

Purpose of checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. **You may use “not applicable” or “does not apply” only when you can explain why it does not apply and not when the answer is unknown.** You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to **all parts of your proposal**, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for lead agencies

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B, plus the Supplemental Sheet for Nonproject Actions (Part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in “Part B: Environmental Elements” that do not contribute meaningfully to the analysis of the proposal.

¹ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/Checklist-guidance>

A. Background

[Find help answering background questions²](#)

1. Name of proposed project, if applicable:

Lower Baker Dam Crest Improvement Project

2. Name of applicant:

Puget Sound Energy, Inc. (PSE)

3. Address and phone number of applicant and contact person:

Emily Hagin
Puget Sound Energy
1110 Kentucky Street
Bellingham, WA 98229
emily.hagin@pse.com

4. Date checklist prepared:

January 2026

5. Agency requesting checklist:

Town of Concrete

6. Proposed timing of schedule (including phasing, if applicable):

The Crest Improvement Project (Project), which will make critical improvements to Lower Baker Dam (LBK), is anticipated to occur over a four-year period, beginning in the summer of 2026 and ending mid-2030. The crest improvement and scour protection activities are anticipated to be constructed in phases, progressing from the left abutment to the right abutment. The slope modification activity will likely occur concurrent with the other left abutment work during the first phase. To meet flood protection, minimum instream flow, and LBK system operation requirements, the powerhouses and many of the spillway gates will remain operational throughout the Project.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

There are no plans for further activities related to this Project.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

GeoEngineers, 2025, Water Quality Protection Plan for the Lower Baker Dam Crest Improvement Project. File No. 0186-899-07. Prepared for Puget Sound Energy.

² <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-A-Background>

Historical Research Associates and Pertee Inc., 2019, Cultural Resource Assessment for the Lower Baker Seepage Reduction Project, Concrete, Washington. Prepared for Puget Sound Energy.

McMillen, 2024, Left Abutment Hillside Stability Analysis and Seepage Review Technical Memorandum. Project Number 18-107. Prepared for Puget Sound Energy.

Shannon & Wilson, 2019, Biological Assessment for the Lower Baker Dam Seepage Reduction and Crest Improvement Projects. Project number 21-1-22284-013. Prepared for Puget Sound Energy.

Shannon & Wilson, 2019, Critical Areas Site Assessment Report for the Lower Baker Dam Seepage Reduction Project. Project number 21-1-22284-013. Prepared for Puget Sound Energy, March.

Shannon & Wilson, 2019, Geologic Hazards Assessment for the Lower Baker Dam Seepage Reduction Project. Project number 21-1-22284-013. Prepared for Puget Sound Energy.

Shannon & Wilson, 2025, Biological Assessment Addendum for the Lower Baker Dam Crest Improvement Project. Project number 114783-001c. Prepared for Puget Sound Energy, November.

Shannon & Wilson, 2026, Restoration Plan for the Lower Baker Dam Crest Improvement Project. Project number 114783-001b. Prepared for Puget Sound Energy, January.

Shannon & Wilson, 2026, Shoreline Master Program Consistency Analysis for the Lower Baker Dam Crest Improvement Project. Project number 114783-001e. Prepared for Puget Sound Energy, January.

Shannon & Wilson, 2026, Wetland Verification Letter for the Lower Baker Dam Crest Improvement Project. Project number 114783-001k. Prepared for Puget Sound Energy, January.

Shannon & Wilson, 2026, Zoning Consistency Analysis for the Lower Baker Dam Crest Improvement Project. Project number 114783-001i. Prepared for Puget Sound Energy, January.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No other applications are pending for proposals directly affecting the property.

10. List any government approvals or permits that will be needed for your proposal, if known.

- Section 404 authorization from U.S. Army Corps of Engineers (USACE) under the Clean Water Act (CWA) (received November 21, 2025)
- CWA Section 401 Water Quality Certification from Washington Department of Ecology (Ecology)
- Hydraulic Project Approval from Washington Department of Fish and Wildlife (WDFW)
- Shoreline Substantial Development Conditional Use Permit/Shoreline Variance from Town of Concrete

- Zoning Conditional Use Permit/Zoning Variance from Town of Concrete
- State Environmental Policy Act (SEPA) Determination of Non-significance or Mitigated Determination of Non-significance from Town of Concrete
- Grading Permit from Town of Concrete
- National Environmental Policy Act compliance from Federal Energy Regulatory Commission [FERC]
- Section 7 approval under Endangered Species Act (received confirmation from National Marine Fisheries Service on December 16, 2025, that prior consultation was sufficient; additional coordination with U.S. Fish and Wildlife Service is ongoing)
- Section 106 alternative process under the Baker River Hydroelectric Project's (FERC 2150-086) Programmatic Agreement and Historic Properties Management Plan processes as approved by FERC March 1, 2011 (received Washington State Department of Archaeology & Historic Preservation (DAHP) concurrence of no adverse effect on historic properties listed in, or eligible for listing in, the National Register of Historic Places on September 29, 2025)

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

To meet FERC requirements for dam operation and safety, the Project includes the following three major components:

1. Crest Rehabilitation: The Project proposes widening spillway bays and gates, increase height and add non-overflow section to prevent overtopping of abutments, add hoists to all gates, and raise access roads and critical equipment above probable maximum flood (PMF) levels.
2. Scour Protection: The Project includes additional scour protection on the downstream side of the LBK crest and abutments extending into the plunge pool.
3. Slope Modification: The Project includes an upland slope stabilization above the left abutment.

The Project is planned to begin in summer 2026 and would be conducted in phases over a four-year period. After Project completion, approximately 101,766 square feet (2.34 acres) of construction staging areas that were permitted for and used by the recently completed Seepage Reduction Project would be restored. Previously forested areas would be revegetated with native tree and shrub species and areas previously containing emergent vegetation would be hydroseeded with a native erosion control seed mix.

The three major Project elements are described briefly below.

Crest Rehabilitation

The Project includes improvements to the hydraulic capacity of the spillway by removing all spillway bay piers to widen the existing spillway bays, replacing every other pier, and by installing 11 double-wide and one narrow spillway gates that can be operated remotely and raised higher in the gate slots. The Project will also include installing a gantry crane and raising the elevation of the non-overflow sections of the LBK to prevent overtopping and erosion during the PMF. Additionally, the left abutment access roadway will be raised to an elevation of 456.5 feet. During construction, heavy equipment will be stationed on shore and on barges; other equipment and materials may be on the left abutment.

A cofferdam on the upstream side of the LBK in the Lake Shannon forebay will protect work areas and extend work windows. To meet flood protection, minimum instream flow, and dam system operation requirements, the power plants and many of the spillway gates will remain operational throughout the Project.

