

**Howard A. Hanson Dam
Additional Water Storage Project**
Section 902 Post Authorization Change Validation
Study – Fish Passage
King County, Washington

**APPENDIX A
ENVIRONMENTAL COMPLIANCE**

Final Integrated Validation Report and Supplemental
Environmental Impact Statement



**US Army Corps
of Engineers®**
Seattle District



Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A
ENVIRONMENTAL COMPLIANCE

ENDANGERED SPECIES ACT
CONSULTATION LETTERS



DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

REPLY TO
ATTENTION OF

FEB 14 2014

Environmental and Cultural Resources Branch

Mr. Will Stelle
National Marine Fisheries Service
West Coast Region
7600 Sand Point Way Northeast
Seattle, WA 98115

Dear Mr. Stelle:

Pursuant to Sections 7(a)(2) and 7(c) of the Endangered Species Act (ESA) as amended, the U.S. Army Corps of Engineers (Corps) wishes to submit the enclosed supplemental Biological Assessment (SBA) for Howard Hanson Dam (HHD) Continued Operations on the Green River, King County, Washington, and to initiate formal consultation. Since 2000 there have been new species listed under the ESA including Puget Sound steelhead and Southern Resident killer whale and new critical habitat designations for Puget Sound Chinook salmon, Puget Sound/Coastal bull trout, Puget Sound steelhead (proposed), and Southern Resident killer whale. Moreover, there have been changes to cost sharing, re-designation of project elements from an ecosystem restoration focus to a mitigation focus, and changes in feasibility of specific project elements proposed within the 2000 BA. The Corps has produced a SBA to reflect these changes and to ensure that continued operation of HHD is in compliance with the ESA.

The proposed action is to operate HHD to provide 1) flood-risk management of the Green River; 2) low-flow augmentation for fish conservation during the summer and fall; 3) ecosystem restoration including additional flow augmentation, gravel, and wood nourishment; and 4) water storage for municipal and industrial purposes. In light of the changes introduced above, the Corps is modifying its proposed action for purposes of Section 7 consultation to not include the fish passage facility as was proposed under the Additional Water Storage Project (AWSP) and presented in the 2000 BA.

The proposed action presented in this SBA comprises several separate and distinct projects that were implemented at different points in time and have different purposes, authorizations, and funding mechanisms. These distinct projects can be further distinguished by their various funding sources and accounts and the nature of required cost-sharing imposed on non-Federal partners. Categorization of the separable elements of the proposed action may be crucial to the budgetary feasibility of the project. In order to apportion the effect of the provisions of the Biological Opinion among this mixture of authority bases and associated funding mechanisms, the consultation conclusions applicable to the proposed action need to be further allocated to individual project elements. In order to help the Corps conduct this allocation process, the Corps

requests that the Services allocate specific project effects and regulatory requirements to the appropriate project element to the degree possible. There are a total of five separable project elements as described in the SBA.

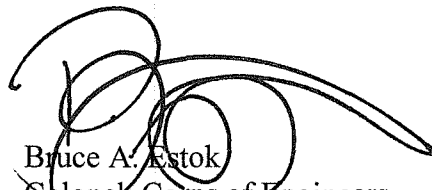
For the purpose of this SBA, the timeframe for the effects analysis is 30 years from implementation of the proposed action. This timeframe is based on the projected length of time that will pass before "Phase 2" of the authorized project is expected to be implemented. Phase 1 of the AWSP is included in the proposed action presented in this SBA. Tacoma has projected a need to implement Phase 2 of the AWSP in 30 years. Phase 2 includes additional water storage and habitat improvement projects. This change in operations would be initiated only following interagency coordination procedures prescribed in the project authorization, and would likely trigger the need to reinstate consultation under the ESA.

Your response in the form of a draft Biological Opinion (BiOp) by March 15, 2014, would be greatly appreciated so that the Corps may review it, respond, and have discussions with your agency by mid-April. While this timeline is aggressive, our agencies met for informal discussions on January 31 and February 10, 2014. Further, the first opportunity to fund any BiOp requirements will be Fiscal Year (FY) 2016. The Corps' present FY 2016 budget development schedule entails submission of Construction General requirements by May 2016 and Operations and Maintenance requirements by June 2016.

Please feel free to contact Mr. Scott Pozarycki at (206) 764-3316 or scott.v.pozarycki@usace.army.mil or Seattle District's Endangered Species Act Coordinator, Mr. Jeff Laufle, at (206) 764-6578 or jeffrey.c.laufle@usace.army.mil.

A copy of this letter is being sent to Mr. Ken Berg of the U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, 510 Desmond Drive SE, Suite 102, Lacey, WA 98503.

Sincerely,



Bruce A. Estok
Colonel, Corps of Engineers
District Commander

Enclosure



DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

REPLY TO
ATTENTION OF

FEB 14 2014

Environmental and Cultural Resources Branch

Mr. Ken Berg
U.S. Fish and Wildlife Service
Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, WA 98503

Dear Mr. Berg:

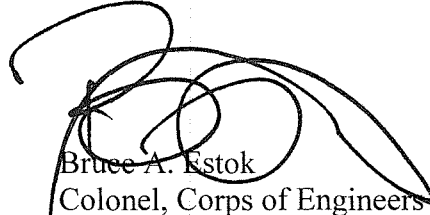
Pursuant to Sections 7(a)(2) and 7(c) of the Endangered Species Act (ESA) as amended, the U.S. Army Corps of Engineers (Corps) wishes to submit the enclosed Supplemental Biological Assessment (SBA) for Howard Hanson Dam (HHD) Continued Operations on the Green River, King County, Washington. Since 2000 there have been new species listed under the ESA including Puget Sound steelhead and Southern Resident killer whale and new critical habitat designations for Puget Sound Chinook salmon, Puget Sound/Coastal bull trout, Puget Sound steelhead (proposed), and Southern Resident killer whale. Moreover, there have been changes to cost-sharing, redesignation of project elements from an ecosystem restoration focus to a mitigation focus, and changes in feasibility of specific project elements proposed within the 2000 BA. The Corps has produced an SBA to reflect these changes and to ensure that continued operation of HHD is in compliance with the ESA.

The proposed action is to operate HHD to provide 1) flood-risk management of the Green River; 2) low-flow augmentation for fish conservation during the summer and fall; 3) ecosystem restoration including additional flow augmentation, gravel, and wood nourishment; and 4) water storage for municipal and industrial purposes. In light of the changes introduced above, the Corps is modifying its proposed action for purposes of Section 7 consultation to not include the fish passage facility as was proposed under the Additional Water Storage Project and presented in the 2000 BA.

The Corps has determined that the proposed action may affect and is likely to adversely affect designated critical habitat for Coastal/Puget Sound bull trout and desires to initiate formal consultation.

For any questions, please contact Mr. Scott Pozarycki at (206) 764-3316 or email scott.v.pozarycki@usace.army.mil or the Seattle District Endangered Species Act Coordinator, Mr. Jeff Laufle, at (206) 764-6578 or email jeffrey.c.laufle@usace.army.mil.

Sincerely,



Bruce A. Estok
Colonel, Corps of Engineers
District Commander

Enclosure

Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A
ENVIRONMENTAL COMPLIANCE

CLEAN WATER ACT SECTION 401
WATER QUALITY CERTIFICATION 2022



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office • PO Box 330316 • Shoreline, Washington 98133-9716 • (206) 594-0000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

March 23, 2022

U.S. Army Corps of Engineers, Seattle District
Attn: Laura Boerner, Chief
Planning, Environmental, and Cultural Resources Branch
4735 East Marginal Way South, Building 1202
Seattle, WA 98134-2388

RE: Water Quality Certification Order #21015 for Howard A. Hanson Dam Additional Water Supply Project Phase 1 Fish Passage Facility, King County, Washington

Dear Laura Boerner:

On November 22, 2021, the U.S. Army Corps of Engineers, Seattle District submitted a request for a Section 401 Water Quality Certification (WQC) under the federal Clean Water Act for the Howard A. Hanson Dam Additional Water Supply Project Phase 1 Fish Passage Facility project, King County, Washington.

On behalf of the state of Washington, the Department of Ecology certifies that the work described in the Water Quality Certification Request and supplemental documents complies with applicable provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, as amended, and applicable state laws. This certification is subject to the conditions contained in the enclosed Water Quality Certification Order (WQC Order).

Please ensure that anyone doing work under this WQC Order has read, is familiar with, and is able to follow all of the provisions within the attached WQC Order.

If you have any questions about this decision, please contact Rebekah Padgett at (425) 365-6571. The enclosed WQC Order may be appealed by following the procedures described within.

Sincerely,

A handwritten signature in black ink, appearing to read "Joe Burcar".

Joe Burcar, Section Manager
Northwest Regional Office
Shorelands and Environmental Assistance Program
Enclosure

U.S. Army Corps of Engineers, Seattle District

March 23, 2022

Page 2 of 2

E-cc: Laura A. Boerner, US Army Corps of Engineers
Nancy Gleason, US Army Corps of Engineers
Stewart Reinbold, WA Department of Fish and Wildlife
Doug Robison, WA Department of Fish and Wildlife
Michael Garrity, WA Department of Fish and Wildlife
Ben Blank, WA Department of Fish and Wildlife
David Price, National Marine Fisheries Service
Stephanie Ehinger, National Marine Fisheries Service
Molly Good, U.S. Fish and Wildlife Service
Railin Santiago, Ecology
Gary Myers, Ecology
Grant Yang, Ecology
Amy Jankowiak, Ecology
Jay Fennell, Ecology
Loree' Randall, Ecology
ecyrefedpermits@ecy.wa.gov

IN THE MATTER OF GRANTING A) WQC ORDER No. 21015
WATER QUALITY) Howard A. Hanson Dam Additional Water
CERTIFICATION TO) Supply Project Phase 1 Fish Passage Facility,
 U.S. Army Corps of Engineers, Seattle) Green River located in King County,
 District) Washington.
 pursuant to 33 U.S.C. 1341 (FWPCA)
 § 401), RCW 90.48.120, RCW 90.48.260)
 and Chapter 173-201A WAC)

U.S. Army Corps of Engineers, Seattle District
 Attn: Laura Boerner, Chief, Planning, Environmental, and Cultural Resources Branch
 4735 East Marginal Way South, Building 1202
 Seattle, WA 98134-2388

On November 22, 2021, U.S. Army Corps of Engineers, Seattle District (Corps) submitted a request for a Section 401 Water Quality Certification (WQC) under the federal Clean Water Act to the Department of Ecology (Ecology) for the Howard A. Hanson Dam Additional Water Supply Project Phase 1 Fish Passage Facility, King County, Washington. On December 17, 2021, Ecology issued a public notice for the project.

The project proposes to complete construction of a downstream juvenile fish passage facility at the Howard A. Hanson Dam as the one remaining component of the Additional Water Storage Project Phase 1. Project components include a multiport collector structure to be constructed within the existing permanent cofferdam, a steep slope bypass pipe containing a primary fish passage route and a full-flow bypass connecting the multiport collector to the release site, a deceleration pipe outlet, a stilling basin constructed in the river, and a plunge pool approximately 1,200 feet downstream from the base of the dam for juvenile fish refuge.

