources (e.g., historic properties) from O&M of the Project, if possible, at this inventory level of effort.
- Summarize survey results in regard to potential effects of the Project on cultural resources in the license application.
- Provide recommendations concerning any additional studies that may be needed to evaluate NRHP eligibility of cultural resources identified during the survey.

2.2 Resource Management Goals

This section summarizes City Light's management goals related to cultural resources for this study. The study will provide information for resource agencies and Indian tribes with jurisdiction in the Project vicinity to address their respective goals and objectives for resource management.

City Light's goal, with regard to cultural resources for this study, is to identify NRHP-listed and eligible cultural resources in the study area that are, or have potential to be, affected by the Project. This information will be used when determining ways to avoid, minimize, or mitigate adverse effects on historic properties, as outlined in 36 CFR § 800.6. The findings from this study will be incorporated into a newly created Historic Properties Management Plan (HPMP) for the new license and other appropriate protection, mitigation, and enhancement (PME) measures for the Project. The HPMP would be developed to manage NRHP-listed and -eligible cultural resources within the APE under the new license.

2.3 Background and Existing Information

The Gorge bypass reach has not been systematically inventoried for cultural resources. Background and existing information on the Gorge bypass reach will be developed as part of the Cultural Resources Data Synthesis. Additional information will be obtained by interviewing people with relevant cultural resources knowledge of the Gorge bypass reach study area. Outreach to the NPS, Indian tribes, and First Nations will also be conducted to request existing documents or studies that are relevant to the proposed Gorge bypass reach study area.

Information gathering will include review of prior studies conducted by or for City Light, NPS, and Indian tribes and First Nations, as well as studies completed for other projects that overlap with the proposed Gorge bypass reach study area. Some information will be available from the Cultural Resources Data Synthesis. The Cultural Resources Data Synthesis will provide a detailed review of all existing cultural resources data for the Project Boundary, bypass reach, and fish and wildlife mitigation lands. As part of the current license, City Light is updating the Skagit Historic Resources Mitigation and Management Plan (HRMMP) and the National Register form for the Skagit River and Newhalem Creek Hydroelectric Projects (DT00066; NR Listing # 11000016)

⁴ Some cultural resources may require additional work beyond this level of effort, which may be done at a later time (e.g., some archaeological sites may require test excavations prior to NRHP evaluation and some built environment resources may require extensive archival research prior to NRHP evaluation).

(Erigero 1990; Johnson 2010; NRHP 2011). Any new information available from that update will be incorporated to this study as appropriate.

2.4 Project Operations and Effects on Resources

Potential effects that may be associated with this undertaking include any Project-related effects associated with the day-to-day O&M of the Project and any new activity proposed under the new license. Types of effects may include direct (i.e., the result of Project activities at the same time and place with no intervening cause), indirect (i.e., the result of Project activities later in time or further removed in distance but reasonably foreseeable), and/or cumulative (e.g., caused by a Project activity in combination with other non-Project past, present, and foreseeable future activities) effects (ACHP 2019).

Section 106 of the NHPA requires federal agencies to consider direct, indirect, and cumulative adverse effects of their undertakings on historic properties. In this case, the undertaking is FERC's issuance of a new license for the Project. 36 CFR § 800.5(a)(1) states:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

Following pre-license studies and discussions leading up to the 1991 FERC No. 553 settlement agreements (City Light 1991a, b, c, d, 1993, 1994, and 1996), only a portion of the Project was assessed for its effects to cultural resources. As a result, additional information is needed to understand Project effects, if any, on historic properties within the Gorge bypass reach study area.

2.5 Study Area

The proposed Gorge bypass reach study area is in a portion of the APE.⁵ The Gorge bypass reach study area is within Sections 14, 21, 39, 40, and 45 of Township 37 North, Range 12 East of the Willamette Meridian (Figure 2.5-1). The proposed study area includes the Gorge bypass reach from the Gorge Dam to the Gorge Powerhouse, in addition to the following areas:

- Skagit River: historic ordinary high water mark (OHWM);
- Penstock underground tunnel;
- Transmission line between the Gorge Dam and the Gorge Powerhouse;
- Stabilization lines for transmission lines between the Gorge Dam and the Gorge Powerhouse;
- Access trails for transmission tower and distribution pole maintenance between the Gorge Dam

⁵ A larger scale mapbook of the APE is provided in an attachment to CR-02 Cultural Resources Survey Study Plan.

and the Gorge Powerhouse;

- Distribution line from Gorge Powerhouse to Gorge Dam between the Gorge Dam and the Gorge Powerhouse;
- Gorge Dam;
- Gorge Dam access road and bridge; and
- Gorge Dam south bank access roads.

A buffer of 250 feet (76 meters [m]) has been mapped around these areas (see Figure 2.5-2) as the proposed Gorge bypass reach study area. Survey may not be completed at every location for both archaeological and historic built environment resources depending upon accessibility and updates to the National Register form for the Skagit River and Newhalem Creek Hydroelectric Projects (Erigeron 1990; Johnson 2010; NRHP 2011). Areas designated as high probability areas (HPA) and locations for survey will be finalized with the Section 106 consulting parties.