Scour Protection

As a result of the planned increase in spillway hydraulic capacity associated with the crest rehabilitation, additional hydraulic erosion studies were completed by PSE consultants. That analysis indicated that the impact of water passing over the LBK during flood events would extend slightly farther downstream and higher up in elevation than the existing scour protection covers. The proposed downstream abutment protection improvements ensure large spill events do not negatively impact dam safety due to excessive scour of the existing armoring and underlying rock and adjacent unarmored rock. These measures collectively enhance the resilience of the abutments against scour, uplift, and long-term deterioration.

Scour protection activities on the left and right abutments are anticipated to be constructed in separate seasons of work, generally coinciding with the progression of the crest improvement work from the left abutment in phase 1 to the right abutment in phase 3.

Scour protection activities include the following:

- Dewater the plunge pool: Depending on weather conditions, groundwater conditions, seepage, and the timing of any dam spills, it may be feasible to dewater the plunge pool. Pumps would be placed in the plunge pool and water would be pumped downstream to a location within the lower Baker River channel. If successful at dewatering, the pumping would continue through construction of the scour protection as needed. If water quality measurements for turbidity and pH exceed water quality standards, then dewatering would cease and work would be conducted in the wet. Dewatering of the plunge pool would require the attempted removal of any fish concurrent with dewatering and the installation of a floating silt curtain or cofferdam (or similar) to create a containment area.
- Install floating silt curtain or cofferdam (or similar): If dewatering is not successful, a floating silt curtain would be installed around the active in-water work area, extending as needed to capture any material from the rock and concrete faces that bypasses the containment measures (e.g., work platforms, grout/drill water recycling). If dewatering is successful, then a cofferdam would be placed to create a containment area.

- Safety scaling/vegetation removal: Site preparation would require the removal of trees and rocks (safety scaling) hazardous to workers during scour protection activities above and near the scour protection footprint, and the removal of all vegetation from existing rock and concrete abutment faces using hand tools, the removal of remaining moss and other debris using a pressure washer, and the removal of any remaining loose and weathered rock using mechanical methods (e.g., pneumatic jack hammer) from the scour protection footprint. To the extent practicable, the vegetation, pressure wash water, and other material would be captured and taken to the top of the dam for disposal.
- Install forms for foundation concrete: Depending on the contractor's chosen means and methods, forms of plywood with rebar supports or an aluminum system (or similar) would be constructed in the plunge pool (either in the wet or dry). These forms would be lined with neoprene gaskets or other material to retain placed concrete.
- Drill and install anchors: Anchors would be installed in the prepared rock and concrete surfaces of the dam and abutment face and then grouted to secure the anchors in place. The drilling slurry and excess grout would be captured and reused in the drilling process to the extent practicable or disposed of at an appropriate facility.
- Install drain pipes: Drain pipes would be bolted onto the face of the prepared rock and concrete surfaces to be covered by the scour protection. This drainage gallery will help manage subsurface water flow and reduce hydrostatic pressure.
- Place concrete in multiple lifts: Following placement of the forms, a reinforcing metal cage would be placed in the form. If underwater, the foundation concrete would be placed using a tremie operated by divers, with concrete containing an anti-washout additive. Water displaced by the concrete would mix with water in the plunge pool within the silt curtain. After each lift has cured, the form would be removed and then reinstalled above the finished lift.
- Dispose of waste: Water for drilling and grouting would be obtained from the reservoir. Drilling operation wash water, drill cuttings, and waste grout (grout not injected into the ground anchors and cleaned from hoses and equipment) would be trucked off site and disposed of at an appropriate facility.

Slope Modification

The steep and sparsely vegetated slope above the left abutment has shown signs of past sliding. FERC noted that a slope stability analysis completed in 2022 showed it is "only marginally stable" and concluded that it needs to be stabilized since construction activities "will likely impact this slope." Accordingly, FERC is requiring that the slope be regraded to reduce the potential risks to dam and staff safety, dam operations, and dam access.

Following the installation of appropriate erosion control measures, an approximately 6,000-square-foot area of mixed bedrock; some loose cobble, gravel, and sand (glacial till overlying bedrock); weedy herbaceous vegetation; and young trees and shrubs on the steep

slope above the left abutment would be regraded to a consistent, shallower slope. Analysis by geotechnical engineers shows that the slope requires regrading to 1.5 horizontal to 1 vertical to make it stable. Except where the ground is rock, the exposed surface would be seeded and then covered with an erosion control blanket. Rows of wattles would be staked parallel to the slope every 15 horizontal feet. Approximately 3,300 square feet of the slope modification area contains woody vegetation and would be restored by planting native woody shrub species through the erosion control blanket. Additional information regarding the revegetation of the slope modification area is provided in the Project's Restoration Plan.

Vegetation Restoration

Vegetation restoration is proposed to revegetate approximately 101,766 square feet (2.34 acres) of construction staging areas within the Project area and buffers associated with wetlands, Lake Shannon, and the lower Baker River. Disturbance and vegetation clearing associated with the construction staging areas was previously permitted during the Seepage Reduction Project (SEPA File Number: LU19-003). This Project includes the restoration of those previously permitted areas upon Project completion. Previously forested areas will be revegetated with native tree and shrub species and areas previously containing emergent/herbaceous vegetation will be hydroseeded with a native seed mix. Additional information regarding restoration of temporarily disturbed areas is provided in the Project's Restoration Plan.

- 12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The Project is located on property owned by PSE (Parcel P43333) in the Town of Concrete, on and adjacent to the lower Baker River and Lake Shannon, approximately 1 mile north of the confluence of the lower Baker River and the Skagit River.

Physical Address:

Puget Sound Energy Visitor Center and Business Office
46110 East Main Street
Concrete, WA 98237

The Project is located within Township 35 North, Range 8 East, Section 2. See attached vicinity map (Figure 1) and Project elements map (Figure 2).

B. Environmental Elements

1. Earth

[Find help answering earth questions](#)³

a. General description of the site:

Circle or highlight one: Flat, rolling, **hilly**, **steep slopes**, mountainous, other:

The site contains the LBK, steep slopes (right and left abutments), and gradually sloping hills (left abutment and along Baker River Road).

b. What is the steepest slope on the site (approximate percent slope)?