The project site is located at River Mile 64.5 on the Green River, near the town of Palmer, King County, Washington, Section 28, Township 21 N., Range 8 E., within Water Resource Inventory Area (WRIA) 9, Duwamish-Green Watershed.

AUTHORITIES

In exercising authority under 33 U.S.C. § 1341, RCW 90.48.120, and RCW 90.48.260, Ecology has reviewed this WQC request pursuant to the following:

1. Conformance with applicable water quality-based, technology-based, and toxic or pretreatment effluent limitations as provided under 33 U.S.C. §§1311, 1312, 1313, 1316, and 1317
2. Conformance with the state water quality standards contained in Chapter 173-201A WAC and authorized by 33 U.S.C. §1313 and by Chapter 90.48 RCW, and with other applicable state laws; and

3. Conformance with the provision of using all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.
4. Conformance with Washington’s prohibition on discharges that cause or tend to cause pollution of waters of the state of Washington. RCW 90.48.080.
5. The Applicant of the project authorized is responsible for obtaining all other permits, licenses, and certifications that may be required by federal, state, local or tribal authorities.

With this Water Quality Certification Order (WQC Order), Ecology is granting with conditions, the Corps’ request for a Section 401 Water Quality Certification for the Howard A. Hanson Dam Additional Water Supply Project Phase 1 Fish Passage Facility, Green River, located in King County. Ecology has determined that the proposed discharge(s) will comply with all applicable state water quality requirements, provided the project is conducted in accordance with the Section 401 Water Quality Certification request that Ecology received on November 22, 2021, the supporting documents referenced in Table 1 below, **and the conditions of this WQC Order.**

Table 1. Supporting Documents

Date Received	Document Type	Title & Date	Author
November 22, 2021	401 Request	Letter to Federal Consistency Coordinator, Washington State Department of Ecology (dated November 22, 2021)	Laura Boerner, Chief, Planning, Environmental, and Cultural Resources Branch, Corps
November 22, 2021	National Environmental Policy Act	<i>Draft Integrated Validation Report and Supplemental Environmental Impact Statement, Howard A. Hanson Dam Additional Water Storage Project, Section 902 Post Authorization Change Validation Study – Fish Passage</i> (includes Appendix A: Environmental Compliance; dated November 2021)	Corps
		Public Notice, Draft Integrated Validation Report and Supplemental Environmental Impact Statement, Howard A. Hanson Dam Additional Water	Corps

		Storage Project, Section 902 Post Authorization Change Validation Study – Fish Passage (dated November 19, 2021)	
November 22, 2021	Section 404 Evaluation	<i>Substantive Compliance with Section 404 of the Clean Water Act Howard A. Hanson Dam Fish Passage Facility, Part of the Additional Water Storage Project, Howard Hanson Dam, King County Washington (undated)</i>	Corps
December 21, 2021	Biological Opinion	<i>Biological Opinion on Howard Hanson Dam, Operations, and Maintenance, Green River (HUC 17110013) King County, Washington (dated February 15, 2019)</i>	National Marine Fisheries Service
February 4, 2022	Biological Opinion	<i>Biological Opinion on Howard A. Hanson Dam Continued Operations (signed February 2, 2022)</i>	U.S. Fish and Wildlife Service
February 15, 2022	Drawings	Sheets G-001 to G-009 and G101 to G120, Draft Feasibility Design (dated November 9, 2021)	Corps
February 18, 2022	Wood Management Plan	<i>Howard Hanson Dam Wood Management Plan (revised July 2016)</i>	Corps
February 22, 2022	E-mail	E-mail to Rebekah Padgett, Ecology, RE: #141142 Hanson Dam Fish Passage – DRAFT monitoring and adaptive mgmt (dated February 22, 2022)	Nancy Gleason, Corps
February 22, 2022	Adaptive Management Plan	<i>Draft Howard A. Hanson Dam Additional Water Storage Project, Section 902 Post Authorization Change Validation Study – Fish Passage, Updated Monitoring and Adaptive Management Plan Framework for Post-Construction Performance Criteria Monitoring (dated February 2022)</i>	Corps

March 9, 2022	E-mail	E-mail to Rebekah Padgett, Ecology, RE: Care and Diversion of Water Plan and Environmental Protection Plan (dated March 9, 2022)	Nancy Gleason, Corps
March 10, 2022	Geotechnical Report	<i>Draft Geotechnical Baseline Report for Howard Hanson Dam 95% Design of Juvenile Downstream Fish Passage Facility</i> , on file at U.S. Army Corps of Engineers, Seattle, WA. 379 pages. (dated 2006)	Corps
March 11, 2022	Drawings	Sheets C-122 and G-124, Draft Feasibility Design (dated November 9, 2021)	Corps
		Figure 22 – Stilling Basin Geometry, Supports, Additional Features (dated March 2022)	Corps
March 11, 2022	E-mail	E-mail to Rebekah Padgett, Ecology, RE: #141142 Follow up to Hanson Dam fish passage meeting (dated March 11, 2022)	Nancy Gleason, Corps
March 11, 2022	E-mail	E-mail to Rebekah Padgett, Ecology RE: Water Quality Monitoring Plan (dated March 11, 2022)	Nancy Gleason, Corps
March 11, 2022	E-mail	E-mail to Rebekah Padgett, Ecology RE: Request for Extended Area of Mixing (dated March 11, 2022)	Nancy Gleason, Corps
March 14, 2022	Water Quality Monitoring Plan	<i>Draft Water Quality Monitoring Plan, Howard A. Hanson Dam – Additional Water Storage Project Fish Passage Facility, King County, Washington</i> (dated March 2022)	Corps
March 15, 2022	E-mail	E-mail to Rebekah Padgett, Ecology RE: Blasting Plan Contents (dated March 15, 2022)	Nancy Gleason, Corps
March 15, 2022	E-mail	E-mail to Rebekah Padgett, Ecology RE: Care and Diversion of	Nancy Gleason, Corps

		Water Plan (dated March 15, 2022)	
March 16, 2022	E-mail	E-mail to Rebekah Padgett, Ecology RE: Sand and Gravel Permit? (dated March 16, 2022)	Nancy Gleason, Corps

Issuance of this Section 401 Water Quality Certification for this proposal does not authorize the Corps to exceed applicable state water quality standards (Chapter 173-201A WAC), ground water quality standards (Chapter 173-200 WAC) or sediment quality standards (Chapter 173-204 WAC). Furthermore, nothing in this Section 401 Water Quality Certification absolves the Corps from liability for contamination and any subsequent cleanup of surface waters, ground waters, or sediments resulting from project construction or operations.

The following conditions will be strictly adhered to by the Corps.

A. General Conditions

1. In this WQC Order, the term “Applicant” shall mean the Corps and its agents, assignees, and contractors.
2. All submittals required by this WQC Order shall be sent to Ecology’s Headquarters Office, Attn: Federal Permit Manager, via e-mail to fednotification@ecy.wa.gov and cc to Rebekah.Padgett@ecy.wa.gov. The submittals shall be identified with WQC Order #21015 and include the Applicant’s name, project name, project contact, and the contact phone number.
3. Work authorized by this WQC Order is limited to the work described in the WQC request package received by Ecology on November 22, 2021, and the supporting documentation identified in Table 1.
4. The Applicant shall keep copies of this WQC Order on the job site and readily available for reference by Ecology personnel, the construction superintendent, construction managers and lead workers, and state and local government inspectors.
5. The Applicant shall provide access to the project site and all mitigation sites upon request by Ecology personnel for site inspections, monitoring, and/or necessary data collection, to ensure that conditions of this WQC Order are being met.
6. Nothing in this WQC Order waives Ecology’s authority to issue additional orders if Ecology determines that further actions are necessary to implement the water quality laws of the state. Further, Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if additional impacts due to project construction or operation are identified (*e.g.*, violations of water quality standards, downstream erosion, etc.), or if additional conditions are necessary to further protect water quality.

7. In the event of changes or amendments to the state water quality, ground water quality, or sediment standards, or changes in or amendments to the state Water Pollution Control Act (RCW 90.48) or the federal Clean Water Act, Ecology may issue an amendment to this WQC Order to incorporate any such changes or amendments applicable to this project.
8. The Applicant shall ensure that all project engineers, contractors, and other workers at the project site with authority to direct work have read and understand relevant conditions of this WQC Order and all permits, approvals, and documents referenced in this WQC Order. The Applicant shall provide Ecology a signed statement (see Attachment A for an example) before construction begins.
9. This WQC Order does not authorize direct, indirect, permanent, or temporary impacts to waters of the state or related aquatic resources, except as specifically provided for in conditions of this WQC Order.
10. Failure of any person or entity to comply with the WQC Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the state's water quality standards.
11. The Applicant shall provide Ecology documentation for review and approval before undertaking any major changes to the proposed project that could significantly and adversely affect water quality, other than those project changes required by this WQC Order.
12. Nothing in this WQC Order waives Ecology's discretionary authority to issue additional Orders if Ecology determines that further actions are necessary to implement the water quality laws of the state.
13. This WQC Order will automatically transfer to a new owner or operator if:
 - a. A written agreement between the Applicant and new owner or operator with the specific transfer date of the WQC Order's obligations, coverage, and liability is submitted to Ecology per condition A.2.;
 - b. A copy of this WQC Order is provided to the new owner or operator; and
 - c. Ecology does not notify the new Applicant that a new WQC Order is required to complete the transfer.

B. Notification Requirements

1. The following notification shall be made via phone or e-mail (e-mail is preferred) to Ecology's Federal Permit Manager via e-mail to fednotification@ecy.wa.gov and cc to Rebekah.Padgett@ecy.wa.gov. Notifications shall be identified with WQC Order #21015, and include the Applicant name, project name, project location, project contact and the contact phone number.
 - a. Immediately following a violation of state water quality standards or when the project is out of compliance with any conditions of this WQC Order.

- b. At least ten (10) days prior to all pre-construction meetings
 - c. At least ten (10) days prior to conducting in-water work activities each year.
 - d. Within seven (7) days of completion of each in-water work window.
2. In addition to the phone or e-mail notification required under B.1.a. above, the Applicant shall submit a detailed written report to Ecology within five (5) days that describes the nature of the event, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.
 3. If the project construction is not completed within 13 months of issuance of this WQC Order, the Applicant shall submit per Condition A2 a written construction status report and submit status reports every 12 months until construction and mitigation are completed.

C. Timing

1. This WQC Order will expire on June 30, 2046, unless otherwise approved by Ecology.
2. The following in-water work window applies to the project unless otherwise approved by Ecology:
 - a. Work conducted below the ordinary high water line (OHWL) of the Green River (including Eagle Gorge Reservoir) shall be conducted between July 1 and September 30 of any year, unless otherwise approved by Ecology.
 - b. If the Applicant needs to work outside the in-water work window above, a written request shall be submitted to Ecology for approval at least seven (7) days prior to start of work.
 - c. Work completed in isolation within a cofferdam may be completed at any time of the year.

D. Water Quality Monitoring & Criteria

1. This WQC Order does not authorize the Applicant to exceed applicable water quality standards beyond the limits established in Chapter 173-201A WAC.
2. This WQC Order does not authorize the Applicant to exceed applicable water quality standards beyond the limits established in WAC 173-201A-200(1)(g).
3. For in-water activities within fresh waters (including wetlands) turbidity shall not exceed 5 NTU over background when the background is 50 NTU or less; or a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.
4. This WQC Order does not authorize the Applicant to exceed applicable turbidity standards beyond the limits established in Chapter 173-201A WAC below:
 - a. Temporary area of mixing for turbidity established within the state water quality standards for fresh waters (WAC 173-201A-200) is as follows:
 - i. For waters up to 10 cfs flow at the time of construction, the point of compliance shall be one hundred feet downstream from the activity causing the turbidity exceedance.