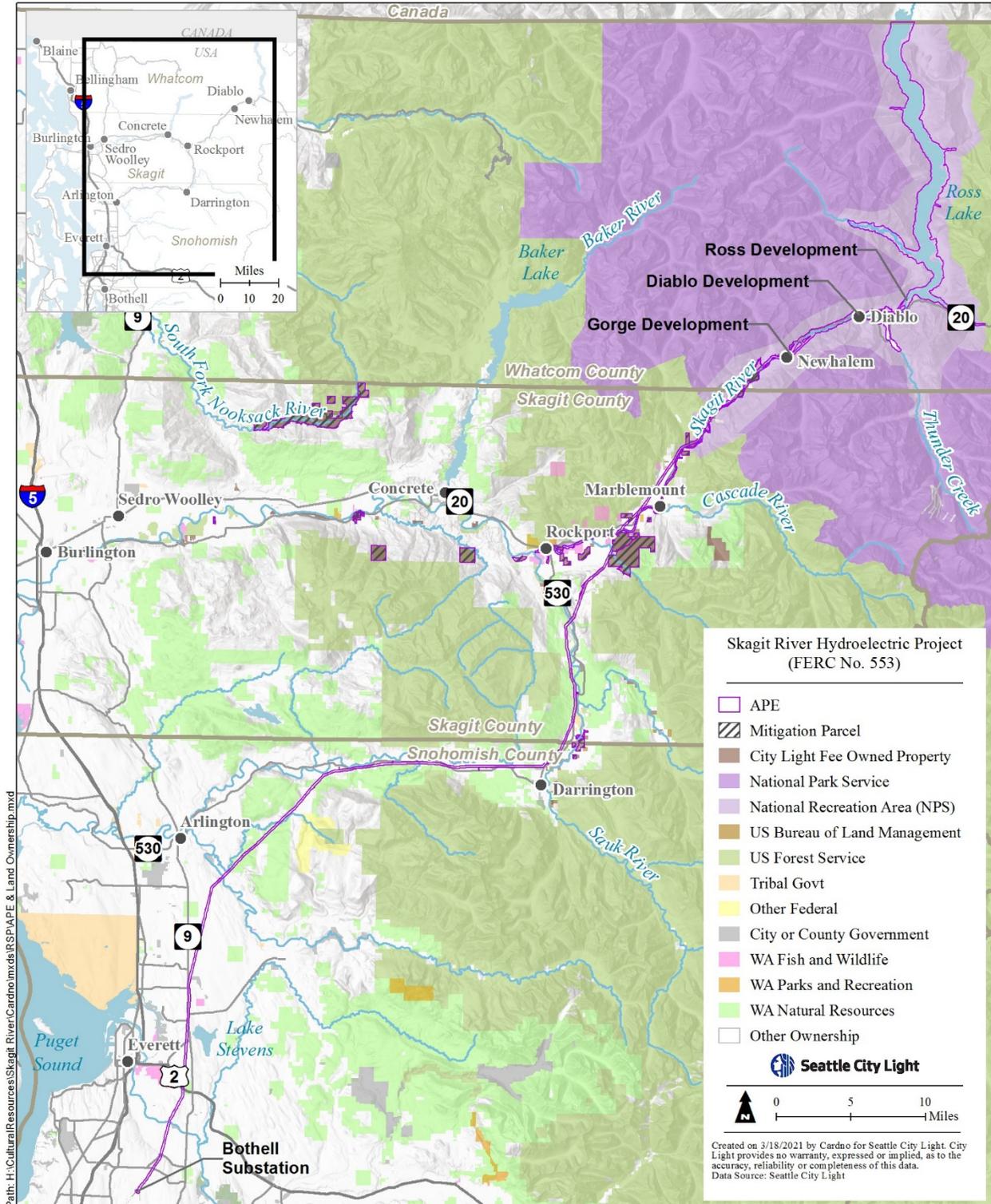


Figure 2.5-1. Location map of the Skagit River Hydroelectric Project APE.⁵

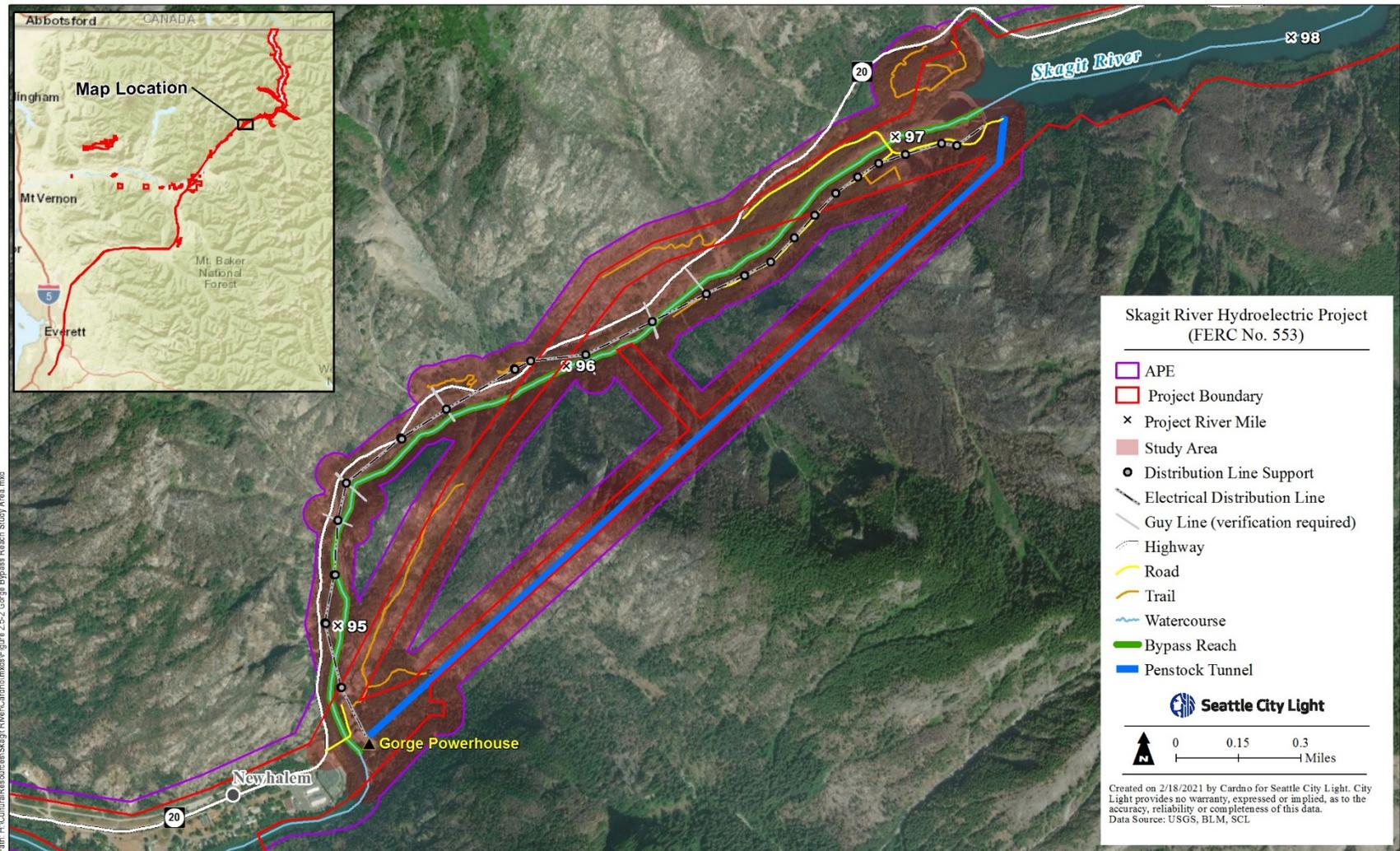


Figure 2.5-2. Gorge bypass reach study area.

2.6 Methodology

The Gorge Bypass Reach Cultural Resources Survey includes developing a research design, establishing the Gorge bypass reach study area, reviewing existing literature and interview data, one season of fieldwork to inventory cultural resources, post-field documentation and analysis, and reporting. Briefly, the sequence of steps is outlined below:

- Step 1 Review Gorge bypass reach study area
- Step 2 Develop research design
- Step 3 Field work
- Step 4 Post-field documentation and analysis
- Step 5 Prepare reports

A draft research design for the Gorge Bypass Reach Cultural Resources Survey is attached to this study plan for review by the CRWG. This research design will be further developed in collaboration with the CRWG. The draft research design outlines the development of the study methodology and includes detail on the steps outlined above.

2.7 Consistency with Generally Accepted Scientific Practice

The methods to implement the study, described in the draft research design attached to this study plan, were prepared by Professional Archaeologists who meet the Secretary of the Interior's (SOI) Professional Qualifications Standards for Archaeology, in collaboration with a professional Architectural Historian who meets the SOI Professional Qualifications Standards for History and Architectural History (36 CFR § 61). Field methods and reporting are consistent with the Department of Archaeology and Historic Preservation's (DAHP) Washington State Standards for Cultural Resources Reporting (DAHP 2020), Section 106 of the NHPA, and NPS and FERC guidelines for cultural resources reporting. The study will follow the same standards and will be overseen by an archaeologist who meets the SOI Professional Qualifications Standards for Archaeology and by an architectural historian who meets the SOI Professional Qualifications Standards for Architectural History (36 CFR § 61).

2.8 Schedule

The Gorge Bypass Reach Cultural Resources Survey includes a review of the Gorge bypass reach study area, review of existing literature and interview data, one season of fieldwork to inventory cultural resources, post-field documentation and analysis, and reporting.

- Step 1 – Review Gorge Bypass Reach Study Area
 - January – April 2021
- Step 2 – Develop Research Design
 - March – May 2021
- Step 3 – Field Work
 - June – July 2021

- Step 4 – Post-field Documentation and Analysis
 - August – December 2021
- Step 5 – Prepare Report
 - Final Study Report (Initial Study Report [ISR]) – March 2022

2.9 Level of Effort and Cost

The initial estimate for implementation and reporting associated with this study is approximately \$170,000.

3.0 REFERENCES

- Advisory Council on Historic Preservation (ACHP). 2019. Memorandum: Recent court decision regarding the meaning of “direct” in Sections 106 and 110(f) of the National Historic Preservation Act. [Online] URL: http://shpo.nv.gov/uploads/documents/OGC_memo_to_ACHP_staff_re_meaning_of_direct_6-7-19.pdf. Accessed November 19, 2020.
- Department of Archaeology and Historic Preservation (DAHP). 2020. Washington State Standards for Cultural Resources Reporting. Updated January 2, 2020. [Online] URL: <https://dahp.wa.gov/sites/default/files/CR%20Update%20Dec%202019%20.pdf>. Accessed January 2, 2020.
- Erigero, Patricia C. 1990. Skagit River and Newhalem Creek Hydroelectric Projects: National Register of Historic Places Registration Form. Prepared by National Park Service, Seattle. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- Johnson, Larry E. 2010. National Register of Historic Places Nomination Form: Skagit River and Newhalem Creek Hydroelectric Projects (DT0066). Prepared by The Johnson Partnership, Seattle. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- National Register of Historic Places (NRHP). 2011. Skagit River and Newhalem Creek Hydroelectric Projects. Whatcom County, WA. National Register #96000416 (1996) and #11000016 (2011).
- Seattle City Light (City Light). 1991a. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Swinomish Indian Tribal Community. April 1991.
- _____. 1991b. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Sauk-Suiattle Tribe. April 1991.
- _____. 1991c. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Upper Skagit Tribe. April 1991.
- _____. 1991d. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Cultural Resources (Archaeological and Historic Resources) Between the City of Seattle and the U.S. Department of Interior, National Park Service, and the Upper Skagit Tribe, Sauk-Suiattle Tribe, and Swinomish Indian Tribal Community. April 1991.
- _____. 1993. Skagit River Hydroelectric Project No. 553: Settlement Agreement Concerning Traditional Cultural Properties Between the City of Seattle City Light Department and the Nlaka'pamux Nation. July 1993.
- _____. 1994. Memorandum of Agreement by and among the Federal Energy Regulatory Commission; the Washington State Historic Preservation Officer; the Advisory Council on Historic Preservation; the U.S. Federally Recognized Sauk-Suiattle Tribe, the Swinomish Tribal Community, and the Upper Skagit Tribe; The Nlaka'pamux Nation; the City of Seattle Regarding the Skagit River Hydroelectric Project. February 1994.

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- _____. 1996. Administrative Memorandum of Agreement between The City of Seattle, City Light Department and The Sauk-Suiattle Tribe, The Upper Skagit Tribe and The Swinomish Indian Tribal Community. June 1996.
- _____. 2020a. Pre-Application Document (PAD) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2020.
- _____. 2020b. Proposed Study Plan (PSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. December 2020.