The interface between the LBK's right abutment and Lake Shannon/lower Baker River is near vertical.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The U.S. Department of Agriculture, Natural Resources Conservation Service online Web Soil Survey identifies the Project site soils as:

- Dystric Xerorthents, 50 to 80% slopes (Dystric Xerorthents are excessively drained gravelly sandy loam soils on outwash terraces formed from glacial outwash);
- Rock outcrops; and
- Mundt silt loam, 45 to 75% slopes.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There are several identified landslides in the Project vicinity. These and other geohazards in the Project area are discussed in the 2019 *Geologic Hazards Assessment Report* and 2024 *Left Abutment Hillside Stability Analysis and Seepage Review Technical Memorandum*.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Excavation and grading are proposed as a part of the slope modification. The slope modification above the left abutment will involve grading approximately 5,000 square feet of slope to a 1.5 horizontal to 1 vertical to make it stable.

³ <https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-earth>

Concrete fill is proposed as a part of crest rehabilitation and scour protection. The scour protection will require rock excavation in the plunge pool prior to placement of concrete fill below the ordinary high water mark (OHWM).

Elevation of the access road at the left abutment will require placement of soil and gravel fill and restoration of construction staging areas will require the removal of temporary fill.

The soil and gravel fill used during construction will come from excavated areas (e.g., slope modification grading) and will be imported from commercial sand and gravel pits. The concrete fill will also come from a commercial source. The table below summarizes cuts and fills by purpose, type, and quantity.

Summary of Cuts and Fills

Purpose	Type	Estimated Area (square feet / acre)	Estimated Quantity (cubic yards)
Cuts			
Slope modification	Soil excavation and grading	5,000/0.12	810
Scour protection	Rock excavation in plunge pool	450/0.01	<5
Staging area restoration	Soil and rock fill	36,900/0.85	7,700
Total		42,350 / 0.98	8,515
Fills			
Slope modification	Soil grading	5,000/0.12	-
Scour protection	Concrete	13,000/ 0.30	5,300
Crest rehabilitation	Concrete	24,000/0.55	3,300
Access road fill	Soil and gravel	14,000/0.32	1,300
Total		56,000 / 1.29	9,900

f. Could erosion occur because of clearing, construction, or use? If so, generally describe.

Yes. Clearing and grading will occur within the slope modification area. Rain events or flooding that occurs when exposed soils are not stabilized could cause erosion.

Appropriate temporary erosion and sediment control best management practices (BMPs) will be in place prior to the earth disturbance to minimize the potential for erosion to the extent possible. Additional information can be found in the Project’s Ecology-approved Water Quality Protection Plan.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

After the Project, there will be no new areas of impervious surface (e.g., new impervious will be on top of old impervious). Note the staging areas developed for the Seepage Reduction Project will be returned to pervious material and revegetated as described in the Project’s Restoration Plan.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

A Project-specific Water Quality Protection Plan, which will include an In Water Work Protection Plan, Stormwater Pollution Prevention Plan, and associated Temporary Erosion and Sediment Control Plan, has been prepared by PSE and will be approved by Ecology prior to beginning earthwork, in-water work, or over-water work.

The combination of plans will contain specific requirements for use of BMPs to minimize erosion and appropriately manage and monitor runoff.

2. Air

[Find help answering air questions](#)⁴

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Short-term, temporary air emissions during construction from equipment, such as vehicle exhaust and dust, may occur. BMPs will be used to minimize and control vehicle exhaust and dust. No additional air emissions are anticipated once the Project is completed.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

As needed, BMPs would be used to control temporary air pollutant emissions in construction areas. Those could consist of avoiding prolonged idling of vehicles, spraying water to minimize dust, and periodically sweeping paved areas as necessary. Construction equipment will be properly maintained throughout the Project.

3. Water

[Find help answering water questions](#)⁵

a. Surface:

[Find help answering surface water questions](#)⁶

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If

⁴ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-Air>

⁵ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water>

⁶ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Surface-water>

yes, describe type and provide names. If appropriate, state what stream or river it flows into.

Surface water bodies within the Project area or in the immediate vicinity of the Project consist of Lake Shannon and the lower Baker River. Both Lake Shannon and the lower Baker River are Shorelines of the State. Four wetlands were delineated within the Project area, but no work will occur within them.

The Project area wetlands and surface waters are summarized below; additional details can be found in the Project’s *Critical Areas Site Assessment Report* and the *Wetland Verification Letter*. Of note, the report describes conditions within the larger Seepage Reduction Project study area, which includes the Project. The four wetlands adjacent to the Crest Improvement Project are listed in the table below. Also of note is that Wetland A is included in the report but was filled and mitigated consistent with all appropriate local, state and federal permits as a part of the Seepage Reduction Project. The Crest Improvement Project will not impact wetlands.

Wetland Summary

Wetland	2014 Ecology Wetland Rating	Size (acres)	HGM Classification	Cowardin Vegetation Classes
B	III	0.13	Slope	Emergent, Scrub-Shrub, Forested
C/D	III	0.09	Slope	Emergent, Scrub-Shrub, Forested
O	III	0.04	Slope	Scrub-Shrub
Q	IV	0.16	Slope	Forested

Lake Shannon is an impoundment of the Baker River created by the Lower Baker Dam. It is not included on Ecology’s list of impaired waters for any parameters and is considered to have good water quality. The floating surface collector (FSC) and debris boom upstream of the LBK generally isolates the forebay, preventing inputs of large woody debris from upstream and preventing fish from entering the forebay except during occasional and short-term lowering of the FSC nets. The west bank of the forebay is generally steep-sided bedrock topped by mixed forest. The east bank of the forebay is shallower, and houses many of the dam-related facilities.

The lower Baker River extends from the Skagit River downstream to the LBK upstream. A barrier dam approximately ½ mile upstream from the Skagit River blocks passage of fish upstream. Fish are channeled into the upstream fish trap instead, where they are then transported back to the Skagit River or upstream to Baker Lake. Another 0.4 mile upstream are the powerhouse discharges, which supply most of the lower Baker River flow. The stretch of river between the powerhouses and the Skagit River has been trenched and shaped into a trapezoid shape. The remaining quarter-mile to the LBK is a steep-sided bedrock canyon with heavily vegetated side slopes. The primary sources of water for this reach are a minor amount of seepage, significantly reduced by the recently completed Seepage Reduction Project, and groundwater. Although no water has spilled over the LBK in the past two years,

spilling events significantly alter the hydrology in the lower Baker River when they occur. The lower Baker River has very little large woody debris and sand/gravel recruitment because of the LBK and Lake Shannon debris boom. Past trenching below the powerhouses has eliminated habitat complexity.

Wetland B is generally dominated by a forested stratum of red alder and black cottonwood; a shrub community of salmonberry and Scouler's willow; and an emergent community of reed canarygrass and big-leaf sedge. It's a Category III slope wetland located on the east side of Baker River Road.