- ii. For waters above 10 cfs up to 100 cfs flow at the time of construction, the point of compliance shall be two hundred feet downstream of the activity causing the turbidity exceedance.
 - iii. For waters above 100 cfs flow at the time of construction, the point of compliance shall be three hundred feet downstream of the activity causing the turbidity exceedance.
 - iv. For projects working within or along lakes, ponds, wetlands, or other non-flowing waters, the point of compliance shall be at a radius of one hundred fifty feet from the activity causing the turbidity exceedance.
5. If water quality exceedances for turbidity are observed outside the point of compliance, work shall cease immediately and the Applicant or the contractor shall assess the cause of the water quality problem and take immediate action to stop, contain, and correct the problem and prevent further water quality turbidity exceedances.
 6. Visible turbidity anywhere beyond the temporary area of mixing (point of compliance) from the activity, shall be considered an exceedance of the standard.
 7. The Applicant shall revise the *Draft Water Quality Monitoring Plan, Howard A. Hanson Dam – Additional Water Storage Project Fish Passage Facility, King County, Washington* (WQMP) prepared by the Corps, dated March 2022, to include the information below and to be consistent with the conditions of this Order. A final Plan shall be submitted to Ecology per Condition A.2 **for review and approval** at least 60 days prior to beginning any work covered by this WQC Order.

At a minimum, the revised WQMP shall include:

- a. Description of any work below ordinary high water mark (OHWM), in water, and over water, both within and outside of a cofferdam (e.g., excavation, placement of rock or other material, installation of structures, construction or removal of cofferdams, grouting or tremie work, shoreline bank work, etc.). This will include specific dimensions (length, width, height/depth) of any and all structures, excavations, or fill areas, as well as volumes of material to be excavated or placed.
 - b. Drawings or plan set showing all project components below the OHWM or over water, with cross-sections as applicable.
 - c. Construction sequencing, methodology, and equipment to be utilized for activities described in Condition 8.a.
 - d. Best management practices and procedures to be implemented to protect water quality during activities described in Condition 8.a.
 - e. The names(s) and phone numbers (s) of the Pollution control inspector and the person responsible for on-site monitoring and reporting;
 - f. Contingencies during in-water work activities.
8. Monitoring results shall be submitted monthly to Ecology's Federal Permit Manager, per condition A.2.

9. Ecology may require the Applicant to provide mitigation and/or additional monitoring if the monitoring results indicate that the water quality standards have not been met.

E. Construction

General Conditions

1. All work in and near waters of the state shall be conducted to minimize turbidity, erosion, and other water quality impacts. Construction stormwater, sediment, and erosion control Best Management Practices (BMPs) suitable to prevent exceedances of state water quality standards shall be in place before starting maintenance and shall be maintained throughout the duration of the activity.
2. All clearing limits, stockpiles, staging areas, and trees to be preserved shall clearly be marked prior to commencing construction activities and maintained until all work is completed for each project.
3. No stockpiling or staging of materials shall occur at or below the OHWM of any waterbody.
4. The Applicant shall obtain and comply with the conditions of the Construction Stormwater General Permits (National Pollutant Discharge Elimination System - NPDES) issued for this project.
5. The Applicant shall obtain and comply with the conditions of the Sand and Gravel General Permit (National Pollutant Discharge Elimination System—NPDES and State Waste Discharge General Permit) issued for this project for operation of any on-site or portable concrete batch plant, asphalt batch plant, or rock crusher, if applicable.
6. Within the project limits¹ all environmentally sensitive areas including, but not limited to, wetlands, wetland buffers, shoreline riparian buffers and mitigation areas shall be fenced with high visibility construction fencing (HVF), or staked and flagged in areas of high wildlife use, prior to commencing construction activities. Construction activities include equipment staging, materials storage, and work vehicle parking. Note: This condition does not apply to activities such as pre-construction surveying and installing HVF and construction zone signage.
 - a. If the project will be constructed in stages² a detailed description and drawings of the stages shall be sent to Ecology for review at least 20 days prior to placing HVF.
 - b. Condition 5.a. shall apply to each stage.
 - c. All field staff shall be trained to recognize HVF, understand its purpose and properly install it in the appropriate locations.
 - d. HVF shall be maintained until all work is completed for each project or each stage of a staged project.
7. No petroleum products, fresh concrete, lime or concrete, chemicals, or other toxic or deleterious materials shall be allowed to enter waters of the state.

¹ Project limits include mitigation sites, staging areas, borrow sources, and other sites developed or used to support project construction.

² A stage is part of a project that has been separated into at least two distinct areas to be built during separate timeframes.

8. If cast in place, wet concrete/grout shall be prevented from entering waters of the state. Forms for any concrete/grout structure shall be constructed to prevent leaching of wet concrete/grout. Impervious materials shall be placed over any exposed concrete/grout not lined with the forms that will come in contact with state waters. Forms and impervious materials shall remain in place until the concrete/grout is fully cured (i.e., inert).
9. Concrete delivery systems situated over water shall be inspected daily to prevent any discharges of concrete and/or slurry water into waters of the state.
10. Concrete process water shall not be allowed to enter waters of the state. Any process water/contact water shall be routed to a contained area for treatment and shall be disposed of at an upland location.
11. Project activities shall be conducted to minimize siltation of the riverbed, to the extent practicable.
12. Clean Fill Criteria: Applicant shall ensure that fill (soil, gravel, or other material) placed for the proposed project does not contain toxic materials in toxic amounts.
13. All construction debris, excess sediment, and other solid waste material shall be properly managed and disposed of in an upland disposal site approved by the appropriate regulatory authority.
14. Work within waters of the state shall be conducted in the dry or during periods of low flow to the extent practicable.
15. The removal of native bank line vegetation shall be limited to the minimum amount needed to construct the project.
16. All trees greater than 4 inches diameter breast height (DBH) shall be kept in at least 20-foot segments and placed in the low flow of the Green River.
17. If contamination is discovered, it must be reported to Ecology per Condition A2. Contamination soils or water may require special handling and/or disposal to avoid escaping dust, soil erosion, and water pollution during construction activities.
18. During excavation, each pass with the bucket shall be complete.
19. When removing material (e.g., sand, gravel, riverbed), the bucket shall be lifted slowly through the water column and paused at the water surface in order to minimize turbidity.
20. When placing material (e.g., sand, gravel, riverbed), the bucket shall be set as close as possible to the substrate surface, and the bucket shall be opened slowly in order to minimize turbidity.
21. Riprap shall be placed individually into the water and quarry spalls placed in small quantities in order to minimize turbidity.

22. Work in or near the water that may affect fish migration, spawning, or rearing shall cease immediately upon a determination by Ecology that fisheries resources may be adversely affected.
23. All temporary cofferdams and access roads shall be removed at the end of the project and the riverbed restored.
24. Construction shall be limited to daylight hours whenever feasible in order to avoid attracting fish to light at night and potentially causing impacts to coastal resources. If unavoidable, low-intensity construction lighting with shields to prevent light from reaching the water surface and reduce effects on aquatic species shall be utilized.
25. The Applicant shall prepare and submit an Environmental Protection Plan to the Federal Permit per Condition A2 prior to start of construction.

Equipment & Maintenance

26. Staging areas will be located a minimum of 50 feet and, where practical, 200 feet, from waters of the state including wetlands, unless otherwise requested and authorized by Ecology.
27. Equipment used for this project shall be free of external petroleum-based products while used around the waters of the state, including wetlands. Accumulation of soils or debris shall be removed from the drive mechanisms (wheels, tires, tracks, etc.) and the undercarriage of equipment prior to its use around waters of the state, including wetlands.
28. All equipment being used below the ordinary high water mark shall utilize biodegradable hydraulic fluid.
29. No equipment shall enter, operate, be stored or parked within any sensitive area except as specifically provided for in this WQC Order.
30. Machinery and equipment used during construction shall be serviced, fueled, and maintained upland, unless otherwise approved by Ecology, in order to prevent contamination to any surface water.
31. Appropriate measures to prevent the transport and introduction of aquatic invasive species shall be implemented, including thoroughly cleaning all equipment and gear before arriving and leaving the job site and properly disposing of all water and chemicals utilized to clean gear and equipment in order to protect state waters from invasive species.
32. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters.

33. Wash water containing oils, grease, or other hazardous materials resulting from washing of equipment or working areas shall not be discharged into state waters. The Applicant shall set up a designated area for washing down equipment.
34. Temporary cofferdams, bladder dams, sandbag dams, floating turbidity curtains, and bypasses used to divert water around the work area shall be in place prior to initiation of work below the OHWM. These shall be properly deployed and maintained in order to minimize turbidity and re-suspension of sediment.
35. A separate area shall be set aside, which does not have any possibility of draining to surface waters, for the wash-out of concrete delivery trucks, pumping equipment, and tools.
36. Barges or floating construction platforms shall be swept, as necessary, and kept free of material that could be blown into water.
37. No return water is allowed to discharge from the barge(s) or floating construction platforms into waters of the state.

Rock Blasting Conditions:

38. The Applicant shall prepare and submit a Blasting Plan **for Ecology review and approval** per Condition A.2 at least 60 days prior to beginning of any rock blasting activity that may impact waters of the state. At a minimum, the Blasting Plan shall include:
 - a. Description of rock blasting activities within cofferdams or adjacent to the Green River or reservoir;
 - b. Best management practices to protect water quality;
 - c. Methods for preventing spills or losses of explosives, drilling fluids, oil, or any other pollutants that could affect waters of the state;
 - d. Work windows and timing restrictions for safety; and
 - e. Monitoring of blast effects.
39. Blasting shall occur upland or in the dry within cofferdams and shall be conducted in a controlled manner.