**GORGE BYPASS REACH CULTURAL RESOURCES SURVEY
REVISED STUDY PLAN**

ATTACHMENT A

**CITY LIGHT RESPONSES TO LP COMMENTS ON THE STUDY PLAN
PRIOR TO PSP**

Table 1. City Light responses to LP comments on the study plan prior to PSP.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
1.	Pauline Douglas (Nlaka’pamuk Nation)	04/28/2020	General Comment	The area under consideration for this study plan is considered part of the shared boundary territory between Nlaka’pamux and neighbours. ¹ Under the Settlement Agreement of 1993 between SCL and NNTC, the NNTC was to research and document an Inventory of Traditional Properties and Recommendations for protection and mitigation within the FERC project area in the Upper Skagit River Valley. The Nlaka’pamux ground cultural investigators could not cover the perimeter of the area within the time-frame allotted for the field survey. They were also constrained to the narrow ribbon of land under FERC jurisdiction. So the planned study of the Gorge By Pass Reach area is of particular interest to the NNNTC.	City Light acknowledges the stated interest and is following up with the Nlaka’pamux Nation. December 2020 Update: City Light followed up with NNTC regarding this matter.
2.	Pauline Douglas (Nlaka’pamuk Nation)	04/28/2020	General Comment	NNTC principal concern with the Draft Study Plan is that while the goals include the documentation of cultural sites and TCP’s, the methodology focuses on work on historic sites and buildings – and archaeological investigation. There is no mention of TCP investigation specifically in the methodology – and there is a difference between archaeological and TCP research.	City Light is following up with the Nlaka’pamux Nation. This study is meant to only cover archaeological and historic resources. Potential future TCP study can be developed as data gaps are identified during the Synthesis Study (CR-01). Text clarified in Section 2.1 to clarify archaeological and historic built environment resources. December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04 Inventory of Historic Properties with Traditional Cultural Significance will include TCPs.
3.	Pauline Douglas (Nlaka’pamuk Nation)	04/28/2020	General Comment	Archaeological sites and TCPs do share some of the same attributes and can, at times, be one in the same: however fundamental criteria do exist for each. Archaeological sites are those	City Light is following up with the Nlaka’pamux Nation. This study is meant to only cover archaeological and historic resources. Potential future TCP study can be

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				properties that provide the physical evidence or material remains of previous human activities. In contrast, areas or landscape occurrences associated with oral history, origin narratives, or accounts of traditional cultural use with or without corroborating (physical) evidence may be determined eligible to the National Register as a TCP but may not be considered an archaeological site. (K.R. Bush)	developed as data gaps are identified during the Synthesis Study (CR-01). December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04 Inventory of Historic Properties with Traditional Cultural Significance will include TCPs.
4.	Pauline Douglas (Nlaka'pamuk Nation)	04/28/2020	General Comment	How do the consultants plan to identify Traditional Cultural Properties or cultural sites?	City Light is following up with the Nlaka'pamux Nation. This study is meant to only cover archaeological and historic resources. Potential future TCP study can be developed as data gaps are identified during the Synthesis Study (CR-01). December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04 Inventory of Historic Properties with Traditional Cultural Significance will include TCPs.
5.	Pauline Douglas (Nlaka'pamuk Nation)	04/28/2020	General Comment	Is the identification expected just from the Data Synthesis?	City Light is following up with the Nlaka'pamux Nation. Potential future TCP study can be developed as data gaps are identified during the Synthesis Study (CR-01). December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04 Inventory of Historic Properties with Traditional Cultural Significance will include TCPs.
6.	Pauline Douglas (Nlaka'pamuk Nation)	04/28/2020	General Comment	Is the identified expected just from interviews conducted?	City Light is following up with the Nlaka'pamux Nation. Potential future TCP study can be developed as data gaps are identified during the Synthesis Study (CR-01).

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
					December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04 Inventory of Historic Properties with Traditional Cultural Significance will include TCPs.
7.	Pauline Douglas (Nlaka'pamuk Nation)	04/28/2020	General Comment	Do they plan to include Tribes/First Nations cultural investigators on the ground study?	<p>City Light is following up with the Nlaka'pamux Nation.</p> <p>December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04 Inventory of Historic Properties with Traditional Cultural Significance will include TCPs and communities can participate in multiple ways.</p>
8.	Pauline Douglas (Nlaka'pamuk Nation)	04/28/2020	General Comment	Are Tribes/First Nations expected to do their own research?	<p>City Light is following up with the Nlaka'pamux Nation. Potential future TCP study can be developed as data gaps are identified during the Synthesis Study (CR-01). How those studies are organized is still up for discussion.</p> <p>December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04 Inventory of Historic Properties with Traditional Cultural Significance will include TCPs and communities can participate in multiple ways.</p>
9.	Pauline Douglas (Nlaka'pamuk Nation)	04/28/2020	General Comment	Who is paying for that?	<p>City Light is following up with the Nlaka'pamux Nation. Potential future TCP study can be developed as data gaps are identified during the Synthesis Study (CR-01). How those studies are organized is still up for discussion.</p> <p>December 2020 Update: City Light followed up with NNTC regarding this matter. CR-04</p>

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
					Inventory of Historic Properties with Traditional Cultural Significance will include TCPs. This is a study proposed by City Light.
10.	Pauline Douglas (Nlaka'pamuk Nation)	04/28/2020	General Comment	Is there a list available yet of existing literature obtained during the Synthesis Study? If there are ethnographic docs missing from that we will want them included.	<p>The Synthesis Study is in progress. The draft report will have a references cited section. There is a bibliography with the PAD.</p> <p>December 2020 Update: The ethnographers reached out to the participating communities regarding documents. All documents reviewed will be in the references cited of the report.</p>
11.	Kim Dizenzo (NPS)	03/19/2020	Section 1.1 General Description of the Project	The NPS organic act should be here instead of enabling legislation	No change – this is language standard to all study plans.
12.	Kim Dizenzo (NPS)	03/19/2020	Section 1.1 General Description of the Project	NPS highlighted language, “jurisdiction over the lands and waters within the Project” and stated, misleading.	<p>This language is standard from the PAD and consistent with the other study plans. No changes.</p> <p>The enabling legislation for the North Cascades Complex, Public Law 90-544 Section 505, states “Nothing in this Act shall be construed to supersede, repeal, modify, or impair the jurisdiction of the Federal Power Commission under the Federal Power Act (41 Stat. 1063), as amended (16 U.S.C. 49 Stat. 863. 79 et seq.), in the recreation areas.”</p> <p>FERC retains jurisdiction of the lands and waters in the Project through the Federal Power Act (16 USC 90d-4).</p>
13.	Kim Dizenzo (NPS)	03/19/2020	Section 2.1 Study Goals and Objectives	Next objective should be to propose additional work to determine eligibility of sites	Added bullet: “Provide recommendations concerning any additional studies that may be needed to evaluate NRHP eligibility of cultural resources identified during the survey.”

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
14.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/04/2020	Section 2.2.1 City Light	In-text edit: City Light’s goal, with regard to cultural resources for this study, is to gain an understanding of identify NRHP-listed and eligible cultural resources that are in the study area that are, or have potential to be, affected by the Project.	Text revised per suggestion.
15.	Kim Dizenzo (NPS)	03/19/2020	Section 2.2.1 City Light	This doc does not guide Skagit O&M folks.	Language deleted.
16.	Kim Dizenzo (NPS)	03/19/2020	Section 2.2.1 City Light	So is the goal to have one management plan for all properties in the next license? Also may want to elaborate on how the ARMMP only covers Ross Lake at this point.	Language deleted for consistency with other study plans. The existing management plans are described in other documents. It will be developed over time whether it is feasible to have a single management plan or makes sense to have multiple. But it won't be decided through this study.
17.	Kim Dizenzo (NPS)	03/19/2020	Section 2.2.1 City Light	2nd Paragraph – Add: “for the [Name of the Property]”	Language deleted.
18.	Kim Dizenzo (NPS)	03/19/2020	Section 2.2.2 National Park Service (NPS)	The Organic Act needs to be added.	Deleted section for consistency with other study plans. Mention of Organic Act added to permit language in Section 2.6 Step 3.
19.	Kim Dizenzo (NPS)	03/19/2020	Section 2.2.2 National Park Service (NPS)	This makes it sounds like the arch district is in the study area	Deleted section for consistency with other study plans.
20.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/04/2020	Section 2.2.2 National Park Service (NPS)	In addition, even closer than DT00212 to the study area are two sites determined eligible to the NR--WH64 and WH477 are prehistoric sites adjacent to and just outside of this project’s western boundary. Geographic proximity and NR eligibility dictate that these historic properties be noted, also.	This section has been deleted from study plan so no in-text edits were made, but the context of the archaeological sites mentioned in the comment to the study area is noted.
21.	Kim Dizenzo (NPS)	03/19/2020	Section 2.5 Study Area	Need to make sure this includes the distribution line and the stabilization lines. It is verbally	Footnote added to text that states “City Light is in the process of updating mapping of project