Wetland C/D is generally dominated by a forested stratum of red alder and black cottonwood; a shrub community of salmonberry, red osier dogwood, and red alder; and an emergent community of field horsetail, piggyback plant, and bluegrass. It's a Category III slope wetland located on the right abutment within a landslide area.

Wetland O is generally dominated by a shrub stratum of twinberry and salmonberry and an emergent community of little western bittercress. It's a Category III slope wetland located on the east side of Baker River Road.

Wetland Q is generally dominated by a forested stratum of red alder, western red cedar, and black cottonwood; a shrub community of salmonberry and red osier dogwood; and an emergent community of lady fern. It's a Category IV slope wetland located west of Baker River Road.

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The Project's scour protection, crest rehabilitation, slope modification, and staging area restoration activities occur in or within 200 feet of Lake Shannon and the lower Baker River, and in the vicinity of the wetlands described in Question B.3.a.1. These Project elements are described above in response to Question A.11.

3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Scour protection activities would result in the placement of approximately 200 cubic yards of fill, consisting of concrete with an anti-washout additive, below the OHWM of the lower Baker River. This fill would be placed on the downstream face of the LBK, in the plunge pool.

4. Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.

The Project will likely require withdrawal of water from the Lake Shannon reservoir for use in power washing, saw cutting, drilling, and other construction activities.

Following use, the water will be collected and treated to meet State water quality standards and then handled consistent with the Ecology-approved Water Quality Protection Plan. Approximate quantities are not currently known.

As described in the response to Question A.11, an effort will be made to dewater the plunge pool prior to placement of concrete in forms below the OHWM of the lower Baker River. Water would be pumped downstream to a location within the lower Baker River channel. The quantity depends on the volume of water present in the plunge pool at the time of work.

5. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

Yes, per Federal Emergency Management Agency Community Panel Number 530151 0100 C, Lake Shannon, the LBK, and the lower Baker River are within Zone A, an area of 100-year flood where base flood elevations and flood hazard factors are not determined. The only proposed fill in the floodplain is within the plunge pool on the downstream side of the LBK, which is supported by groundwater, a small amount of seepage, precipitation, and the infrequent spill by the LBK.

6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

BMPs will be utilized to avoid and minimize risk of waste material discharges into Lake Shannon and the lower Baker River.

Waste materials (such as process water from drilling and saw cutting, concrete and concrete dust, soil and vegetation) that result from construction activities on and near the LBK will be captured, treated as appropriate, and then handled consistent with the Ecology-approved Water Quality Protection Plan. Concrete and other waste materials that have come into contact with concrete and concrete dust will be trucked off site and disposed of at an appropriate facility.

Stormwater that could contact waste materials will also be handled consistent with the Stormwater Pollution Prevention Plan and the Temporary Erosion and Sediment Control Plan found in the Water Quality Protection Plan to protect water quality in Lake Shannon and the lower Baker River.

b. Ground:

[Find help answering ground water questions⁷](#)

- 1. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.**

No groundwater will be withdrawn as part of the proposed Project. No water will be discharged to the groundwater table.

- 2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

There will be no discharges of waste materials into the ground.

c. Water Runoff (including stormwater):

- 1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

Construction-related stormwater runoff will be minimized using source control temporary erosion and sediment control BMPs and will be ground infiltrated using perimeter control BMPs to the extent possible. Construction stormwater that enters Lake Shannon or the lower Baker River will be monitored in accordance with federal and state water quality laws, consistent with the Project's Water Quality Protection Plan. Site preparation and grading will be used to minimize the amount of potential construction-related stormwater runoff in any one location.

Stormwater run-on from off site will be directed around the Project area using a sequence of existing ditches and culverts and new stabilized ditches and culverts. The receiving waterbodies of the stormwater run-on will not be changed.

- 2. Could waste materials enter ground or surface waters? If so, generally describe.**

See responses to Questions B.3.a.6 and B.3.b.2 above. The primary potential pollutants are sediment from disturbed soils, petroleum products used by construction equipment, concrete materials, and other fill materials. The discharge of potential waste materials during construction will be minimized through use of BMPs found in the Water Quality Protection Plan.

⁷ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Groundwater>

3. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Drainage patterns will not be altered or affected by the Project. Increasing the elevation of the existing access road will not change the area's existing drainage patterns. Although the slope modification activity requires a change to the slope's steepness to increase stability, the slope's direction and the pattern of sheet flow across that slope will remain the same.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Through compliance with applicable local and state regulations, the Project has incorporated appropriate and necessary measures to reduce and control runoff. These measures include site grading, minimization of erodible surfaces in high-activity areas, capture and containment of construction-related waste water, and stabilization of disturbed soils. No additional measures are necessary. If unexpected conditions arise during construction, the contractor will adaptively manage the site consistent with its Water Quality Protection Plan and the National Pollutant Discharge Elimination System Construction Stormwater General Permit.

4. Plants

[Find help answering plants questions](#)⁸

a. Check the types of vegetation found on the site:

- deciduous tree:**
- evergreen tree:**
- shrubs**
- grass**
- pasture**
- crop or grain**
- orchards, vineyards, or other permanent crops.**
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**
- water plants: water lily, eelgrass, milfoil, other**
- other types of vegetation**

⁸ <https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-4-plants>

b. What kind and amount of vegetation will be removed or altered?

Slope Modification Area

Approximately 3,300 square feet of weedy herbaceous vegetation, shrubs, and small and moderately sized trees are proposed for removal from the slope modification area. The trees consist mainly of small to medium-sized black cottonwood, western red cedar, big-leaf maple, and red alder, with the more mature trees growing at the top of the slope modification area. Areas with only a shallow layer of soil support weedy grasses and forbs. The slope modification area will be reseeded with a native erosion control seed mix and then replanted with native shrubs and trees through an erosion control blanket.

Scour Protection – Left and right abutments

Vegetation in the scour protection footprints will be removed. For example, a railroad along the right abutment, overlapping with the proposed scour protection footprint, that was decommissioned prior to LBK construction, left a shelf on which sufficient sediment and leaf litter has accumulated to allow for some vegetation establishment, primarily invasive Himalayan blackberry and other weedy species. Since that time, some native trees and non-native and native shrubs have taken root in rock crevices.

Two small-diameter (2-4 inches) dead or dying evergreen trees are present above the right abutment and may require removal if the dead/dying trees pose a safety hazard to workers. The left abutment scour protection footprint includes Himalayan blackberry, small willows, western red cedar seedlings, four red alder saplings, and scattered forbs.

Site preparation requires the removal of trees hazardous to workers during scour protection activities above and near the scour protection footprint, the removal of all vegetation from existing rock and concrete abutment faces using hand tools, and the removal of remaining moss and other debris using a pressure washer from the scour protection footprint.

c. List threatened and endangered species known to be on or near the site.