Dewatering

40. The Applicant shall prepare and submit a Care and Diversion of Water Plan **for Ecology review and approval** per Condition A.2 at least 60 days prior to beginning work for each activity below the ordinary high water line (OHWL), in-water and over-water. At a minimum, the Care and Diversion of Water Plan shall include:
 - a. Description of any in-water work that takes place in the river or reservoir, both within and outside of any permanent or temporary cofferdams (e.g., excavation, placement of rock or other material, installation of structures, construction or removal of cofferdams, shoreline bank work, etc.);
 - b. Construction sequencing, timing, methodology, and equipment to be utilized for in-water activities;

- c. Description of all permanent or temporary cofferdam systems to be utilized;
 - d. Description and design of any bypass or temporary diversions of water around in-water activities;
 - e. Monitoring plan for post-treatment effluent to ensure treatment system effectiveness. The plan shall include parameters of concern, frequency of testing, and reporting;
 - f. Descriptions of systems for management, treatment, and discharge/disposal of dewatering water and dewatered solids, water pumped from cofferdams and any process water from concrete or grout activities. This includes capacity of the systems and appropriateness of the selected treatment technology for the pollutants of concern (turbidity, pH, and petroleum);
 - g. Drawings showing location, size, and construction details for water diversion and handling features; and
 - h. Identify contingencies that will be implemented to handle dewatering water if it does not meet standards for discharge to surface waters.
41. Upon completion of the project construction, all material used in construction of temporary cofferdams or bypasses shall be removed from the site and the site returned to pre-project or improved conditions.
42. To minimize sediment releases, re-introduction of water into the isolated work area shall be done gradually, and at a rate not higher than the normal flow.
43. Turbid de-watering water associated with in-water work shall not be discharged directly to waters of the state, including wetlands. Turbid de-watering water shall be routed to an upland area for on-site or off-site settling.
44. Clean de-watering water associated with in-water work that has been tested and confirmed to meet water quality standards may be discharged directly to waters of the state including wetlands. The discharge outfall method shall be designed and operated so as not to cause erosion or scour in the stream channel, banks, or vegetation.
45. Dewatering water may not be discharged to the Green River or conveyed to surface waters unless it meets Surface Water Quality Standards (Chapter 173-201A WAC) at the point of discharge, unless otherwise authorized by this WQC Order.
46. The dewatering outfall or method of discharge shall be designed and operated so as not to cause erosion or scour in state waters, banks, or vegetation.
47. All equipment associated with dewatering activities shall be properly operated and maintained.

Bank Stabilization

48. Placement of rip-rap shall be conducted in compliance with water quality standards for turbidity.
49. Bank sloping shall be accomplished in a manner that avoids release of overburden material into the water. Overburden material resulting from the project shall be deposited upland so it will not re-enter the water.

50. Bank protection work shall be minimized to the extent practicable.

F. Riparian Planting and Monitoring Conditions

1. The Applicant shall prepare and submit a Riparian Planting and Monitoring Plan **for Ecology review and approval** per Condition A.2 at least 60 days prior to disturbance of any riparian vegetation within the project site. At a minimum, the Riparian Planting and Monitoring Plan shall include:
 - a. Locations and description of any riparian vegetation, including quantities, to be cut down or fully removed;
 - b. Locations of riparian planting areas in relation to the impact areas;
 - c. Native vegetation planting list;
 - d. Mitigation ratio (e.g., 5:1 to account for temporal impacts and goal of No Net Loss);
 - e. Planting plan showing quantities, locations, and spacing of plants proposed for installation;
 - f. Timing of planting;
 - g. Goals, objectives, and performance standards;
 - h. Monitoring plan, including frequency (e.g., 10 years for trees); and
 - i. Contingencies if performance standards are not being met.
2. The Applicant shall submit an As-Built Report per Condition A2 within 90 days of completion of planting, describing any changes from the approved Riparian Planting and Monitoring Plan, and including photos.
3. The Applicant shall submit monitoring reports annually, by March 31 following each monitoring year, to Ecology per Condition A.2 documenting site conditions. The reports shall include monitoring results for the planting area and photos. The reports shall include a discussion on whether the Riparian Planting and Monitoring Plan's goals, objectives, or performance standards are being met.
4. If the Applicant has not met all conditions, including performance standards for the planting site(s) at the end of the monitoring period, Ecology may require additional monitoring, additional mitigation, or both.

G. Post-Construction Monitoring and Adaptive Management

1. A Monitoring and Adaptive Management Plan (MAMP) shall be developed and implemented for the project. The Applicant shall submit the MAMP **for Ecology review and approval** per Condition A.2. The MAMP **must be submitted at least 60 days prior** to the start of operations of the new fish passage facility and shall meet the following requirements:
 - a. The MAMP shall be developed based on the *Draft Howard A. Hanson Dam Additional Water Storage Project, Section 902 Post Authorization Change Validation Study – Fish Passage*,

Updated Monitoring and Adaptive Management Plan Framework for Post-Construction Performance Criteria Monitoring, prepared by the Corps, dated February 2022.

- b. Include, at a minimum, the following information:
 - i. Performance criteria (e.g., juvenile fish project passage survival), metrics, and methods to determine whether performance criteria are being met;
 - ii. Monitoring studies to be completed (e.g., juvenile fish migration and survival, as well as sediment accumulation in the plunge pool and any other structures installed in the river and effects on sedimentation and erosion); and
 - iii. Adaptive management proposed if performance criteria are not met.
2. The Applicant shall submit monitoring reports to Ecology per Condition A.2 documenting the results of post-construction monitoring activities and any adaptive management actions taken as a result of monitoring for up to 15 years, as required under the MAMP, or otherwise approved by Ecology. Reports shall be submitted by March 31 following each monitoring year.
3. A Final Monitoring Report shall be submitted to Ecology per Condition A.2 upon completion of monitoring activities. This Report shall summarize the data collected, how the structure complies with the required juvenile passage and survivability Biological Opinion and biological requirements (98%, 95% and 75%) and any adaptive management actions taken as a result of monitoring.
4. Any maintenance activities to remove sedimentation from the stilling basin, plunge pool, and/or other in-water structures installed as part of this project is not covered under this WQC Order and would require separate authorization from Ecology.

H. Emergency/Contingency Measures

1. The Applicant shall develop and implement a spill prevention and containment plan for all aspects of this project.
2. The Applicant shall have adequate and appropriate spill response and cleanup materials available on site to respond to any release of petroleum products or any other material into waters of the state.
3. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters.
4. Work causing distressed or dying fish and discharges of oil, fuel, or chemicals into state waters or onto land with a potential for entry into state waters is prohibited. If such work, conditions, or discharges occur, the Applicant shall notify Ecology's Federal Permit Manager per condition A2 and immediately take the following actions:
 - a. Cease operations at the location of the non-compliance.
 - b. Assess the cause of the water quality problem and take appropriate measures to correct the problem and prevent further environmental damage.

- c. In the event of a discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of any spilled material and used cleanup materials.
 - d. Immediately notify Ecology's Regional Spill Response Office and the Washington State Department of Fish & Wildlife with the nature and details of the problem, any actions taken to correct the problem, and any proposed changes in operation to prevent further problems.
 - e. Immediately notify the National Response Center at 1-800-424-8802, for actual spills to water only.
5. Notify Ecology's Regional Spill Response Office immediately if chemical containers (e.g. drums) are discovered on-site or any conditions present indicating disposal or burial of chemicals on-site that may impact surface water or ground water.

Your right to appeal

You have a right to appeal this WQC Order to the Pollution Control Hearings Board (PCHB) within 30 days of the date of receipt of this WQC Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this WQC Order:

- File your appeal and a copy of this WQC Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this WQC Order on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Address and location information.

Filing an appeal with the PCHB

Mailing Address:

Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

Street Address:

Pollution Control Hearings Board
1111 Israel RD SW
STE 301
Tumwater, WA 98501

Serving a copy of the appeal on Ecology:

Mailing Address:

Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608 Olympia, WA 98504-7608

Street Address:

Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

CONTACT INFORMATION

Please direct all questions about this WQC Order to:

Rebekah Padgett
Department of Ecology
(425) 365-6571
Rebekah.Padgett@ecy.wa.gov

MORE INFORMATION

Pollution Control Hearings Board Website

<http://www.eluho.wa.gov/Board/PCHB>

Chapter 43.21B RCW - Environmental and Land Use Hearings Office – Pollution Control Hearings Board

<http://app.leg.wa.gov/RCW/default.aspx?cite=43.21B>

Chapter 371-08 WAC – Practice And Procedure

<http://app.leg.wa.gov/WAC/default.aspx?cite=371-08>

Chapter 34.05 RCW – Administrative Procedure Act

<http://app.leg.wa.gov/RCW/default.aspx?cite=34.05>

Chapter 90.48 RCW – Water Pollution Control

<http://app.leg.wa.gov/RCW/default.aspx?cite=90.48>

Chapter 173.204 WAC – Sediment Management Standards

<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-204>

Chapter 173-200 WAC – Water Quality Standards for Ground Waters of the State of Washington

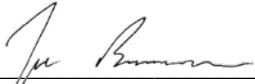
<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-200>

Chapter 173-201A WAC – Water Quality Standards for Surface Waters of the State of Washington

<http://apps.leg.wa.gov/WAC/default.aspx?cite=173-201A>

SIGNATURE

Dated this 23rd day of March 2022 at the Department of Ecology, Shoreline, Washington.



Joe Burcar, Section Manager
Northwest Regional Office
Shorelands and Environmental Assistance Program

Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A
ENVIRONMENTAL COMPLIANCE

CLEAN WATER ACT
SECTION 404(b)(1) EVALUATION

Substantive Compliance with Section 404 of the Clean Water Act
Howard A. Hanson Dam Fish Passage Facility
Part of the Additional Water Storage Project
Howard Hanson Dam, King County, Washington

1 INTRODUCTION

The purpose of this document is to record the U.S. Army Corps of Engineers' (Corps) evaluation and findings regarding this project pursuant to Section 404 of the Clean Water Act (CWA). The actions covered by this document are the following: construction of a fish passage facility (FPF) at the Howard A. Hanson Dam (HAHD) including excavation behind the cofferdam, construction of the tunnel(s) to facilitate fish passage downstream, and construction of the downstream tunnel outlet, which includes streambank stabilization. In addition, the Corps will implement an interim measure to reduce outflow rates at the dam to a maximum of 5,000 cubic feet per second (cfs) during most instances of moderately high inflow events during winter. The FPF and the interim measure are Reasonable and Prudent Alternatives described in detail in the 2019 Biological Opinion (BiOp) from the National Marine Fisheries Service (NMFS). Tacoma Public Utilities (TPU) is the non-Federal sponsor in partnership with the Corps for this project. The information contained in this document reflects the findings of the project record. Specific sources of information included the following:

1. Final Feasibility Study Report and Final Environmental Impact Statement (EIS) 1998 and the 2001 Record of Decision
2. U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BiOp), Reference No. 1-3-00-F-1381. 2000
3. National Marine Fisheries Service (NMFS) BiOp, Reference No. WSB-00-198. 2000
4. Substantive Compliance with Section 404 of the Clean Water Act, Howard Hanson Dam Fish Passage Structure. 2005
5. NMFS Anadromous Salmonid Passage Facility Design. 2011
6. NMFS BiOp, Reference No. WCR-2014-997. 2019
7. USFWS BiOp, Reference No. 01EWF00-2014-F-0198. 2022

This document contains the substantive compliance issues from the CWA 404(b)(1) Guidelines [40 CFR §230.12(a)] and the Regulatory Program of the Corps [33 CFR §320.4(a)].

As part of the ecosystem restoration and mitigation for the Additional Water Storage Project (AWSP), the Corps began engineering design and construction of a downstream FPF in 2003. Contractors were able to complete excavation of the site and construction of the temporary cofferdam on the left bank of the river just upstream of and connected to HAHD. This cofferdam would serve to separate the construction site from the reservoir during construction of the FPF. However, due to anticipation of exceeding the cost limit, the project was placed on hold in 2011, all construction was halted, and the cofferdam has remained in place. After NMFS issued their 2019 BiOp with a requirement to provide downstream fish passage at HAHD by

2030, the Corps initiated the process to reevaluate the FPF design to comply with the provisions of the Reasonable and Prudent Alternative, taking in consideration new technologies in fish passage, and selected a new design.