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				included in the description but not sure it is included in this map.	roads and other project features through GIS. If needed, this study area will be expanded to include project roads and features, which are likely or have reasonable potential for causing effects to unsurveyed areas where undiscovered cultural resources may be present." Shapefiles have been uploaded to LP SharePoint site. City Light is in the process of confirming. Maps will be updated with any necessary changes.
22.	Kim Dizenzo (NPS)	04/13/2020	Section 2.5 Study Area	Also needs to include any access routes to the transmission lines. Farly certain there are access trails in this area.	Footnote added to text that states “City Light is in the process of updating mapping of project roads and other project features through GIS. If needed, this study area will be expanded to include project roads and features, which are likely or have reasonable potential for causing effects to unsurveyed areas where undiscovered cultural resources may be present.” The roads listed in Section 2.5 are included. Shapefiles uploaded to LP SharePoint site. City Light is in the process of confirming. Maps will be updated with any necessary changes. April 2021 update: The footnote referenced above has been deleted; study roads have been incorporated into the APE.
23.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	This needs to be better defined. Personal comfort levels for safety greatly vary.	Added sentence for clarification that no slopes over 30 degrees will be walked.
24.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/04/2020	Section 2.6 Methodology	Steep, bouldery terrain cannot be accessed with parallel transects, so there needs to be acknowledgment that for safety, irregular transects to avoid natural hazards in the survey tract will be necessary.	Section updated to state “Irregular transects may be necessary due to steep, uneven terrain and to avoid natural hazards in the survey area.” More specific survey protocols can be developed in the research design in 2021 when HPAs are identified.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
25.	Pauline Douglas (Nlaka'pamux Nation)	04/28/2020	Section 2.6 Methodology	20 meter intervals for shovel testing could miss very large and significant targets. We believe that many eligible Historic Properties have a footprint that is smaller than 20 meters across so we recommend every 10 m for high and moderate probability areas and at the discretion of the PI should they need to do more holes on a specific landform.	Addition to language in section 2.6 to include option of having tighter shovel probe transect intervals. More specific survey protocols will be developed in the research design in 2021 when HPAs are identified.
26.	Pauline Douglas (Nlaka'pamux Nation)	04/28/2020	Section 2.6 Methodology	preference for the artifacts found in shovel tests – if you want them left in their holes you must say now or NPS will collect them all. If you want a detailed archaeological work plan now that calls out curation plans then say that now. Leaving artifacts on the surface where they are actually at risk of being taken is a problem we have experienced at Ross Lake. Tools should be collected and curated as well as any unique artifact fragments. However Flakes and such could be re deposited back inside the shovel test. In the perfect world they would be put back in the hole at the level they were found at for future research. Collecting low value crumbs today will not help anybody but if one were to relocate the site 100 years from now (in a High Ross Lake scenario) then small flakes could be invaluable. Collecting from shovel tests should entail collecting and map surface too. Strategy should be identified in the Archaeological Work Plan. Full recording of all artifacts depths located, sediments descriptions, photos, extensive site/artifact photos, maps etc	Collection will follow requirements in the ARPA permit. Section updated per NPS/ARPA permit. All recordation will follow industry standards. Specificity will be included in the research design developed in 2021.
27.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/04/2020	Section 2.6 Methodology	Given the emphasis here on detecting subsurface remains, somewhere this methodology should identify the types of sites, cultural commonly found on or above ground--	Specificity regarding archaeological expectations will stem from prior work and literature background. These will be included in the research design developed in 2021.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
				CMTs, pits in talus or ground, shelters under large boulders, trails, rock-stacked walls, etc., and these are potentially of Indigenous origin, also, yet these are often masked by the heavy veneer of the “historic built environment” as it is described in this document.	
28.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	I think that we should identify some of the high probability landforms in the research design or give more direction to the PI on what we want to be subsurface surveyed	Revised to state shovel probes will be placed in HPAs and in areas that contain intact sediments identified during survey. Note: The HPAs will be identified during the earlier steps in this study and are not included here.
29.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/04/2020	Section 2.6 Methodology	Kim has identified a crucial point here for a successful methodology. There has certainly been enough survey elsewhere in the North Cascades to specify HPAs. This should be able to identify some high probability landforms.	Specificity which includes development of HPAs based on prior work will be included in the research design developed in 2021.
30.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	Lets figure this out quick. I don't like not collecting artifacts that are disturbed from subsurface.	Revised to include no collection of surface artifacts unless at risk; collection of all precontact and diagnostic historic artifacts from shovel probes; and no collection of undiagnostic historic artifacts.
31.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	What happens when an arch site is linear and goes out of the project area? How much of the site will be recorded?	No changes to text. Recordation will stop at the survey area boundary.
32.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	I think this should be in the archeology section, too.	Added to archaeology section per comment.
33.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	Add historic district's name. Also is there a potential that a historic structure might be eligible on its own and not as part of the historic district?	Added district name. Yes, structure may be eligible on its own. No text changes.

No.	Commenting Individual (Organization)	Date	Study Plan Section	Comment	Response
34.	Kim Dizenzo (NPS)	4/13/2020	Section 2.6 Methodology	Is Ladder Creek falls identified as a cultural landscape or is it contributing to the historic district? There should a a cultural landscape report for this feature. (and maybe for all of Newhalem, too)	It is contributing to the district (Resource #30). A cultural landscape report was completed in the 1990s. Electronic copy of the report will be shared.
35.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	This should probably list the items in the HPI form in WISAARD	Added a couple additional items from HPI form.
36.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	3 rd Paragraph – Add: “integrity”	Added per comment
37.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/04/2020	Section 2.6 Methodology	This doesn’t sound right: an unevaluated site remains “potentially eligible”, as per NR policy, like any other unevaluated site. This should be saying that if project effects will occur to an unevaluated resource, then the significance evaluation will be completed. ??	Statement clarified to read: “If Project effects will occur on an unevaluated resource, recommendations for NRHP-evaluation or avoidance would be provided.”
38.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	Is the goal to get the resources listed or just a consensus DOE?	Just DOE to start.
39.	Kim Dizenzo (NPS)	03/19/2020	Section 2.6 Methodology	If not feasible, a proposal to evaluate should be included in report	Sentence added to end of paragraph adding that if not feasible, recommendations to do so will be included in report.
40.	Bob Mierendorf (Upper Skagit Indian Tribe)	05/04/2020	Section 2.6 Methodology	Unless I missed it somewhere, it seems there’s a need for a clear block of time in this plan for LPs to review and comment on the draft findings and recommendations.	Review timelines will be included in the research design developed in 2021.
41.	Pauline Douglas (Nlaka’pamux Nation)	04/28/2020	Section 2.9 Level of Effort and Cost	the budget of 170,000 for this project rather confirms our concern that that there will not be an attempt to document more than buildings and archaeology sites. It doesn’t seem to be enough money to complete this study if they plan to try and identify all possible cultural properties, with appropriate ground investigators, during this pass.	City Light is following up with the Nlaka’pamux Nation. This study is meant to only cover archaeological and historic resources. Potential future TCP study can be developed as data gaps are identified during the Synthesis Study (CR-01).

**GORGE BYPASS REACH CULTURAL RESOURCES SURVEY
REVISED STUDY PLAN**

ATTACHMENT B

DRAFT RESEARCH DESIGN

**CR-03 GORGE BYPASS REACH
CULTURAL RESOURCES SURVEY
DRAFT RESEARCH DESIGN**

**SKAGIT RIVER HYDROELECTRIC PROJECT
FERC NO. 553**

Seattle City Light

**April 2021
RSP**

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List of Acronyms and Abbreviations

APE.....	area of potential effects
ARPA.....	Archaeological Resources Protection Act
BIA.....	Bureau of Indian Affairs
CFR.....	Code of Federal Regulations
City Light.....	Seattle City Light
CRWG.....	Cultural Resources Work Group
DAHP.....	Department of Archaeology and Historic Preservation
DNR.....	Department of Natural Resources (Washington State)
FERC.....	Federal Energy Regulatory Commission
GPS.....	Global Positioning System
HPA.....	high probability area
HPI.....	historic property inventory
HPMP.....	Historic Properties Management Plan
HRMMP.....	(Skagit) Historic Resources Mitigation and Management Plan
LiDAR.....	Light Detection and Ranging
m.....	meter
NHPA.....	National Historic Preservation Act
NPS.....	National Park Service
NRB.....	National Register Bulletin
NRHP.....	National Register of Historic Properties
O&M.....	operations and maintenance
Project.....	Skagit River Hydroelectric Project
PTRCI.....	properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization
RCW.....	Revised Code of Washington
SHPO.....	State Historic Preservation Officer
SOI.....	Secretary of the Interior
U.S.C.....	United States Code
USFS.....	U.S. Forest Service
WISAARD.....	Washington Information System for Architectural and Archaeological Records Data

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1.0 INTRODUCTION

[THIS IS A DRAFT OUTLINE; FOR REVIEW AND DISCUSSION WITH CRWG]

This document presents the research design for implementing the CR-03 Gorge Bypass Reach Cultural Resources Survey (the study). The study includes a cultural resources inventory within the Gorge Bypass Reach, a component of the Skagit River Hydroelectric Project (Project). The Project is licensed by FERC to The City of Seattle, Washington, and operated through its publicly-owned electric power utility Seattle City Light (City Light). The study is being implemented as part of the FERC relicensing process that is currently underway. The research design elements outlined below include the study objectives, research themes and questions, methodology, and expectations.

Relicensing of the Project by FERC is considered a federal undertaking under Section 106 of the National Historic Preservation Act (NHPA), as amended (Section 106), and its implementing regulations (36 Code of Federal Regulations [CFR] § 800). Section 106 establishes a process for federal agencies to identify, and to take into account the effects of their undertakings on historic properties. Historic properties are defined as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance [PTRCI] to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria [36 CFR § 800.16(l)(1)].” Accordingly, the Gorge Bypass Reach Cultural Resources Survey is being proposed in partial fulfillment of Section 106 requirements. The study will focus on archaeological and built environment resources, while another study, CR-04 Inventory of Historic Properties with Traditional Cultural Significance, will focus on PTRCIs.