No federally threatened or endangered plants are known to be on or near the Project site and none were identified in the U.S. Fish and Wildlife Service (USFWS) Information, Planning and Consultation Report. The Washington State Department of Natural Resources has identified a 'sensitive' plant near the Project area – the chocolate chip lichen. The plant is growing on the wall of the nearby quarry and is not in the Project site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

Following Project completion, temporarily disturbed woody vegetated areas within the slope modification area will be replanted with habitat-appropriate native species as described in the Restoration Plan.

Additionally, cleared construction staging areas previously permitted under the Seepage Reduction Project, and that will continue to be used as part of this Project, will be

revegetated and restored upon completion of the Project as described in the Restoration Plan.

Restored areas within buffers and shoreline jurisdiction will be monitored for at least five years.

e. List all noxious weeds and invasive species known to be on or near the site.

The most observed noxious/invasive weed is Himalayan blackberry, a Class C weed included on the Skagit County Noxious Weed List. Blackberry is present on the shelf on the canyon wall of the right abutment and on other rock and concrete surfaces associated with both abutments, in the open areas under powerlines and along roads, and along other habitat edges. English ivy, a Class C noxious weed, is also growing on the trees near the dam's left abutment. Efforts to control the ivy were observed in the summer of 2018.

5. Animals

[Find help answering animal questions⁹](#)

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.

Examples include:

- **Birds:** hawk, heron, eagle, songbirds, other: waterfowl
- **Mammals:** deer, bear, elk, beaver, other:
- **Fish:** bass, salmon, trout, herring, shellfish, other:

Specific wildlife species observed on the site during wetland and stream fieldwork included the western toad, rough-skinned newt, bald eagle, Anna's hummingbird, black-capped chickadee, and dark-eyed junco.

The WDFW identifies the following fish species occurrence within Lake Shannon and the lower Baker River.

Fish Species Occurrence Within Lake Shannon and Lower Baker River

Common Name	Scientific Name
Resident Coastal Cutthroat	<i>Oncorhynchus clarki</i>
Cutthroat Trout	<i>Oncorhynchus clarki</i>
Pink Salmon Odd Year	<i>Oncorhynchus gorbuscha</i>
Coho Salmon	<i>Oncorhynchus kisutch</i>
Rainbow Trout	<i>Oncorhynchus mykiss</i>
Steelhead Trout	<i>Oncorhynchus mykiss</i>
Sockeye Salmon	<i>Oncorhynchus nerka</i>
Kokanee Salmon	<i>Oncorhynchus nerka</i>
Fall Chinook Salmon	<i>Oncorhynchus tshawytscha</i>

⁹ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-5-Animals>

Common Name	Scientific Name
Spring Chinook Salmon	<i>Oncorhynchus tshawytscha</i>
Summer Chinook Salmon	<i>Oncorhynchus tshawytscha</i>
Bull Trout	<i>Salvelinus malma</i>

Of the species identified in the table above, only resident fish are present in Lake Shannon as a result of PSE trap-and-haul of adult anadromous fish from the lower Baker River to Baker Lake or the Skagit River. A net system associated with the FSC prevents fish from accessing Lake Shannon Project area (the forebay just upstream of the LBK) and presence of the barrier dam and upstream fish trap limits fish access to the Project area within the lower Baker River (the plunge pool).

b. List any threatened and endangered species known to be on or near the site.

Chinook salmon, steelhead trout (anadromous rainbow trout), and bull trout are presently listed as threatened species under the federal Endangered Species Act. They migrate up the lower Baker River and then are collected at PSE’s upstream fish trap and haul facility and transported to Baker Lake, the Skagit River, or a hatchery.

The U.S. Fish and Wildlife Service’s Information, Planning, and Consultation report indicates that bull trout (threatened), marbled murrelet (threatened), Mt. Rainier white-tailed ptarmigan (threatened), yellow-billed cuckoo (threatened), northern spotted owl (threatened), gray wolf (endangered), North American wolverine (threatened), grizzly bear (threatened), monarch butterfly (proposed threatened), and Suckley’s cuckoo bumble bee (proposed endangered) may be present in the Project area.

A Biological Assessment and Biological Assessment Addendum have been prepared to describe the potential impacts of the Project on federally listed fish and wildlife.

c. Is the site part of a migration route? If so, explain.

Anadromous salmonids migrate up the lower Baker River where they are captured at the PSE upstream fish trap and hauled to Baker Lake, the Skagit River, or WDFW’s Marblemount Hatchery.

The Project area is also part of the Pacific Flyway, a north-south corridor used by migratory birds that head north and south at different times of year to find overwintering grounds, breeding grounds, and forage.

d. Proposed measures to preserve or enhance wildlife, if any.

Temporarily disturbed vegetated areas will be replanted with native species similar to the communities that were present prior to the Project, as appropriate, as described in the Restoration Plan.

e. List any invasive animal species known to be on or near the site.

No invasive animal species are known to be on or near the site, although European starling, house sparrow, rock pigeon, and Eastern gray squirrel are likely present.

6. Energy and natural resources

[Find help answering energy and natural resource questions](#)¹⁰

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The energy needs of the completed Project will not vary from those of the existing Baker River hydroelectric operations.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No, the Project will not affect the potential use of solar energy by adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

Energy conservation features are not included in the Project proposal. However, this Project directly addresses safety and security of LBK and its associated hydroelectric powerhouses, facilitating the ongoing generation of renewable hydroelectricity.

7. Environmental health

[Find help with answering environmental health questions](#)¹¹

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.

1. Describe any known or possible contamination at the site from present or past uses.

A Phase 1 and Phase 2 Environmental Site Assessment were completed in 2018 in areas adjacent to the Project for the Seepage Reduction Project. Areas of potential contamination that were preliminarily identified adjacent to the Crest Improvement Project are the inactive quarry and a former railway corridor that transported

¹⁰ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-6-Energy-natural-resou>

¹¹ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-7-Environmental-health>

material to and from the quarry. There is no known contamination within the Project areas.

2. Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

There are no known existing hazardous chemicals or conditions within the Project area. Hazardous substances may be present at the inactive quarry adjacent to the Project area. Preliminary assessment of potential contamination at the quarry identified historical use of heavy equipment and machinery, "outhouse" structures potentially used for on-site disposal, former railways crossing the site, shooting areas, and dumping areas.

No underground hazardous liquid or gas transmission pipelines pass through the Project area.

3. Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

Toxic or hazardous chemicals that might be stored, used, or produced during the Project's construction or operation include diesel, oil, lubricants, and/or gasoline used by construction equipment and vehicles. Scour protection activities require concrete that includes an anti-washout additive, which will also be stored on site.