2 DESCRIPTION OF THE PROPOSED DISCHARGE

The updated design is a fixed multiport collection structure (Figure 1) that would allow fish collection and passage from a set of five intake ports at multiple water levels as the reservoir elevation changes. At low forebay elevations, the lower intake ports would be used. As the forebay elevation increases, the lower intake ports would be closed, and the higher elevation intake ports would be opened. Depending on forebay elevation, either one or two of the five intake ports may be used at one time. The intake port shape would be designed to meet required water flows for fish attraction. Each intake port would be designed to withdraw up to 600 cubic feet per second (cfs) of water from the reservoir, so two intake ports could operate at once for a total withdrawal of 1,200 cfs. Inclined screens would be used to reduce the flow with fish from up to 600 cfs per intake port decreasing to about 25-35 cfs per intake port to safely screen and pass fish based on NMFS fish passage design criteria.

Once collected into the multiport structure, fish are transported downstream using one or more steep bypass pipes. The passage route connecting the multiport collector to the release site can run along the downstream side of the dam, cut through the left abutment, or connect to an existing bypass structure. Although water velocities in these types of systems exceed the NMFS fish passage criteria, if the bypass is designed so the velocities are slowed gradually before discharging to the tailrace, then exposure to abrasion, shear, and impacts are minimized to acceptable levels. The bypass pipe(s) would include a shallow bend at the base before going horizontal or would use some other feature to dissipate energy and slow down velocities before release.

The transport pipe exit needs to meet the NMFS bypass fish release location criteria as established in their 2011 document "Anadromous Salmonid Passage Facility Design". The location must minimize predation, be free of eddies and reverse flow, be at a sufficient depth to avoid injuries at all river and bypass flows, have river velocities that are greater than 4 feet per second (fps), and provide controls for avian predation if necessary. The segment of river that is immediately downstream from the stilling basin at the base of the dam is a suitable location. The outlet will likely be within this section at approximately 1,000 feet downstream from the base of the dam. This outlet would require excavation and installation in the left bank below the ordinary high water mark, with installation of an open box-like structure at its outlet in the river.

The FPF must be able to handle debris that enters the reservoir from upstream sources. Debris typically consists of organic, woody material. A submerged Modular Inclined Screen (MIS) would likely be used to allow for an increase to total attraction flow rate. These screens are designed to be cleaned by periodically tilting the screens so accumulated debris can be

removed by backflushing water out of the entrance. The conceptual-level design has one MIS in each of the intake ports of the structure.

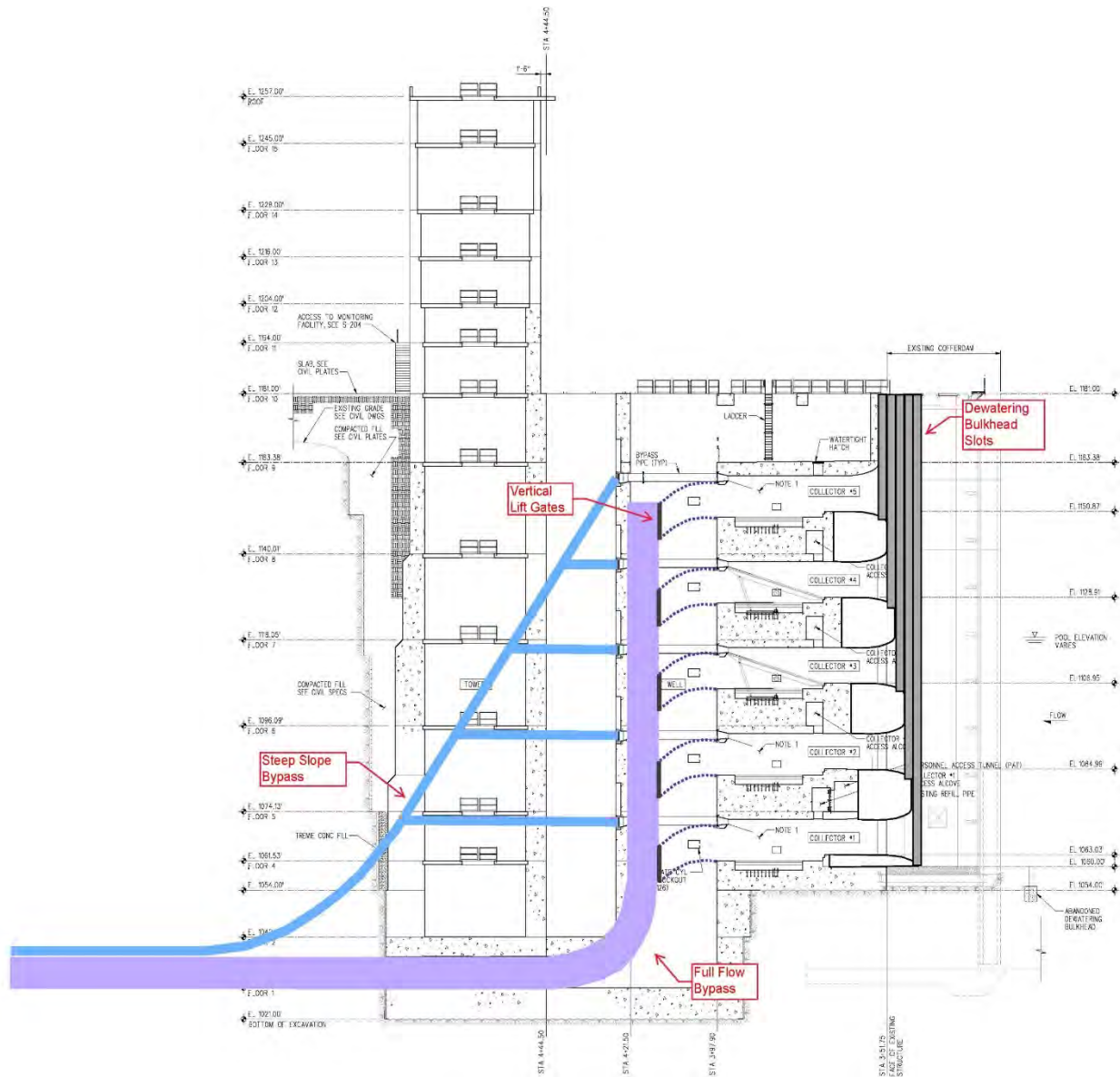


Figure 1. Conceptual drawing of a multiport collection and steep slope bypass structure.

3 PROJECT PURPOSE AND NEED

The overall purpose for the proposed action is to restore downstream fish passage past HAHD as authorized in WRDA 1999 as component of the AWSP. The “action” is defined as updating the design of the FPF to be constructed at HAHD. The need for this action arises from the determination that the design evaluation in the 1998 EIS and the project authorization via WRDA 1999 are not expected to meet the performance criteria in RPA 1 of the 2019 National

Marine Fisheries Service (NMFS) jeopardy Biological Opinion, as a reasonable and prudent alternative necessary to prevent the likelihood of jeopardy to listed species or the destruction or adverse modification of designated critical habitat, as committed by the Seattle District in the required response to that BiOp. Downstream fish passage would improve abundance and productivity of ESA-listed salmon in the Green/Duwamish basin and contribute to the survival and recovery of Southern Resident killer whales (*Orcinus orca*) by increasing the productivity of their primary prey item.

Outmigrating juvenile salmonids in the upper Green River must pass through the existing intake at HAHD. Depending on season, pool height, depth to outlet, and other factors, between 5 and 25% of juveniles survive. Construction of the FPF is expected to increase the survival rate by meeting the BiOp criteria of 95% attraction of juvenile outmigrating fish and 98% survival through the facility.

4 PROPOSED ACTION AND ALTERNATIVES CONSIDERED

The Corps is proposing to update the design of the FPF, which was one component of the overall AWSP described in the 1998 EIS, and the CWA 404 analysis completed for the original design in 2005. The National Environmental Policy Act (NEPA) requires that the action alternative be compared to a no-action alternative. Because the FPF component of the preferred alternative in the 1998 EIS has not yet been constructed, the no-action alternative for comparison in this document is to leave the facility unconstructed and to not restore downstream fish passage at HAHD.

4.1 Alternative 1 No Action

Under this alternative, downstream salmonid migration would not be restored because an FPF would not be constructed. The excavated hole (Figure 2) would be filled in for dam structural integrity, and the tunnel for fish passage would not be built. The area behind the cofferdam would continue to fluctuate with the reservoir level from water seepage through the cofferdam and rainfall until the construction to fill the hole is completed. No fish have been planted in the upper watershed for many years due to the low survival rate. If any Tribe or fisheries agency planted fish above the dam, juvenile fish would have to locate the existing HAHD outlet tunnel for downstream fish passage. These surface-oriented fish would still struggle with downstream passage due to the depth to the outlet tunnel of the dam. Mortality rates would remain high. Therefore, this alternative fails to meet the project purpose and is not in compliance with the ESA and the NMFS 2019 BiOp. The Corps rejected this alternative from further evaluation.



Figure 2. Fish passage facility excavation.

4.2 Alternative 2 Updated Design Fish Passage Facility

Under this alternative, the FPF would be constructed using the updated design. The upstream portion would be constructed inside the cofferdam that was previously constructed. Water currently within the boundaries of the cofferdam would be pumped out and the site would be cleaned of debris and sediments. The FPF will include pipes for fish passage with the most likely pathway being a tunnel through the dam's left bank abutment with the outlet approximately 1,000 feet downstream of the base of HAHD. Once the tunnel exits the left bank from underground, it will daylight into a stilling basin approximately 150 feet long by 40 feet wide at a 30-degree angle pointing downstream along the bank into the river. The downstream end of the basin will transition into a flat grade as it approaches the river, and the bottom of the box-like structure will be underwater at all river flows.

Construction duration is expected to be 3-4 years with limited work during the 4 months of flood season (November through February). The new FPF is expected to be fully operational in 2030.

5 SIGNIFICANT DEGRADATION, EITHER INDIVIDUALLY OR CUMULATIVELY, OF THE AQUATIC ENVIRONMENT.

a) *Effects on Physical, Chemical, or Biological Characteristics of the Aquatic Ecosystem.*

The proposed action includes the removal of mature trees and shrubs at the tunnel outlet site. Clearing and grubbing will be limited to the maximum extent practicable.

After the outlet and the supporting crib wall is completed, the site will be replanted with native vegetation.

Construction related turbidity may occur during any in-water work. Turbidity would be monitored during construction. Water quality monitoring for turbidity will be performed for a minimum of one day at the start of each new sediment-generating activity. If significant sediment enters the river and high levels of turbidity occur, work will be halted until the situation can be assessed and corrected. The Corps will prepare a comprehensive Care and Diversion of Water Plan to be strictly followed during construction.

b) Effects on Recreational, Aesthetic, Historical, and Economic Values.

The FPF above the dam and the outlet below the dam are located in restricted areas at an active Corps project within a closed municipal watershed with no recreational opportunities at the project site. The outlet will be a large pipe with a supporting crib wall, which will be a small footprint on the left bank. The action will not degrade any recreational, aesthetic, or economic values for the importance of fish passage. The change to the HAHD landmark's historical values will be accounted for in a programmatic agreement under Section 106 of the National Historic Preservation Act.

c) Finding

The Corps has determined that adverse impacts to aquatic ecosystem function and values will not occur.