The results of the Gorge Bypass Reach Cultural Resources Survey are expected to include confidential and/or privileged information that is exempt from public release. The confidential and privileged information will be protected, in consultation with the Section 106 consulting parties. State and federal laws exempt certain types of cultural resources information from public disclosure (e.g., Revised Code of Washington [RCW] 42.56.300, 16 United States Code [USC] 470hh(a)).

To date, Section 106 consulting parties identified for the Project relicensing include: State Historic Preservation Officer (SHPO), National Park Service (NPS), FERC, Upper Skagit Indian Tribe, Sauk-Suiattle Indian Tribe, Swinomish Indian Tribal Community, Nlaka’pamux Nation Tribal Council, and City Light. In addition to these parties, City Light anticipates additional consulting parties may include: Advisory Council on Historic Preservation (ACHP), Bureau of Indian Affairs (BIA), U.S. Forest Service (USFS), Washington Department of Natural Resources (DNR), Snohomish County, Stó:lō Nation, Confederated Tribes of the Colville Reservation, Lummi Nation, Muckleshoot Indian Tribe, Nooksack Indian Tribe, Samish Indian Nation, Snoqualmie Indian Tribe, Stillaguamish Tribe of Indians, Suquamish Tribe, and Tulalip Tribes of Washington, as well as other potential parties to be identified during Section 106 consultation.

This research design will be provided to the Section 106 consulting parties for review and comment prior to finalization.

1.1 Study Area

Under 36 Code of Regulations (CFR) § 800.16(d), the area of potential effects (APE) is defined as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Based on this regulatory definition, City Light proposes to define the APE for the Project relicensing as including all lands within the FERC-approved Project Boundary. The APE also includes lands or properties outside the Project Boundary where Project operations or Project-related recreation activities or other enhancements may cause changes in the character or use of historic properties, if any such properties exist.

The proposed study area is in a portion of the APE.¹ The Gorge bypass reach study area is within Sections 14, 21, 39, 40, and 45 of Township 37 North, Range 12 East of the Willamette Meridian (Figure 1.1-1). The proposed study area includes the Gorge bypass reach from the Gorge Dam to the Gorge Powerhouse, in addition to related access roads, reservoir banks, and connecting transmission lines. A buffer of 250 feet (76 meters [m]) has been mapped around these areas (see Figure 1.1-2) as the proposed study area.

¹ A larger scale mapbook of the APE is provided in an attachment to CR-02 Cultural Resources Survey Study Plan.

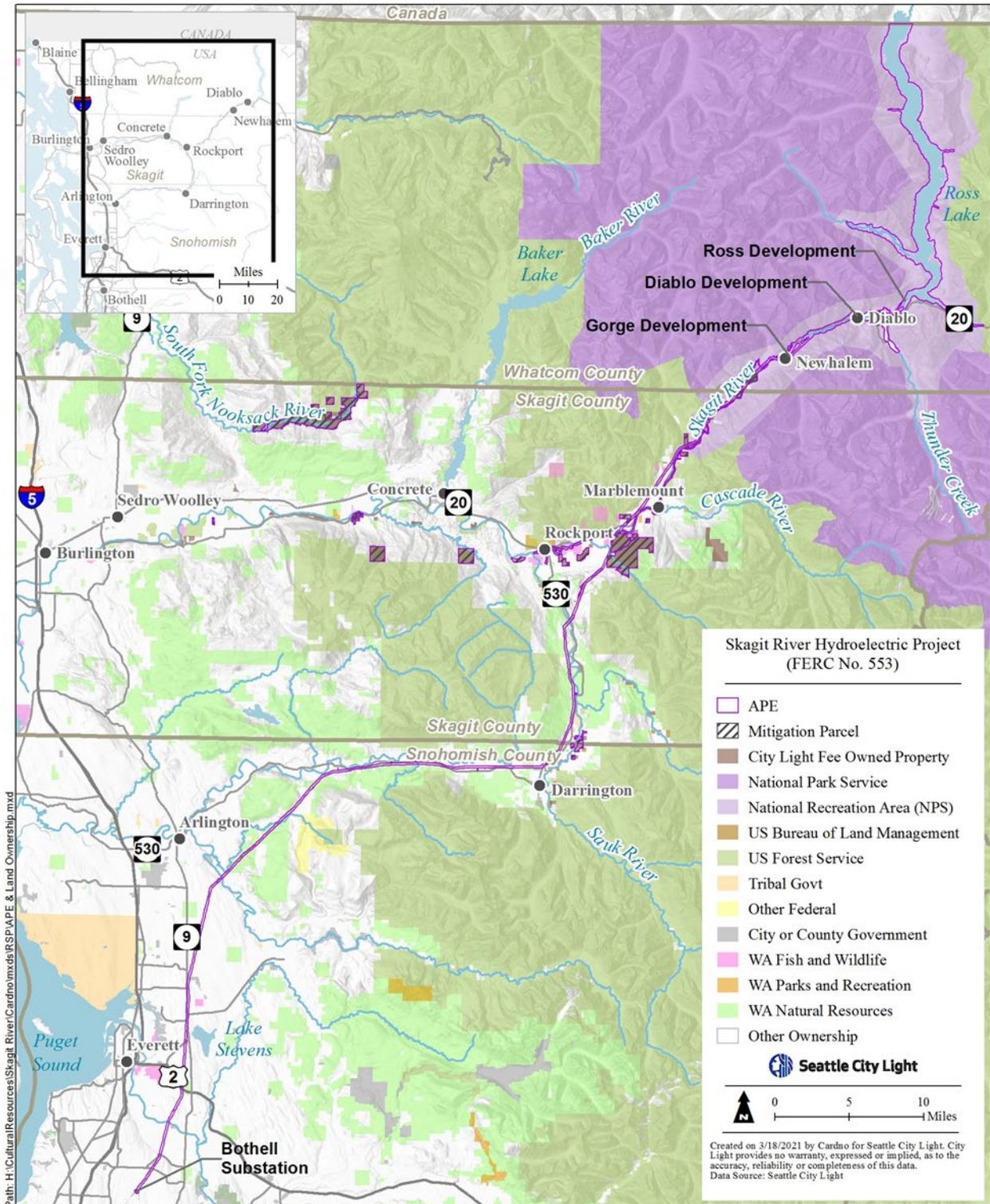


Figure 1.1-1. Location map of the Skagit River Hydroelectric Project APE.¹

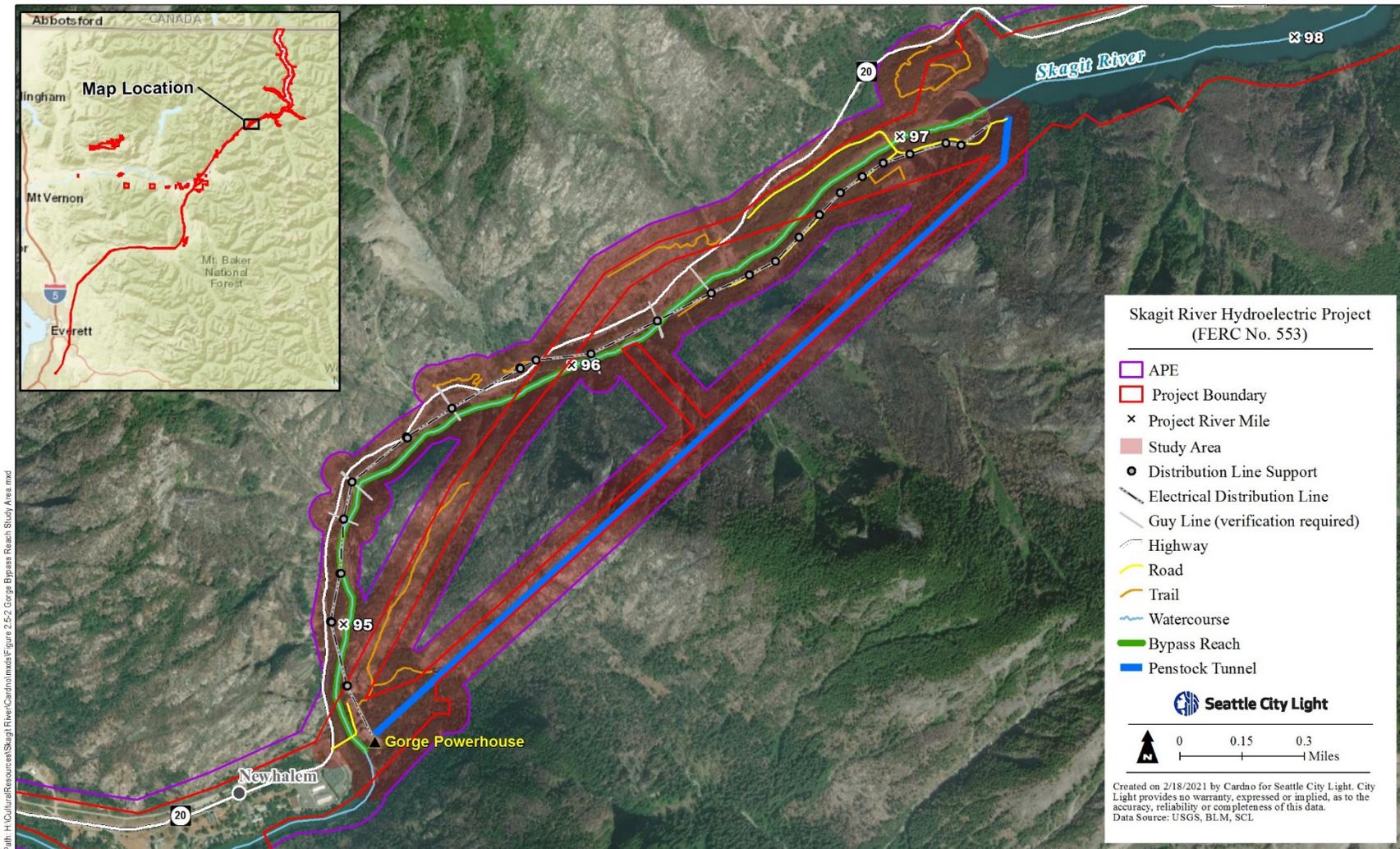


Figure 1.1-2. Gorge bypass reach study area.