4. Describe special emergency services that might be required.

No special emergency service needs are anticipated for the Project. Contractor-responsible health and safety plans and practices will be implemented throughout construction.

5. Proposed measures to reduce or control environmental health hazards, if any.

The contractor will prepare and comply with a Project-specific Spill Prevention Control and Countermeasure Plan and will meet all conditions of the Project's National Pollutant Discharge Elimination System permit. Use of BMPs during construction, particularly those related to handling high pH material, will provide appropriate reduction of health hazards. If environmental health hazards are identified, appropriate measures will be taken to protect the environment and human health.

b. Noise

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Existing noise levels from traffic on existing roads and PSE maintenance and operations at LBK will not affect the Project.

2. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?

The proposed Project would be constructed 10 to 13 hours a day, typically six days a week with Sundays as needed, over a four-year period. Construction will result in elevated noise levels from heavy equipment operation and potentially occasional helicopter use associated with the Project. In the Town of Concrete, construction-related truck traffic will also generate noise. These noise sources are discussed below.

1. As part of the *Biological Assessment* and *Biological Assessment Addendum*, Project noise calculations were completed based on Washington State Department of Transportation (WSDOT) guidance. The noise calculations identified the proposed Project's three loudest pieces of equipment (hoe ram, rock drill, and jackhammer) and estimated the highest construction noise that may be reached during construction may be 99 decibels. For reference, the typical noise level of a garbage truck is 100 decibels, heavy city traffic is around 90 decibels, and a hair dryer creates noise levels at approximately 80 decibels. Based on the U.S. Census Bureau population estimate for the Project area vicinity, background noise levels are estimated at 52 decibels, the equivalent of light auto traffic from 100 feet away. The noise calculations estimate that when all three of these pieces of equipment are used simultaneously, the noise may travel between 0.72 miles and 2.12 miles from the Project site before meeting background noise levels, depending on site conditions and terrain. However, use of these three loudest pieces of equipment is expected to occur during short intervals and will not be run continuously throughout the duration of the Project.
2. The Project may use helicopters sporadically to transport materials to and from LBK. The helicopter flight path to support the Project is over a mix of developed areas and forest, directly between the Mears Field Airport and the LBK. The helicopter may hover over the LBK and along the abutments as equipment or materials are raised and lowered to the work areas. When a helicopter is used, helicopter noise will be present during the day in the vicinity of the Project's access routes and potentially within the Town of Concrete. Helicopter use would be additionally restricted to 2 hours after sunrise and 2 hours before sunset during marbled murrelet nesting season (April 1 to September 4).
3. Truck traffic providing deliveries to and from the Project site may also increase noise in the Town of Concrete. The proposed access route to the east of the

Project area is described in Section B.14 Transportation. The truck traffic that will travel to and from the site will occur during Project mobilization, with some traffic during construction. Mobilization will consist of office trailer, equipment (excavators, bulldozers, front loaders, etc.), and material and supplies (pipe, steel pile, structural steel, etc.) deliveries brought in on tractor trailers or similar. Following mobilization, truck traffic to the site will mainly consist of concrete trucks, fill material delivery, and debris removal. Noise associated with the Project's truck traffic will be present during the day in the vicinity of the Project's access routes. Deliveries to the Project site are not anticipated at night.

Town of Concrete Noise Regulations

The Town of Concrete's Comprehensive Plan identifies the Project area as Open Space zone. Two Residential zones are located north of SR 20, one on either side of the lower Baker River. The residential area on the west side of the lower Baker River is located approximately 0.5 mile south of the Project area. The residential area on the east side of the Baker River is located approximately 0.7 mile south of the Project area. Other nearby zones include Industrial, Commercial/Light Industrial, and Town Center.

As described in the response to Question B.14.a of this checklist, the Project area will be accessed from the east side of the LBK. Access to the Project via East Main Street and Baker River Road borders the residential zone on the east side of the lower Baker River, as well as an industrial zone. The Town of Concrete Municipal Code (Chapter 9.12) includes limits on public disturbance noise levels in Residential and Commercial zones, the most restrictive of which prohibits noise disturbance (including construction noise) in residential areas from 10 pm to 7 am, except weekends, when noise is prohibited from 10 pm Saturday to 10 am Sunday.

When the three loudest pieces of equipment are running simultaneously at the construction site, noise may extend throughout the Town of Concrete. However, in the Town's Residential zone closest to the Project, the noise levels are estimated to be approximately 50 decibels, which is akin to standing 100 feet from light auto traffic.

Washington Administrative Code (WAC)

The WAC regulates maximum environmental noise levels in WAC 173-60. Noise originating from temporary construction sites is exempt from the maximum environmental noise levels, except in residential areas (Class A EDNAs) between the hours of 10 pm and 7 am (WAC 173-60-050). No Project work is anticipated to occur after 10 pm; however, work may begin at 6am. Helicopter use would occur in daytime hours.

Under WAC 173-60-30, the Project area and surrounding forest would be considered an Environmental Designation for Noise Abatement (EDNA) Industrial area (Class C EDNA) and the Residential zone in the Town of Concrete would be categorized as Class

A EDNAs, the most sensitive EDNA with the lowest maximum permissible noise limit. In evaluating impacts to noise receptors in the Town of Concrete, the WAC limits noise generated in Class C EDNAs to receiving properties in Class A EDNAs to 60 A-weighted decibels during the day.

Within the Town of Concrete's designated residential areas, the Project's expected noise levels are below the 60 A-weighted decibel threshold. When the three loudest pieces of equipment are used simultaneously, noise levels may be just at the daytime thresholds in the WAC. If a helicopter is used, noise levels have the potential to exceed daytime thresholds; however, because of the diurnal timing restrictions associated with the marbled murrelet nesting season (April 1 to September 4) and the time of sunrise outside of those dates (and that the helicopter would operate in daytime hours), the helicopter noise would occur during hours allowed in WAC 173-60-050.

The completed Project will not result in higher noise levels than currently exist.

3. Proposed measures to reduce or control noise impacts, if any:

Construction noise will be limited to the extent possible by properly maintaining and repairing equipment as needed so that all equipment is running optimally. No work is anticipated at night. Any helicopter use would also be limited to daytime hours.

8. Land and shoreline use

[Find help answering land and shoreline use questions](#)¹²

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The Project site is comprised of the existing LBK, associated power generating facilities, and naturally vegetated forested areas. A boat launch and boat parking area located on Lake Shannon to the northeast of the Project site are open to the public and will continue to be open for use during construction.