6 APPROPRIATE AND PRACTICABLE MEASURES TO MINIMIZE POTENTIAL HARM TO THE AQUATIC ECOSYSTEM.

a) Impact Avoidance and Minimization Measures

Through the evaluation of alternatives, the project will avoid continued adverse impacts to the fishery resources of the HAHD reservoir and the Green River.

The project will take all steps during construction to minimize impacts to aquatic resources and will outline these steps in a formal Care and Diversion of Water Plan as well as a Stormwater Pollution Prevention Plan (SWPPP). The Corps will employ pollution prevention measures for storm and surface waters during construction. All storm and surface waters will be collected and treated prior to discharge into the reservoir. The project area already has an extensive surface water diversion and filtration system installed as part of the initial construction process in 2005-2011. The Corps will monitor water quality during construction to assure that any impacts to water quality will be temporary in nature and minimal in overall impact. Contingencies will be

in place if any of the primary minimization measures fail to achieve their intended function.

In-water work will be limited to the in-water work window of July 1 to September 30 for the Green River upper watershed above the limit of anadromous fish occupancy. Should additional time be required, the Corps will coordinate the time extension with NMFS, Washington Department of Fish and Wildlife, and Washington State Department of Ecology (Ecology).

Disturbance of existing vegetation will be minimized, and vegetation removal will be limited to the tunnel outlet site and temporary access road (if required) for its construction. Noxious weeds will be disposed of separately from other organic materials at an approved off-site location.

b) Compensatory Mitigation

The Corps has determined that the project, with a purpose of restoration of access to habitat for listed anadromous fish, meeting performance standards of collection and passage survival prescribed by NMFS's Reasonable and Prudent Alternative, requires no mitigation through compensation.

c) Findings

The Corps has determined that all appropriate and practicable measures have been taken to minimize potential harm to the aquatic ecosystem.

7 OTHER FACTORS IN THE PUBLIC INTEREST

a. Fish and Wildlife

The Corps coordinated with USFWS and NMFS. In 2019 NMFS issued a BiOp with Reasonable and Prudent measures, one of which is Action Item #1: "To avoid long-term jeopardy and restore adversely modified critical habitat, the Corps must: Design and build a permanent downstream fish passage system for HAHD according to the project development milestones requiring construction of an FPF. Implementing the proposed action and RPA will take many years before the permanent downstream fish passage system is complete. The Corps must meet the design and construction schedule milestones provided in Appendix A in order to avoid delays in meeting the completion date of 2030."

b. Water Quality

The Corps coordinated the original design with Ecology through the CWA Section 401 certification process and received a permit in September 2002 (Order #02SEACR-4581). In that certification, Ecology concluded that there are no permanent impacts to water quality from the project, and construction impacts will be of short duration and minimal in nature. The Order expired by its terms after five years, and due to the update in the

facility's design and length of time passed since construction stopped, the Corps requested a new CWA Section 401 certification prior to finalizing the Validation Study phase. Ecology provided a new CWA Section 401 certification on March 23, 2022.

c. Historical and Cultural Resources

The Corps coordinated the original project with the Washington State Historic Preservation Officer (SHPO), Tacoma Public Utilities (TPU), and the Muckleshoot Indian Tribe, concluding with a Memorandum of Agreement in August 2003. The Corps is consulting with SHPO, TPU, and the Muckleshoot Tribe on the updated design including the tunnel outlet. A new Programmatic Agreement (PA) has been developed to address the change to the design of the fish passage structure, the phased Section 106 process, and the potential effects to historic properties. The new PA was signed by the Corps and the SHPO with the non-federal sponsor as a concurring party. The Corps will be in full compliance with the National Historic Preservation Act prior to construction.

d. Activities Affecting Coastal Zones

The Corps completed a Coastal Zone Consistency Determination for the original project concluding that it is consistent to the maximum extent practicable with the enforceable policies of the State of Washington's Coastal Management Program, primarily through evaluation of consistency with the King County Shoreline Master Program. In their 2002 Order #02SEACR-4581, Ecology concurred with this determination. The Corps has updated the Consistency Determination considering the updated design, updates to King County's Shoreline Master Program, and updates to the enforceable policies of the Washington Coastal Management Program. The Corps has maintained the determination that the project is consistent to the maximum extent practicable with the enforceable policies of the Washington Coastal Management Program.

The upstream part of the updated FPF will be within the footprint inside the previously constructed cofferdam. Modern design features include tunnels through the dam's left bank abutment to the Green River. The upstream facility, tunnels, and outlet will be constructed solely on Federal property.

The Corps provided a Supplemental Coastal Zone Consistency Determination for Ecology's review. The scope of this Supplement extends only to the reasonably anticipated effects on the uses and resources of the coastal zone arising from updates in project description made since Ecology's 2002 concurrence: i.e., the consequences of the refinement in fish passage facility design associated with construction and operation of the new design features for the HAHD FPF and appurtenant work. Ecology concurred with the Corps' Supplemental Coastal Zone Consistency Determination in a letter dated March 29, 2022.

e. Environmental Benefits

Completion of the project will restore fish passage for migrating juvenile salmonids, including federally protected species, and provide access for adult salmon spawning and juvenile rearing to over 60 miles of undeveloped habitat in the watershed above HAHD. The restoration is expected to contribute to recovery of ESA-listed Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*), and steelhead (*O. mykiss*). The Green River ecosystem will benefit from recovery of keystone species. Additionally, recovery of Chinook salmon is anticipated to aid in recovery of ESA-listed Southern Resident killer whales by increasing the abundance of their primary prey item.

f. Navigation

Waters between HAHD and the TPU's Water Headworks are closed to the public; therefore, any boating activities would be incidental by personnel allowed in the area for required work or study purposes. The FPF will not change total flows released from HAHD downstream to the Green River, thus, the Corps has determined that this project will not affect navigation.

g. Finding

Based on the analyses presented in the Supplemental Environmental Impact Statement, as well as the following 404(b)(1) Evaluation and Application by Analogy of the General Policies for the Evaluation of the Public Interest, the Corps finds that this project complies with the substantive elements of Section 404 of the CWA.

8 CONCLUSION

Based on the analyses presented in the Supplemental Environmental Impact Statement, as well as the following 404(b)(1) Evaluation, the Corps finds that this project complies with the substantive elements of Section 404 of the CWA.

Attachment A
Clean Water Act 404(b)(1) Evaluation [40CFR §230]
404(b)(1) Evaluation [40 CFR §230]

Potential Impacts on Physical and Chemical Characteristics [Subpart C]:

1. Substrate [230.20]

Excavation and fill will occur on the left bank downstream of HAHD for the FPF tunnel outlet, supporting crib wall, and new stilling basin for the fish release site. Construction will require some excavation of native sediments and fill with imported materials to stabilize the new pipe's outlet; quantities will be determined at a later stage of design. Any materials not required for reuse on-site will be disposed of in an established upland disposal area approximately 2 miles east of the dam. Establishment of the new stilling basin within the river's substrate will alter the type of aquatic insects that dwell in this small area from those that live within interstitial spaces of gravel to those that cling to surfaces. The area of change is extremely small relative to the total riverbed habitat available in this reach. The scope of change is not expected to alter other trophic levels of the river's ecosystem.

2. Suspended particulates/turbidity [230.21]

Minimal turbidity is expected during construction. Best management practices (BMPs) for sediment control will be used throughout construction to minimize turbidity. Turbidity monitoring of activities that may cause discharge or substrate disturbance will ensure compliance with State standards throughout construction.

3. Water [230.22]

The project is not expected to add any nutrients to the water that could affect the clarity, color, odor, or aesthetic value of the water, or that could reduce the suitability of the Green River for aquatic organisms. Adding fish passage will benefit the aquatic organisms throughout the watershed and will not add any contaminants to the water body. No direct discharge of surface or storm water will occur from the construction site to the reservoir because all surfaces are slanted to direct surface water to a drainage system. Site-derived stormwater will be captured and treated in an enhanced retention pond system before discharge back to the reservoir. The Corps will be monitoring the site before and during construction for a variety of water quality parameters.

4. Current patterns and water circulation [230.23]

A minor and temporary disruption of current pattern and water circulation can be expected during construction, but no permanent changes will occur in the HAHD reservoir. The pathway for water to flow from the reservoir to the river downstream of the dam will have additional pipes to facilitate fish passage. All water management practices for quantities of

water release are expected to remain the same as prior to construction; any changes to water management would be coordinated through the Green River Flow Management Coordination Committee. After construction, flow will be split between the HAHD outflow pipe and the FPF outlet pipe for the months the FPF is passing fish. No adverse changes are expected due to the new outlet for water for water and fish. Aquatic communities are expected to benefit from restoring fish passage.

5. Normal water fluctuations [230.24]

Normal water fluctuations in conjunction with the operation of HAHD for flood risk reduction will not be affected by the project. Water management practices are expected to remain the same for water levels in the reservoir and for discharge according to allocations.

6. Salinity gradients [230.25]

Not applicable.

Potential Impacts on Biological Characteristics of the Aquatic Ecosystem [Subpart D]:

1. Threatened and endangered species [230.30]

This work will not kill any species, impair or destroy habitat, nor facilitate activities incompatible with preserving threatened and endangered species. Construction of the FPF has a purpose of benefiting threatened and endangered species. USFWS and NMFS issued BiOps in 2000, and NMFS provided a new BiOp in 2019 resulting in the requirement for the FPF. USFWS provided an updated BiOp on February 3, 2022. The Corps will comply with all reasonable and prudent alternatives and measures identified in the two BiOps. Construction of an FPF and having it operational in 2030 is to conform to a Reasonable and Prudent Alternative in a jeopardy decision by NMFS for three species: Puget Sound Chinook salmon, Puget Sound steelhead, and Southern Resident killer whale.

2. Fish, crustaceans, mollusks, and other aquatic organisms in the food web [230.31]

Fish, crustaceans, mollusks, and other aquatic organisms may be displaced by short-term turbidity and pH increases during construction, and a small, localized permanent change to the substrate type and texture at the site of the pipe outlet for fish transport. Miles of natural habitat extend downstream for dispersal of organisms from the site of the outlet pipe's bank stabilization. Construction is not expected to interrupt any reproductive processes of organisms. After construction is complete, the small area of fill would recolonize quickly by surrounding aquatic organisms.

3. Other wildlife [230.32]

The FPF will be built adjacent to the existing intake tower on the Dam. The FPF outlet will be constructed approximately 1,000 feet downstream of the base of HAHD. The final phase of

the tunnel outlet construction will be replanting areas impacted (such as clearing and grubbing) with native vegetation. Overall, only temporary and localized impacts to wildlife and their habitat will occur. Once construction is completed, no long-term impacts to wildlife or biodiversity would remain. The goal of the project is to increase biological productivity of salmonids, thereby improving ecosystem functions.

Potential Impacts on Special Aquatic Sites [Subpart E]:

1. Sanctuaries and refuges [230.40]

The proposed action will have no effect on sanctuaries and refuges.

2. Wetlands [230.41]

The proposed action will have no effect on wetlands.

3. Mud flats [230.42]

The proposed action would have no effect on mudflats.

4. Vegetated shallows [230.43]

The proposed action would have no effect on vegetated shallows.

5. Coral reefs [230.44]

Not applicable, the proposed action is not in marine waters.