2.0 GOALS AND OBJECTIVES

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and includes procedures for the “identification...and evaluation of historic properties” (36 CFR § 800.4). The goal of this study is to assess the potential effects of the Project’s operations and management (O&M) on cultural resources within the Gorge bypass reach that are included in or eligible for listing in the NRHP. The primary objective of the study is to provide sufficient information to assist FERC in compliance with Section 106 of the NHPA and other cultural resources regulations and executive orders by identifying archaeological and historic built environment resources that qualify as historic properties in the study area and assessing potential Project effects to such properties. The results of the study will also be used to develop a Historic Properties Management Plan (HPMP), which will ensure that all cultural resources identified within the study area will be appropriately considered and managed during the term of the new FERC license.

3.0 BACKGROUND RESEARCH AND QUESTIONS

This section includes a summary of existing information and summarizes the pertinent research questions for the study area.

3.1 Background and Existing Information

Initial background research was conducted at the Washington Information System for Architectural and Archaeological Records Data (WISAARD) database, managed by the Department of Archaeology and Historic Preservation (DAHP), as well as City Light's files and records and other online repositories for the development of the Pre-Application Document (PAD) (City Light 2020a). These records indicate there have been five surveys and one testing project completed within the study area; however, the majority of the study area is unsurveyed.

The research resulted in the identification of known historic and archaeological resources within the Study Area including five archaeological sites unevaluated for listing in the NRHP. These sites consists of precontact materials, historic debris and logging features, historic trail segments, and historic power line remnants. There are two historic resources consisting of they Skagit/Newhalem/Gorge Suspension Bridge and Ladder Creek Water Supply System. Additionally, there are three NRHP listed historic properties (Gorge Hydroelectric Power Plant, Gorge Creek Bridge, and Devil's Corner Cliff Walk) and one NRHP historic district (Skagit River and Newhalem Creek Hydroelectric Projects). No information regarding existing or potential traditional cultural properties in the survey area was identified during the records review of the WISAARD database.

The Cultural Resources Data Synthesis provides a detailed review of all existing cultural resources data for the APE and one-mile literature review buffer. The study plan for the Cultural Resources Data Synthesis was provided in the PAD and was updated for the Proposed Study Plan (PSP) (City Light 2020b) and Revised Study Plan (RSP) (City Light 2021). As part of the current license, City Light is updating the National Register form for the Skagit River and Newhalem Creek Hydroelectric Projects (DT00066; NR Listing # 11000016) (Erigero 1990; Johnson 2010; NRHP 2011). Any new information available from that update will be incorporated into this study as appropriate.

Further information will be obtained by interviewing people with relevant knowledge of the study area. Information gathering will include reviewing existing documents or studies that are relevant to the proposed study because they overlap with, or are within one mile of, the study area. City Light documents and records will be reviewed as well as any additional documents or records made available through outreach to NPS, Indian tribes, and First Nations.

3.2 Research Themes and Questions

The study area lies within a geographic area that was important to people throughout the precontact and historic periods, and continues to hold significance to Indian tribes and First Nations today. Research questions focus on identifying where significant locations of human activity occurred that intersect with current or anticipated Project activities. Locations of human activity are expressed as tangible archaeological evidence or other tangible clues of traditional cultural practice. The study will also seek to identify which of those Project activities or continuing Project

practices have the potential to cause adverse effects on cultural resources that are eligible for or listed in the NRHP.

General types of research questions include:

- Are there specific areas where evidence of precontact and historic use is visible? What types of archaeological evidence might be discovered and what type of human activities could be represented?
- Are there situations or places where archaeological evidence is more likely or less likely to be preserved as tangible evidence? For example, in acidic soil environments, bone, wood and other plant remains would decompose fairly rapidly whereas in dry spaces like caverns or within burned features (where materials become carbonized), they can preserve for hundreds or thousands of years. Wet environments where items may be capped in anaerobic conditions is another example of where decomposition is arrested and preservation can occur.
- Where are specific Project activities or places where project operations are most likely to put archaeological resources at risk? What types of Project activities are most likely to cause effects to historic properties (e.g., excavating, vegetation/tree clearing, changes in reservoir pool levels)? Where are those types of Project activities occurring or anticipated to occur with continued O&M of the Project (e.g., road maintenance, maintenance associated with Project facilities/housing, reservoir operation, maintenance of transmission towers and corridors, etc.)?
- What are the logistical considerations for accomplishing the study (e.g., timing and accessibility, season, special equipment needed, times of year where certain areas of the project are accessible/inaccessible)? Are there any techniques or methods most likely to be effective in some areas or for discovery of some types of evidence but not in others?

4.0 METHODOLOGY

The methodology for the study was initially set forward in the CR-03 Gorge Bypass Reach Cultural Resources Survey Revised Study Plan (the study plan) (City Light 2021). The methodology laid out five steps, targeting specific milestones in the FERC relicensing process. These steps included: (1) review Gorge Bypass Reach study area with the Cultural Resources Work Group (CRWG) (which consists of the Section 106 consulting parties); (2) develop a research design; (3) conduct field work; (4) perform post-field documentation and analysis; and (5) reporting. The first step, review Gorge Bypass Reach study area with Section 106 consulting parties, has already been conducted through the development and review of the study plan. This document constitutes the research design, which is the second step in the study plan.

As outlined below and in compliance with the study plan, the methodology for completing the study includes completion of background research as needed, field survey of the study area, documentation of any previously unrecorded archaeological isolated finds or sites and built environment resources encountered, drafting and finalizing reporting documentation, and finally curation of any materials collected during the field efforts. The details of this methodology are laid out below.

4.1 Develop Research Design

City Light will work with the CRWG to further develop the draft research design. Identification of pedestrian survey locations is based on preliminary discussion during the 2019 Study Plan Development Process, review of existing historic aerial imagery, Light Detection and Ranging (LiDAR) data, and historic maps. Additionally, high probability areas (HPA) for containing archaeological resources will be identified using the probability model available on WISAARD, as well as other data as available (e.g., local topography, landform mapping, soils data, historic photographs, maps, drawings, LiDAR). The Skagit Historic Resources Mitigation and Management Plan (HRMMP) will also be referenced to isolate areas and/or cultural resources that need survey. HPAs for historic built environmental resources would be identified based on existing records and build dates.

The existing literature obtained during the Cultural Resources Data Synthesis will be also reviewed. Some of these materials are accessible to City Light on its internal Document Management System (DMS) in both confidential and non-confidential sections. During outreach, additional existing documents or studies that are relevant to the proposed Gorge bypass reach study area but are not currently in City Light's DMS will be identified and reviewed. Additionally, information available on the WISAARD, as well as archives, libraries, and online sources will be reviewed, as available. Interviews will be conducted with individuals and staff from City Light, NPS, Indian tribes, and First Nations who have knowledge of the Gorge bypass reach study area, as feasible.

4.1.1 Archaeological Expectations and Tangible Signatures

A broad range of human activities have occurred across the landscape over millennia, but only some of these are discoverable through the archaeological evidence left behind. Archaeological evidence can augment and corroborate Indian tribe and First Nation communities' understandings and can also yield some surprising and fascinating results. Similarly, historic activities may be

documented in a written history yet the archaeological evidence can augment that history, or in some cases, reveal untold, unrecorded stories.

In addition to establishing the likely locations where human activity has occurred based upon known and documented archaeological evidence, written history or mapped features, and types of landforms and features where people have been most drawn to for different activities or resources, the types of lasting tangible evidence which could be left behind are also important to consider when preparing to survey in a particular geographic area. In other words, calibrating to the types of evidence one might find based on the known set of artifacts and feature types for the geographic area, help to build where on the geographic landscape evidence could be found, and where preservation of evidence is most likely to occur.

The types of known archaeological resources within and near the study area include lithic scatters, historic debris scatters, rockshelters, precontact and historic camps, precontact and historic cairns, precontact and historic features, precontact villages, precontact and historic trails, historic structures, historic homesteads, historic logging features, historic hydroelectric features, and precontact and historic burials. Historic built environment resources include farmsteads, single-family residences, bridges, trails, homesteads, houses, ranger stations, cabins, schools, churches, train stations, and general stores. Similar types of archaeological materials are expected during study implementation.