The LBK generates hydropower via Powerhouses #3 and #4, and the facility is also managed for flood control, recreation, and salmon enhancement. An FSC captures juvenile downstream-migrating fish from the upstream side of the dam, and an upstream fish trap captures upstream-migrating fish from the barrier dam downstream of LBK and the powerhouses. The FSC includes a support dock and facilities on the left bank of Lake Shannon, between the FSC and the LBK. The powerhouses, FSC, and upstream fish trap will continue to function during Project construction.

The inactive quarry located east of the LBK facilities has not been in operation since 1962. The property is marked No Trespassing and is patrolled by County sheriffs, but

¹² <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-8-Land-shoreline-use>

individuals appear to trespass on the property for various kinds of recreation. There are several abandoned buildings on the property. The quarry area will continue to be closed to the public during construction.

The forested area in the greater Project vicinity is managed by state or private owners for timber production.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

The Project area has not been used for agriculture. Timber harvesting occurs on lands in the Project vicinity. Forested areas within the project area have not been identified to have long-term commercial significance due to critical areas protections, proximity to infrastructure, and threatened and endangered species protections. The forested areas that are cleared for the Project will be replanted with native species following the Restoration Plan.

- 1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

The proposed Project will not be affected by and will not affect agriculture or forest land practices in the surrounding area.

- c. Describe any structures on the site.**

The LBK, including its attached power tunnel intake structure, was built in 1924 and 1925 and is the principal existing built structure that is part of the proposed Project. It is a concrete thick arch dam that is 285 feet high by 550 feet long with a 250-foot radius to the face of the LBK. The dam was raised by 33 feet and the apron extended by 35 feet in 1927. The dam crest has 23 timber and steel gates that are roughly 9.5 feet wide by 14.5 feet high.

Other property structures include a dock north of the LBK that serves the FSC, two powerhouses downstream of the LBK (the most recent of which was constructed in 2013), and a barrier dam and upstream fish trap farther downstream. Three buildings used by dam operators and a small, unused old generator building are located near the LBK on the LBK left abutment.

- d. Will any structures be demolished? If so, what?**

The generator building located above the left abutment will be demolished. This building is no longer in use.

e. What is the current zoning classification of the site?

The Project area is located within the Town of Concrete. The Town of Concrete's Comprehensive Plan identifies the project area as Open Space.

f. What is the current comprehensive plan designation of the site?

The Comprehensive Plan designation is the same as the zoning classification listed in the previous question.

g. If applicable, what is the current shoreline master program designation of the site?

The Project vicinity is in four Town of Concrete shoreline environment designations established in the Town's Shoreline Master Program: (1) High Intensity, (2) Aquatic, (3) Urban Conservancy, and (4) Natural. Project work is only proposed within High Intensity, Aquatic, and Urban Conservancy designations.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

Critical areas, as defined within the Town's critical areas code, are present within the Project area. These critical areas include the delineated wetlands in the Project area, Lake Shannon, lower Baker River, habitat conservation areas, fish and wildlife conservation areas, and geologically hazardous areas.

i. Approximately how many people would reside or work in the completed project?

The completed Project will not result in homes or residences. The number of people working in the LBK operations is not expected to change between pre- and post-Project conditions.

j. Approximately how many people would the completed project displace?

The completed Project will not result in displacement.

k. Proposed measures to avoid or reduce displacement impacts, if any.

No measures are necessary.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

The proposed Project is compatible with the existing and projected land use. The LBK will continue hydroelectric power generation and the forested open space surrounding the dam will remain.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

No measures are necessary.

9. Housing

[Find help answering housing questions](#)¹³

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

The Project would not add any housing units.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

The Project would not eliminate any housing units.

c. Proposed measures to reduce or control housing impacts, if any:

No measures are necessary.

10. Aesthetics

[Find help answering aesthetics questions](#)¹⁴

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Dam crest rehabilitation activities will result in raising the majority of the LBK crest approximately 6.5 feet with the lowest portions of the LBK raised approximately 16 feet after construction of the new gates and non-overflow sections. A gantry crane may also be added to the raised crest of the LBK, yielding a total maximum height increase of approximately 42 feet. However, the Project is not expected to significantly impact public sight lines.

b. What views in the immediate vicinity would be altered or obstructed?

The LBK is not located in a neighborhood and is only visible to users of Lake Shannon or those who are deliberately visiting the LBK. The proposed increase in height will not substantively change the visual characteristics of the dam post-construction.

Views along Lake Shannon will be altered temporarily during construction. Temporary structures/equipment, including overwater work platforms and barges, will be in the Lake

¹³ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-9-Housing>

¹⁴ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-10-Aesthetics>

Shannon forebay upstream of the dam. Work trailers and staging/stockpiling areas will be established near Lake Shannon's eastern shoreline.

c. Proposed measures to reduce or control aesthetic impacts, if any:

The proposed temporary structures are integral to completing the Project. Physical alterations have been limited to PSE property. Following construction, these temporary elements will be removed, and previously vegetated areas will be replanted with native species as described in the Restoration Plan.

11. Light and glare

[Find help answering light and glare questions](#)¹⁵

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The Project construction will occur 10 to 13 hours a day, typically six days a week with Sundays as needed, for approximately four years; no night work is planned. Lights will be used to facilitate construction at dawn and dusk during shorter winter days. Lighting to facilitate construction will include existing lighting on the LBK left abutment. Where additional lighting is needed, light poles may be erected for the duration of the Project and would be removed following Project completion. Portable lighting such as light plants and light towers may also be used.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

The completed Project does not include additional lighting, only replacement of existing permanent lighting. Lighting that is added to facilitate Project construction will be removed following Project completion.

c. What existing off-site sources of light or glare may affect your proposal?

There are no off-site sources of light that will affect the proposed Project.

d. Proposed measures to reduce or control light and glare impacts, if any:

Lighting used during construction to facilitate construction activities will be directed toward the work areas and will not be directed towards areas outside of the Project area. The Project site is located such that the additional construction lighting would not be seen by residents in the Town. The Project does not anticipate impacts from lighting to people or animals.

¹⁵ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-11-Light-glare>

12. Recreation

[Find help answering recreation questions](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity?**

Recreational fishing and boating is allowed on Lake Shannon. A PSE boat ramp is used by the public to access Lake Shannon approximately $\frac{3}{4}$ mile northeast of the LBK.

- b. Would the proposed project displace any existing recreational uses? If so, describe.**

The majority of Project construction will occur near LBK, where recreational activities and boats are prohibited. Construction-related barges may launch at the PSE-owned boat launch $\frac{3}{4}$ mile northeast of the LBK and then travel to the Project area, which would require temporary closure of the boat launch while construction equipment is present. This is expected to be an infrequent activity.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:**

No measures are necessary.