Preservation of archaeological materials is challenging in the soil types present within the study area. However, cultural materials such as stone artifacts are expected. Locations where preservation of organic materials may occur are in rock shelters or caches, under rock overhangs, and within wet sites and fresh water shell midden matrices. Additionally, certain features may be more visible on the landscape than others, such as hearths and culturally modified trees. It is also expected that places of traditional cultural importance may overlap or incorporate archaeological sites and that the evidence from CR-04 Inventory of Historic Properties with Traditional Cultural Significance (City Light 2021) may be considered relevant to this study and vice versa.

4.2 Conduct Field Work

The proposed project will consist of an archaeological survey and a historic resources survey. Field methods and reporting will be consistent with the DAHP's Washington State Standards for Cultural Resources Reporting, Section 106 of the NHPA, and NPS and FERC guidelines for cultural resources reporting. The study will follow the same standards and will be overseen by an archaeologist who meets the Secretary of the Interior's (SOI) Professional Qualifications Standards for Archaeology and by an architectural historian who meets the SOI Professional Qualifications Standards for Architectural History. The survey will be completed under City Light's existing Archaeological Resources Protection Act (ARPA) permit.

The methodology of these surveys are outlined below.

4.2.1 Archaeological survey

The archaeological survey will be undertaken in one field season. However, should access require additional field coordination or if additional survey is warranted within the study area, a second field season will occur. The survey methods are outlined as follows:

Pedestrian Archaeological Survey

A pedestrian archaeological survey will be undertaken for all safely accessible areas of the study area with archaeologists walking on foot visually inspecting the ground surface. No slopes greater than 30 degrees will be walked but will be visually assessed from above or below the slope as feasible.

- Parallel meandering pedestrian transects with reasonable spacing (5-20 m) for the terrain to achieve good survey coverage in high probability areas (HPA) and appropriate distance for safety will be undertaken.
- Anchor points on transects will be recorded by a hand-held Global Positioning System (GPS) unit that achieves submeter accuracy in the field. For locations where submeter accuracy cannot be achieved using GPS, alternate traditional mapping methods will be used to achieve the greatest accuracy possible.
- Overview photographs will be taken of all survey areas. Surrounding vegetation and ground visibility will be documented and representative examples will be photographed.

Subsurface Archaeological Survey

Subsurface archaeological survey will be undertaken within HPAs. The subsurface survey will occur after the pedestrian survey and will include the following elements:

- Shovel probes will be placed within HPAs and in areas that contain intact sediments identified by the Principal Investigator and/or Field Director(s) during fieldwork. The shovel probes will be placed approximately 20 m intervals as possible where sediments appear intact, are not inundated, and in areas that are not too steep. Shovel probe transect intervals may be tightened in areas of higher probability.
- Shovel probes will measure approximately 40-50 centimeters in diameter and will be excavated to the maximum extent reasonably possible (generally 1 m) and observations on soil types and stratigraphic changes will be described.
- At the discretion of the Principal Investigator and/or Field Director(s), some of the shovel probes may be supplemented by auger to reach depths not feasible with shovel alone. Shovel and auger probes together may reach a maximum depth of 2 m.
- Shovel probe excavation will be terminated if glacial deposits or impenetrable materials (e.g., cobbles or roots) are encountered.
- All excavated materials will be screened through ¼ inch mesh.
- A sediment profile will be recorded for each of the excavated probes. All probes will be photographed.
- The locations of all probes will be recorded on a survey map and with a GPS unit that achieves submeter accuracy in the field.
- Subsurface probes using a shovel or auger will be used to identify presence/absence of archaeological sites and define site boundaries. No excavations (e.g., testing or data recovery) will occur within archaeological sites as part of the survey.

- Site boundaries will be delineated by the excavation of shovel probes in cardinal directions 20 m from the farthest identified artifacts. If those shovel probes are negative, then additional probes will be excavated at 10 m or 5 m (to be determined by recovery) away from the farthest identified artifacts. If the 20 m probes are positive for cultural materials, then another 20 m buffer will be added and additional probes will be excavated in cardinal directions.
- All archaeological resources estimated to be 40 years old or older within the study area will be documented.

In the State of Washington, an archaeological site is defined as a geographic locality that contains two or more artifacts and/or features of human construction (DAHP 2020). An archaeological site may span multiple time periods and could include multiple components consisting of historic and precontact resources, as well as associated historic built environment resources. An isolated artifact consists of a single item without associated features or deposits (DAHP 2020). Newly observed and revisited archaeological resources will be recorded on State of Washington Site/Isolate Inventory Forms.

- Artifact recordation and collection, which will be outlined in the ARPA permit, will occur as follows:
 - Artifacts identified on the ground surface will not be collected unless they are at risk of looting, erosion, etc.
 - Surface artifacts will be recorded, catalogued, and photographed in the field. After recordation, they will be left on the ground surface where they were found unless collection of an artifact type is directed through the archaeological permit stipulations and authorized by the permitting agency.
 - All precontact artifacts identified in shovel probes will be collected.
 - Diagnostic historic artifacts identified in shovel probes will also be collected. If there are multiple artifacts of the same type (e.g., bottles of the same make), an approximate 10% sample of the artifact type will be collected.
 - All collected artifacts will be recorded, photographed, bagged, and cataloged in the field prior to transport.
 - Undiagnostic historic artifacts (e.g., glass fragments) identified in shovel probes will not be collected. They will be recorded, catalogued, and photographed in the field. After recordation, they will be reburied in their respective shovel probe(s).

Collection and Recordation

The ARPA permit includes limited collection of artifacts that are uncovered during excavation and those that are at risk of being illegally collected. Any collected artifacts would be curated in accordance with federal and state laws, as applicable (see below).

- All identified artifacts will be recorded and photographed in the field.
- If identified on the ground surface, the artifact(s) will be left on the ground surface unless collection of an artifact type discovered is directed through the ARPA permit.

- If diagnostic artifacts are identified in a shovel probe, the artifact(s) will be bagged, tagged, and collected in accordance with the ARPA permit.
- Non-diagnostic artifacts, if encountered, will be analyzed in the field and reburied in the respective shovel probe.

All archaeological resources estimated to be 40 years old or older within the survey areas will be documented during pedestrian and subsurface survey. Previously recorded archaeological resources will be revisited during the pedestrian survey.

Modern recreation trails and roads in and adjacent to archaeological resources will also be noted for subsequent assessment of effects. The presence of modern recreation trails and roads have the potential to increase risk of damage to archaeological resources due to accessibility, frequent use, maintenance, or other Project-related effects.

Newly observed archaeological resources will be recorded on State of Washington Site/Isolate Inventory Forms. Site/Isolated Inventory Forms will be updated for all revisited archaeological resources. Updated documentation will include recordation of all newly identified cultural materials and features, reporting of any materials or features that are no longer visible or present, resource condition, and integrity.

4.2.2 Built Environment Resources Survey

The reconnaissance-level historic built environment resources survey of the study area will be completed as follows:

- All historic built environment resources estimated to be 40 years old or older within the study area will be documented if they are not already included and updated in the Skagit River and Newhalem Creek Hydroelectric Projects historic district (DT0066) as part of the current license activities. Resources managed in the HRMMP will be included as necessary (City of Seattle 1991).
- Historic built environment resources will be identified based on existing records and build dates.
- The survey will include an analysis of the physical characteristics of the historic built environment resource's exterior, including an architectural description of those characteristics, including but not limited to:
 - Building plan, size, and layout;
 - Foundation;
 - Form type;
 - Exterior cladding;
 - Roof type and material;
 - Structural system;
 - Windows and entrances; and

- Other pertinent physical characteristics, features, and materials.
- Each resource will be photographed and address/location recorded on a map and with a hand-held GPS unit that achieves submeter accuracy in the field. For areas where submeter accuracy cannot be achieved using GPS, alternate traditional mapping methods will be used to achieve the greatest accuracy possible.
- Physical descriptions will be supported by detailed reviews of existing historic photographs and maps, ownership history, and historic use.
- Newly observed and revisited historic resources will be recorded on Historic Property Inventory (HPI) forms.

4.3 Post Field Documentation and Analysis

Archaeological site/isolate inventory and HPI forms will be completed on WISAARD after fieldwork is completed. Data analysis and creation of survey and resource maps will also be completed. NRHP recommendations regarding eligibility will be developed based on the associated cultural and historical contexts, background information, integrity, and field data, as feasible. NRHP-eligibility recommendations will follow National Register Bulletins (NRB) 15 and 36 to apply the Criteria for Evaluation. If recommendations of NRHP eligibility require additional fieldwork, the resource(s) would be considered unevaluated. If Project effects will occur on an unevaluated resource, recommendations for NRHP-evaluation or avoidance would be provided.

4.4 Reporting

The results of the survey and post-field documentation will be presented in two study reports that comply with Section 106 of the NHPA, as well as NPS, FERC, and DAHP reporting guidelines. Archaeological resources data will be reported upon separately from historic built environment resources due to confidentiality requirements for sensitive archaeological resources. A description of any archeological features or artifacts unearthed during the course of this study, including the depth and characteristics of the find, will be included in the archaeological study report. Due to confidentiality requirements for archaeological site locations, distribution of the reports will be restricted as per RCW 42.56.300. The archaeological study report will be filed with FERC as confidential.

NRHP eligibility recommendations and initial assessments of Project effects on historic properties will be included in the reports, as feasible. The initial assessment of Project effects will include discussion of ways to avoid or minimize adverse effects on NRHP-eligible or listed cultural resources (i.e., historic properties), which may include treatment, such as site protection, fencing, monitoring, etc. The site/isolate inventory and HPI forms will be included as appendices in the reports, as appropriate.

The findings in the reports will be used to inform the development of the HPMP for the new license. If evaluation of NRHP eligibility and Project effects is not feasible, the reports will provide recommendations regarding ways to accomplish those evaluations. Unevaluated sites will be treated as if they are historic properties until or unless they are formally evaluated for the NRHP.

4.4.1 Evaluating NRHP Eligibility

Recommendations of NRHP eligibility will be developed based on the contexts, background information, integrity, and field data, as feasible. Resources listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, prehistory, architecture, archaeology, engineering, and culture and that possess integrity of location, design, setting, material, workmanship, feeling, and association.

The NRHP is maintained by the NPS on behalf of the SOI. The DAHP administers the statewide NRHP program under the direction of the Washington SHPO, located in Olympia, Washington. The NPS has developed NRHP Criteria for Evaluation (36 CFR § 60.4) to guide the evaluation of cultural resources that may be either listed in or eligible for the NRHP. Section 106 requires the determination of eligibility for the NRHP as a tool for identifying significant historic properties. If a property is determined eligible for the NRHP under the Section 106 process, it does not automatically result in the listing of the property in the NRHP. As described in NRB 15 “How to Apply the National Register Criteria for Evaluation,” the four criteria used to determine eligibility are that the property (NPS 1997):

- Criterion A: Is associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B: Is associated with the lives of persons significant in our past; or
- Criterion C: Embodies the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possesses high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D: Has yielded, or may be likely to yield, information important in prehistory or history.

NRB 15, “How to Apply the National Register Criteria for Evaluation” and NRB 36, “Guidelines for Evaluating and Registering Archaeological Resources,” provide guidance on evaluating resources for listing in the NRHP (NPS 1997, 2000). For a property to be eligible under Criteria A, the property must be associated with an event, a series of events, or a trend important in the defined historic context of the property. The event or trends must clearly be important within the associated context, which can mark an important moment in American prehistory or history or a pattern of events or a historic trend that made a significant contribution to the development of a community, a state, or the nation (NPS 1997:12). To be considered for listing under Criterion B, a property must be associated with individuals whose specific contributions to history can be identified and documented. Such persons “significant in our past” are those individuals whose activities are demonstrably important within a local, state, or national historic context (NPS 1997:14). Criterion C applies to properties significant for their physical design or construction, including such elements as architecture, landscape architecture, engineering, and artwork (NPS 1997:17). Under Criterion C, a property must meet at least one of the requirements listed above, and described as follows. The first requirement, that properties “embody the distinctive characteristics of a type, period, or method of construction,” refers to the way in which a property was conceived, designed, or fabricated by a people or culture in past periods of history (NPS 1997:17). “The work of a master” refers to the technical or aesthetic achievements of craftsman or architect (NPS 1997:17). “High artistic values” relates to the expression of aesthetic ideals or

preferences and applies to aesthetic achievement (NPS 1997:17). The last requirement under Criterion C, “resources that represent a significant and distinguishable entity whose components may lack individual distinction” refers to districts defined under Criterion C (NPS 1997:17). Lastly, to be considered for listing under Criterion D, a property must have the potential to answer, in whole or in part, research questions that contribute to our understanding of human history (NPS 1997:21). Importantly, this criterion necessitates that those questions are answered through the actual physical materials of cultural resources (NPS 1997:21). Archaeological sites are primarily assessed under Criterion D though may qualify under the other criteria.

In addition to these criteria, for a property to be determined eligible for the NRHP, it must continue to possess sufficient physical characteristics that reflect its historical significance, defined as “integrity” (NPS 1997). Integrity is the ability of a property to convey its significance whereby historic properties either retain integrity or they do not. The NRHP criteria recognize seven aspects or qualities that, in various combinations, define integrity. There are seven aspects of integrity, as listed below:

- Location
- Design
- Setting
- Materials
- Workmanship
- Feeling
- Association

To retain historic integrity, a property will always possess several, and usually most, of these aspects. The significance of a property must be established before historic integrity can be assessed. As outlined in NRB 15 (NPS 1997), the steps in assessing integrity are:

- Define the essential physical features that must be present for a property to represent its significance;
- Determine whether the essential physical features are visible enough to convey their significance;
- Determine whether the property needs to be compared with similar properties; and
- Determine, based on the significance and essential physical features, which aspects of integrity are particularly vital to the property being nominated and if they are present. Ultimately, the question of integrity is answered by whether or not the property retains the identity for which it is significant.

Amendments to Section 106 of the NHPA specify that properties of religious and cultural significance (including TCPs) may be determined to be eligible for inclusion in the NRHP. In carrying out their responsibilities under Section 106, federal agencies are required to consult with any Indian tribe that attaches religious or cultural significance to any such properties (NRB 38

[Parker and King 1998]). These types of properties will be studied under CR-04 Inventory of Historic Properties with Traditional Cultural Significance (City Light 2021).

If recommendations of NRHP eligibility require additional fieldwork, the resource(s) would be considered unevaluated. If Project effects are anticipated on any unevaluated resources, those resources will either be evaluated for NRHP eligibility or avoided by the project until such evaluations are completed.

4.4.2 Identifying and Assessing Effects on NRHP Eligible Properties

Potential effects that may be associated with this undertaking include any Project-related effects associated with the day-to-day O&M of the Project and any new activity proposed under the new license. Types of effects may include direct (i.e., the result of Project activities at the same time and place with no intervening cause), indirect (i.e., the result of Project activities later in time or further removed in distance but reasonably foreseeable), and/or cumulative (e.g., caused by a Project activity in combination with other non-Project past, present, and foreseeable future activities) (ACHP 2019). City Light will document existing conditions, ongoing effects, and potential effects on historic properties.

Section 106 of the NHPA requires federal agencies to consider direct, indirect, and cumulative adverse effects of their undertakings on historic properties. In this case, the undertaking is FERC's issuance of a new license for the Project. As required under 36 CFR 800.5, City Light will identify and assess, in consultation with Section 106 consulting parties, any adverse effects on historic properties or potential historic properties resulting from the Project. 36 CFR § 800.5(a)(1) states that:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

City Light will document existing conditions, ongoing effects, and potential effects on historic properties. If evaluations of Project effects are not feasible, the resource will be avoided until such evaluations are completed.

4.5 Curation

All collected artifacts from within the North Cascades National Park will be prepared for curation at the NPS curation facility in Marblemount. Curation will comply with the federal standards as presented in 36 CFR Part 79, Curation of Federally-Owned and Administered Archaeological Collections. Cataloged specimens will be housed in archival clear, self-sealing polyethylene bags with a minimum thickness of 4 milliliters. Every cataloged item will be accompanied by a bag label listing the bag contents and provenience information. The bag labels will be printed on archival acid-free and lignin-free paper. All associated documentation related to the field effort

and final report will be submitted with the specimen collection for permanent storage at the repository.

5.0 EXPECTED RESULTS

City Light anticipates the recordation of precontact and historic archaeological resources and historic built environment resources as part of the study. Most of the study area has not been previously surveyed so these results will help to fill data gaps within this part of the APE and help inform development of a HPMP for the new license.

6.0 REFERENCES

- City of Seattle. 1991. Skagit River Hydroelectric Project FERC No. 553 Historic Resources Mitigation and Management Plan. Prepared by City of Seattle City Light Department. On file, City Light Department, Seattle.
- Department of Archaeology and Historic Preservation (DAHP). 2020. Washington State Standards for Cultural Resources Reporting. Updated January 2, 2020. [Online] URL: <https://dahp.wa.gov/sites/default/files/CR%20Update%20Dec%202019%20.pdf>. Accessed January 2, 2020.
- Erigeron, Patricia C. 1990. Skagit River and Newhalem Creek Hydroelectric Projects: National Register of Historic Places Registration Form. Prepared by National Park Service, Seattle. On file, Washington Department of Archaeology and Historic Preservation, Olympia.
- Johnson, Larry E. 2010. National Register of Historic Places Nomination Form: Skagit River and Newhalem Creek Hydroelectric Projects (DT0066). Prepared by The Johnson Partnership, Seattle. On file at the Department of Archaeology and Historic Preservation in Olympia, Washington.
- National Park Service (NPS). 1997. National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation. Published by the History and Education Department of the NPS, U.S. Department of the Interior.
- _____. 2000. National Register Bulletin 36, Guidelines for Evaluating and Registering Archaeological Resources. Published by the History and Education Department of the NPS, U.S. Department of the Interior.
- National Register of Historic Places (NRHP). 2011. Skagit River and Newhalem Creek Hydroelectric Projects. Whatcom County, WA. National Register #96000416 (1996) and #11000016 (2011).
- Seattle City Light (City Light). 2020a. Pre-Application Document (PAD) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2020.
- _____. 2020b. Proposed Study Plan (PSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. December 2020.
- _____. 2021. Revised Study Plan (RSP) for the Skagit River Hydroelectric Project, FERC Project No. 553. April 2021.