13. Historic and cultural preservation

[Find help answering historic and cultural preservation questions](#)¹⁶

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.**

Yes. The Project occurs at LBK, an engineered hydropower structure more than 45 years old and located within the Area of Potential Effects (APE) defined for the Baker River Hydroelectric Project (FERC No. 2150). Multiple cultural resource investigations and Historic Property Inventory (HPI) forms were completed between 2004 and 2010 for FERC relicensing. These investigations form the basis of the Project's Historic Properties Management Plan (HPMP).

During an earlier phase of the Crest Improvement Project, federal Section 106 review resulted in a Finding of Adverse Effect, and a Memorandum of Agreement (MOA) was executed between FERC and the Washington State Department of Archaeology and Historic Preservation (DAHP). Historic hydropower structures within the APE continue to be managed under the HPMP and MOA stipulations.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material**

¹⁶ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-13-Historic-cultural-p>

evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

Several archaeological investigations have been completed within the Baker River Hydroelectric Development Project/HPMP APE for the Baker River Hydroelectric Development Project, FERC 2150. A total of 53 archaeological resources were recorded during the course of these studies, including 20 precontact period resources, 34 historic-period resources, and one site containing both precontact and historic-period components. Resources include prehistoric lithic scatters and isolates; historic transportation features related to railroads, roads, and trails; and historic features and artifacts representative of settlement, logging, recreation, and federal management of the Baker Valley.

Nineteen precontact resources are contributing elements of the Baker River Archaeological District (DT189) which was determined eligible for the National Register of Historic Places (DAHP concurrence 3/30/04).

No new tribal cultural properties or archaeological sites have been identified within the LBK crest or abutment work areas. Prior aboveground and subsurface investigations (2004–2010) did not document archaeological resources in the areas affected by the Project.

Tribes with historic affiliation to the Baker River—Upper Skagit Indian Tribe, Swinomish Indian Tribal Community, and the Sauk-Suiattle Indian Tribe—participated in prior Section 106 consultation and are members of the Cultural Resources Advisory Group (CRAG). Consultation with CRAG has been ongoing throughout 2024 and 2025 to review design refinements and ensure continued compliance with the MOA and the HPMP.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The Project includes crest modifications, scour protection, and abutment slope adjustments. These activities occur on previously disturbed structural elements of the dam. No new effects to historic properties beyond those addressed in the executed MOA are anticipated.

Under Stipulation A-3 of the MOA, PSE retained an architectural historian to review minor design modifications associated with the abutment scour protection. This specialist review concluded that the design adjustments would not alter the nature or extent of effects to historic properties previously considered under the MOA.

Based on this analysis, PSE recommended a determination under HPMP Section 5.3.1(B): *“Historic properties eligible or listed within the APE, but the project will have no effect on them.”*

CRAG received several design presentations in 2024–2025, and PSE submitted findings and recommendations to DAHP and CRAG for comment. DAHP concurred with the recommended finding on September 29, 2025.

With DAHP concurrence, and given that the MOA remains the governing mitigation instrument, the proposed Project is not expected to cause additional impacts beyond those already resolved through the federal Section 106 process.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

The Project will continue to comply with:

- the FERC–DAHP MOA (Adverse Effect Agreement)
- the Historic Properties Management Plan (HPMP)
- Stipulation A-3 architectural historian oversight requirements
- CRAG consultation commitments
- Project inadvertent discovery and treatment procedures under federal and Washington State requirements (RCW 27.44, RCW 27.53)

Any unanticipated discoveries or changes in Project design will be evaluated through the HPMP and, if required, additional Section 106 review. All work will follow the MOA treatment measures that remain active for the Project.

Because DAHP concurred on September 29, 2025, with the HPMP 5.3.1(B) determination of “no effect,” no additional mitigation beyond implementation of the MOA and HPMP is required for SEPA.

14. Transportation

[Find help with answering transportation questions](#)¹⁷

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The site is accessed from Interstate 5, followed by Highway 20, the North Cascades Highway. The Project area will be accessed by crossing the SR 20 bridge, turning north on North Everett Avenue, turning northeast on East Main Street, and then turning right on Baker River Road. Baker River Road connects to the east side of the Project area.

Approximately 25 to 35 workers and support staff will be on site at one time during the Project. During Project activities, the crews will likely work 10- to 13-hour days, six days

¹⁷ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-14-Transportation>

a week with Sundays as needed, between 6am and 4pm with occasional work until 7pm. The majority of the workers will travel to and from the site every day.

The bulk of the heavy truck traffic that will travel to and from the site will occur during Project mobilization, with some traffic during construction. Mobilization will consist of office, equipment (excavators, bulldozers, front loaders, etc.), and material and supplies (pipe, steel pile, structural steel, etc.) deliveries brought in on tractor trailers. Following mobilization, truck traffic to the site will mainly consist of concrete trucks, fill material delivery, and debris removal. No work or deliveries to the Project site are anticipated at night.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

There is no public transit access to the Project area. Skagit Transit provides two public transit routes (#70X and #717) to the Town of Concrete. The transit stop closest to the Project site is located at 144 Main Street, approximately 1.4 road miles from the Project.

c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The proposed Project will not require any new public roads. Improvements to existing public roads, such as adding gravel or repaving, may be required. Existing private roads may be regradeled during Project construction.

d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

A barge, either constructed or launched from the public boat launch or PSE's pier, will be used to bring some equipment and materials to the upstream side of the LBK. Additionally, the proposed Project may use a helicopter to transport material to the LBK. Helicopters would take off and land at Mears Field. No other use of water, rail, or air transportation is anticipated.

How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The completed Project will not result in any additional vehicular trips per day to the site. Post-Project use of the roads in the vicinity of the Project area is expected to remain the same as pre-Project use.

e. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The Project will not affect or be affected by transport of agricultural or forest products on the Project area roads. No known active forest harvest activities or agricultural activities occur in the vicinity of LBK.

f. Proposed measures to reduce or control transportation impacts, if any:

A traffic control plan will be prepared for the Project access routes if required by the Town of Concrete.

15. Public services

[Find help answering public service questions¹⁸](#)

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The Project will not result in an increased need for public services.

b. Proposed measures to reduce or control direct impacts on public services, if any.

No additional measures are necessary.

16. Utilities

[Find help answering utilities questions¹⁹](#)

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No additional utilities are proposed for the Project.

¹⁸ <https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-15-public-services>

¹⁹ <https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-16-utilities>

C. Signature

[Find help about who should sign](#)²⁰

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

X *Emily E. Hagin*

Type name of signee: Emily Hagin

Position and agency/organization: Supv. Municipal Land Planning/Puget Sound Energy

Date submitted: 01/26/26

²⁰ <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-C-Signature>