6. Riffle and pool complexes [230.45]

The proposed FPF will divert flow from the HAHD outlet tunnel, but it will not affect total quantity of discharge from HAHD. FPF flows are expected to be a maximum of 1,200 cfs, which will be discharged through the outlet pipe approximately 1,000 feet downstream from the base of HAHD. The tunnel outlet will be designed and placed to have no deleterious effects to riffle and pool complexes. The stilling basin at the outlet will function as a pool and will be placed in a reach that is a long riffle; therefore, the new artificial pool area would improve the mix of pool and riffle habitat in this section of river.

Potential Effects on Human Use Characteristics [Subpart F]:

1. Municipal and private water supplies [230.50]

A portion of the water stored at HAHD is for TPU's municipal and industrial water supply. The FPF will not change water allocations nor have any impact to municipal or private water supplies. The proposed construction would not change any water quality parameters affecting potability.

2. Recreational and commercial fisheries [230.51]

There are no effects to commercial and recreational fishing at the project site, as the adjacent watershed is closed to public access. Downstream fishing opportunities may eventually be enhanced by the restoration of fish passage through the HAHD because the purpose of the project is to restore fish populations. The fill associated with construction would not introduce chemical contamination of aquatic organisms.

3. Water related recreation [230.52]

Because the watershed is closed to public access, there is no effect on water-related recreation from the project.

4. Aesthetics [230.53]

During construction, disturbances will come from tunnel blasting, excavation, and heavy equipment noise and exhaust. A change in character of the stream bank from vegetated to stabilized with rock will occur at the tunnel outlet and potentially the opposite bank if bank stabilization is required. The overall aesthetics of the aquatic ecosystem will not be changed with the construction of a new structure adjacent to the current intake tower. The only people who are able to view the project area are employees of the Corps and TPU; no private property owners or members of the public would see a change to the aesthetics of the area.

5. Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves [230.54]

The project site is not located in a preserve of these types.

Evaluation and Testing [Subpart G]:

1. General evaluation of dredged or fill material [230.60]

Any fill required will be locally sourced either from a local quarry providing clean material, or from an HAHD borrow site, and thus presents no additional impacts. Fill material will be free of contaminants.

2. Chemical, biological, and physical evaluation and testing [230.61]

Because of origin of the fill material, the Corps determined that no further testing is required.

Actions to Minimize Adverse Effects [Subpart H]:

1. Actions concerning the location of the discharge [230.70]

The location of the tunnel outlet will be placed for optimum survival of the juvenile salmonids. The construction management plan will ensure that the minimum footprint

required for construction, including clearing and grubbing, is marked. The Corps will use BMPs to minimize the extent of any turbidity plume during construction.

2. Actions concerning the material to be discharged [230.71]

Any fill required will be locally sourced either from a local quarry providing clean material, or from an HAHD borrow site, and thus presents no additional impacts. Fill material will be free of contaminants.

3. Actions controlling the material after discharge [230.72]

No pollutants will be discharged. The FPF is designed to pass juvenile fish in native waters. Construction of the pipe outlet and any required bank stabilization will have clean, stabilized materials that are intended to remain in place and not erode, slump, or leach into the surrounding aquatic ecosystem. Construction would not occur during unusually high water flows due to considerations of safety and accessibility of the worksite.

4. Actions affecting the method of dispersion [230.73]

The fill material for construction of the FPF will primarily be concrete to build the vertical structure. The fill material on the left bank and in the bed of the river to construct the pipe outlet will have some concrete for a support structure and retaining wall as well as a new stilling basin to transition the fish from the pipe into the river habitat. Through the implementation of BMPs, this discharge is not intended to disperse into the aquatic ecosystem outside the specific area of construction.

5. Actions related to technology [230.74]

The Corps will employ appropriate equipment and machinery for the type of work required for construction of the FPF, blasting and excavating for the fish passage tunnel, and for bank stabilization to support the pipe outlet and new stilling basin. Machinery and methods of transporting the material for discharge will be appropriate for the types of materials and will minimize damage to the environment.

6. Actions affecting plant and animal populations [230.75]

The Corps will coordinate construction activities and features with state and Federal natural resource agencies as well as the Muckleshoot Tribe to minimize impacts to fishery, wildlife, and plant resources. There will be temporary disturbance to wildlife in the project vicinity due to noise from operation of machinery. All areas cleared for staging, access, and construction will be replanted with native species. All typical movement of animals is expected to return to normal around HAHD after construction. Any vegetation removed for construction staging and access would be replanted to the maximum extent practicable. Construction timing will avoid spawning and migration seasons.

7. Actions affecting human use [230.76]

The Corps has taken all appropriate and practicable steps to assure minimal impacts to human use, safety, and use of the area. The area is closed to public access. The construction site is 3 miles upstream from a public water supply intake; therefore, extreme care will be taken to protect water quality. During construction, the Corps will coordinate at least on a weekly basis and likely on a daily basis with TPU, the non-Federal sponsor, for protection of water quality upstream from the public water supply intake.

8. Other actions [230.77]

The Corps will use all applicable BMPs control runoff and other discharges in the proposed construction. HAHD water management protocols have provisions for the needs of fish and wildlife. Protection of the aquatic environment will be incorporated into the designs and specifications for construction.

Application by Analogy of the General Policies for the Evaluation of the Public Interest [33 CFR § 320.4, used as a reference]

1. Public Interest Review [320.4(a)]

All factors relevant to the proposal have been considered. The Corps finds this action to be in compliance with the 404(b)(1) Guidelines and not contrary to the public interest.

2. Effects on wetlands [320.4(b)]

No loss or alteration of wetlands is expected. See 404(b)(1) evaluation above.

3. Fish and wildlife [320.4(c)]

The Corps has consulted with USFWS, NMFS, the Washington Department of Fish and Wildlife, and the Muckleshoot Tribe for this project. All entities are in favor of the construction of the FPF. The Corps completed the Fish and Wildlife Coordination Act process as documented in the 1998 Environmental Impact Statement for the Additional Water Storage Project.

4. Water quality [302.4(d)]

This work is not exempt from Section 404 of the CWA. The Corps does not issue permits for its own civil works activities. Nevertheless, the Corps has accepted responsibility for the compliance of its civil works projects with Section 404 of the CWA, as well as the obligation to seek water quality certification under Section 401.

5. Historic, cultural, scenic, and recreational values [320.4(e)]

The Corps has consulted with the Muckleshoot Tribe and the Washington State Historic Preservation Office (SHPO). The site of the FPF is within the footprint of HAHD, an existing Federal flood damage reduction project. Construction was completed in 1962. Since completion of the EIS in 1998 and signing the ROD in 2001, HAHD has been determined

eligible to the National Register of Historic Places. The Corps will update the 2003 Memorandum of Agreement with Washington SHPO and the Muckleshoot Tribe for the construction of the revised design of the FPF and tunnel outlet.

6. Effects on limits of the Territorial Sea [320.4(f)]

Not applicable.

7. Consideration of property ownership [320.4(g)]

The site is on Federal property, and is surrounded by the Upper Green River Watershed, which is owned by the city of Tacoma to protect water supply controlled by TPU. The project will have no adverse effects to property held by these entities.

8. Activities affecting coastal zones [320.4(h)]

The FPF is located in a State of Washington designated coastal county, and as such must comply to the maximum extent practicable with the enforceable policies of the State of Washington Coastal Management Program. The project will be located on Federal property and thus all development activity lies outside the State's coastal zone, although effects are reasonably anticipated to be generated on the uses and resources of the coastal zone. The FPF does not constitute new or additional adverse effects to the site, with respect to shoreline function. In addition, the completion of the FPF will enhance fisheries resources, which is an objective of the Coastal Zone Management Act. Therefore, the Corps has determined that this project is consistent to the maximum extent practicable with the approved State management policies as required by the Coastal Zone Management Act. The Corps provided documentation of this consistency determination in a Supplement to the 2002 document to the Washington State Department of Ecology for their review and concurrence. Ecology responded with a letter of concurrence on March 29, 2022.

9. Activities in marine sanctuaries [320.4(i)]

Not applicable.

10. Other federal, state, or local requirements [320.4(j)]

Because this is a federally authorized project at a Federal facility, there are no additional requirements to be met that were not already discussed in this document.

11. Safety of impoundment structures [320.4(k)]

The FPF will be designed and built to ensure that it will not compromise the safety of the dam. Dam safety experts will review all design plans and specifications prior to finalization.

12. Floodplain Management [320.4(l)]

This project is in compliance. HAHD constitutes one of the components of the cumulative impacts that have degraded the Green River watershed's floodplain values and functions. It represents a long-term significant adverse impact; however, restoring downstream fish

passage for salmon and steelhead will substantially improve watershed functions and values. The FPF will not affect potential flooding, safety, or welfare; the new structure will enhance natural and beneficial values of the floodplains associated with the Green River. The project is in compliance with Executive Order 11988 as documented in the Validation Report and Supplemental Environmental Impact Statement.

13. Water supply and conservation [320.4(m)]

The flow of water through the FPF will be taken into account with HAHD water management. All water management practices for quantities of water release are expected to remain the same as prior to construction; any changes to water management would be coordinated with the Green River Flow Management Coordination Committee.

14. Energy conservation and development [320.4(n)]

Not applicable.

15. Navigation [320.4(o)]

This project will not result in any permanent restriction to the use of, or access to, navigable waters of the United States.

16. Environmental benefits [320.4(p)]

The FPF will benefit the environment by restoring downstream fish passage of juvenile salmonids. Passing juvenile salmon and steelhead safely through the dam will assist with restoring these species' populations as well as those that require them for their prey.

17. Economics [320.4(q)]

Not applicable.

18. Mitigation [320.4(r)]

The proposed FPF, with a purpose of restoration of access to habitat for listed anadromous fish, meeting performance standards of collection and passage survival prescribed by NMFS's Reasonable and Prudent Alternative, requires no mitigation through compensation for impacts from the dam and the AWSP. The following list of BMPs are examples of measures the Corps would implement to minimize and mitigate for impacts from the FPF project:

- In-water work (defined by WDFW and Ecology as any activity below the wetted perimeter) will be limited to July 1 - September 30 for the protection of fish.
- The timing of the most disruptive activities of construction, such as rock blasting for excavation, would consider the timing and location of the nesting pair of loons and other nesting birds.
- A pre-construction meeting will be conducted to look at existing conditions and any possible fine-tuning that could be done for BMPs or environmental requirements.

The pre-construction meeting may include outside resource agencies like USFWS or NMFS.

- The contractor will be required to submit an SWPPP and obtain a Construction Stormwater General Permit prior to construction, which will list best management practices pursuant to the 2019 Stormwater Management Manual for Western Washington to control stormwater impacts during construction.
- Measures to minimize erosion and sedimentation caused by runoff from disturbed soils or from in-water work will be implemented (e.g., silt fencing, swamp mats, covering stockpiles if rain is forecasted, coir logs, etc.). Accumulation of sediment in any adjacent swales or storm drains will be monitored daily and cleared to ensure continued service throughout construction.
- Turbidity monitoring of any activities that may cause discharge or substrate disturbance will ensure compliance with state standards throughout construction. The Corps received a Clean Water Act Section 401 Water Quality Certification from Ecology on March 23, 2022 and will abide by its conditions to the extent practicable.
- The construction management plan will ensure that the minimum footprint required for construction, including clearing and grubbing, is marked. Vegetation removal will be limited to the construction site and to provide access. After construction is complete, the sites cleared and grubbed will be revegetated using native plant species.
- Noxious weeds will be disposed of separately from other organic materials at an approved off-site location.
- All trash and unauthorized fill will be removed from the entire project area, including concrete blocks or pieces, bricks, asphalt, metal, treated wood, glass, floating debris, and paper and dispose of material properly after work is completed to prevent items from entering waterways.

Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A
ENVIRONMENTAL COMPLIANCE
COASTAL ZONE MANAGEMENT ACT
CONSISTENCY DETERMINATION
AND
LETTER OF CONCURRENCE 2022

Final Integrated Validation Report and Supplemental
Environmental Impact Statement

SUPPLEMENTAL COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION

Howard A. Hanson Dam Fish Passage Facility An Element of the Additional Water Storage Project King County, Washington

Introduction

The Howard A. Hanson Dam (HAHD), Green River, King County, Washington is a flood control and Municipal and Industrial (M&I) water supply project constructed by the U.S. Army Corps of Engineers (Corps) between 1959 and 1962. The Corps and the city of Tacoma as the non-federal sponsor are undertaking an Additional Water Storage Project (AWSP), which constitutes an increase in water storage of 25,000 acre-feet. The project is also designed to enhance fish habitat, restore fish passage, and improve downstream water quality through better flow control and augmentation. All aspects of the AWSP have already been implemented except for a downstream fish passage facility (FPF).

Having met all environmental compliance requirements, the Corps initiated engineering design and construction of the FPF in 2003. Contractors were able to complete construction of the cofferdam and excavation for the FPF on the left bank of the river just upstream of and connected to HAHD. This cofferdam would serve to separate the construction site from the reservoir during construction of the FPF. However, due to an anticipated exceedance of the budget limit in 2011, the project was placed on hold, all construction was halted, and the cofferdam has remained in place. In 2014, the Corps reinitiated Endangered Species Act (ESA) consultation for operation of HAHD. After the National Marine Fisheries Service (NMFS) issued their 2019 Biological Opinion (BiOp), the design was reevaluated to comply with the provisions of the BiOp and taking into consideration new technologies in fish passage. The Corps has updated the FPF's design.

An FPF was previously evaluated by the Washington State Department of Ecology (Ecology) in their September 10, 2002 Order No. 02SEARCR-4581, which provided Clean Water Act Section 401 Certification as well as concurrence with the Corps' CZMA Consistency Determination. The construction activities will take place on Federal property and thus will not constitute a development activity within the State's coastal zone. The scope of this Supplement to the Corps' 2002 Coastal Zone Management Act (CZMA) Consistency Determination extends only to the reasonably anticipated effects on the uses and resources of the coastal zone arising from updates in project description made since Ecology's concurrence: i.e., the consequences of the refinement in fish passage facility design associated with construction and operation of the new design features for the HAHD FPF and appurtenant work. The objective of the fish passage structure is to increase downstream fish passage and survival for out-migrating juvenile anadromous fish. For this reason, the FPF accords with Washington Administrative Code (WAC) 173-27-040-2P beneficial use guidelines for fish passage.

Specific construction activities covered by this Supplemental CZMA Consistency Determination are the following:

- a) Construction of an FPF of updated design, at HAHD within the excavation that is behind the cofferdam.
- b) Install a fish transport pipe with the most likely pathway being excavation of a tunnel via controlled blasting through rock of the left bank to the downstream outlet to the Green River
- c) Construct the fish transport pipe outlet at the Green River approximately 1,000 to 2,000 feet downstream of the toe of HAHD.
- d) Fill and bank stabilization around the FPF and the pipe outlet. Revegetate any areas cleared and grubbed with native vegetation.

Proposed Action

The updated design is a fixed multiport collection structure (Figure 1), which would allow fish collection and passage from a set of five intake ports at multiple water levels as the

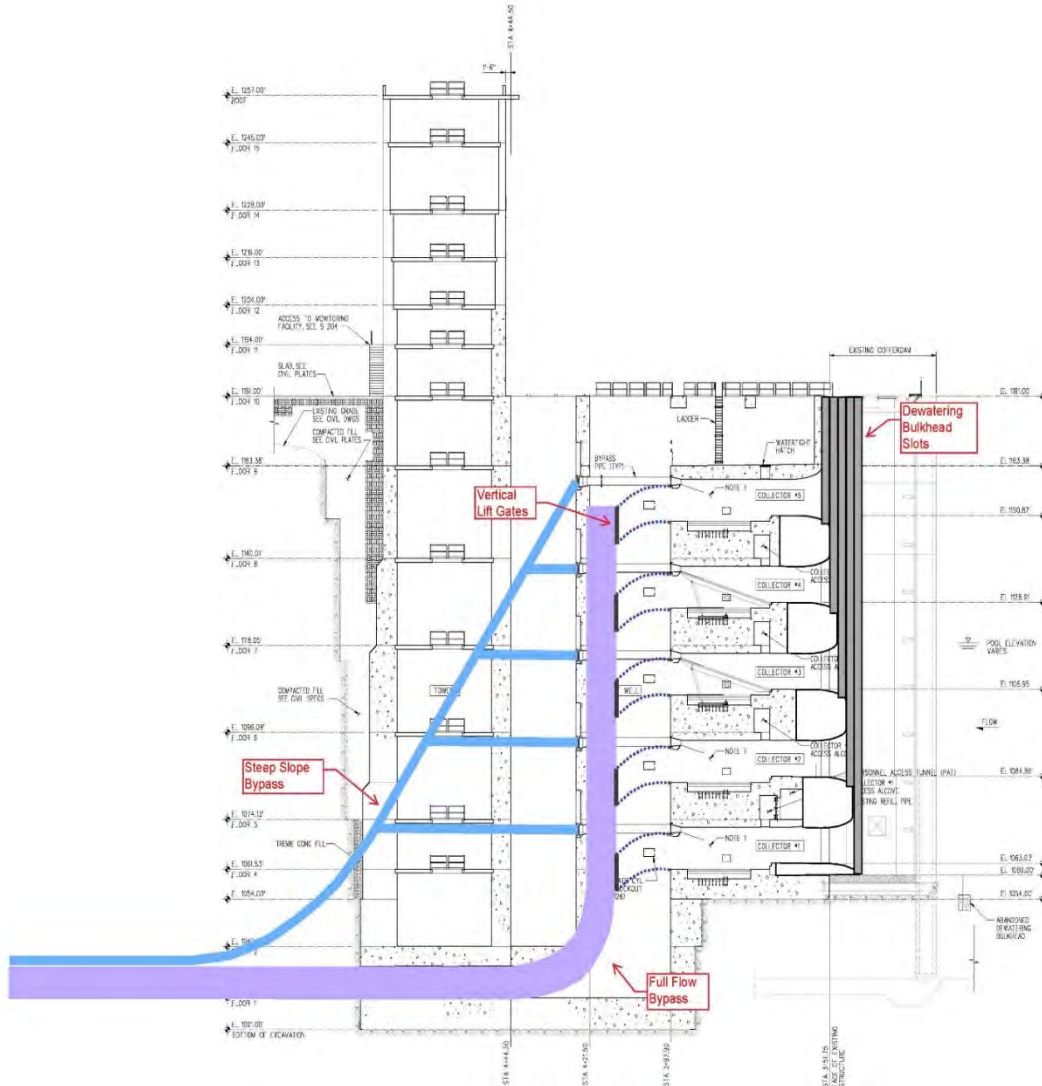


Figure 1. Conceptual drawing of a multiport collection and steep slope bypass

reservoir elevation changes. At low forebay elevations, the lower intake ports would be used. As the forebay elevation increases, the lower intake ports would be closed, and the higher elevation intake ports would be opened. Depending on forebay elevation, either one or two of the five intake ports may be used at one time. The intake port shape would be designed to meet desired water flows for fish attraction depending on forebay elevation. Each intake port would be designed to withdraw up to 600 cubic feet per second (cfs) of water from the reservoir, so two intake ports could operate at once for a total withdrawal of 1,200 cfs. Inclined screens would be used to reduce the flow with fish from approximately 600 cfs per intake port to about 25-35 cfs per intake port to safely screen and pass fish based on NMFS fish passage design criteria. The maximum design flow capacity is 1,200 cfs, which can be supplied by keeping two of the five intake ports open to achieve the requirement of 95% fish attraction throughout the range of flows during fish collection season.

Construction duration is expected to be 3-4 years with limited work during the 4 months of flood season (November through February). The new FPF is expected to be fully operational by the end of 2030. Dredging and blasting activities will be performed on site from construction start in approximately 2027 through 2030. Because of the scope of this project, the Corps expects to work year-round during the project timeframe. The Corps will adhere to the in-water work window of July 1 to September 30; for any work that must occur below the wetted perimeter outside that work window, the Corps would coordinate with NMFS and Ecology.

Once collected into the multiport structure, fish are transported downstream using one or more steep bypass pipes. The passage route connecting the multiport collector to the release site could run along the downstream side of the dam, cut through the left abutment, or connect to an existing bypass structure. Although water velocities in these types of systems exceed the NMFS fish passage criteria, if the bypass is designed so the velocities are slowed gradually before discharging to the tailrace, then exposure to abrasion, shear, and impacts are minimized to acceptable levels. The bypass pipe(s) would include a shallow bend at the base before going horizontal or would use some other feature to dissipate energy and slow down velocities before release.

The transport pipe exit must meet the NMFS fish release location criteria. The location must minimize predation, be free of eddies and reverse flow, be at a sufficient depth to avoid injuries at all river and bypass flows, have river velocities that are greater than 4 feet per second (fps), and provide controls for avian predation if necessary. Once the transport pipe exits the left bank from underground, it will daylight into a stilling basin approximately 150 feet long by 40 feet wide at a 30-degree angle pointing downstream along the bank into the river. The downstream end of the basin will slope into a flat grade as it approaches the river.

The FPF must be able to handle debris that enters the reservoir from upstream sources. Debris typically consists of organic, woody material. A submerged Modular Inclined Screen (MIS) would likely be used to allow for an increase to total attraction flow rate.

These screens are designed to be cleaned by periodically tilting the screens so accumulated debris can be removed by backflushing water out of the entrance.

Consistency Review

The CZMA requires states to identify and obtain approval of “Enforceable Policies.” Washington’s authorities and their implementing regulations contain the state’s Coastal Zone Management Program’s (CZMP) six enforceable policies:

- The Shoreline Management Act (SMA)
- The Clean Water Act (CWA)
- The Clean Air Act (CAA)
- The State Environmental Policy Act (SEPA)
- The Energy Facility Site Evaluation Council law (EFSEC)
- The Ocean Resources Management Act (ORMA)

Shoreline Management Act, chapter 90.58 RCW

The Shoreline Management Act (“SMA”), chapter 90.58 RCW is the core authority of Washington’s CZMP. The Corps does not obtain a shoreline permit from King County because other applicable Federal law prohibits application of the permit system to Federal agencies. The Federal Government cannot be regulated or required to obtain a permit by a state or local government unless the Federal Government has clearly and expressly waived its sovereign immunity (ref: Supremacy Clause of the U.S. Constitution, article VI, clause 2). The CZMA does not contain such a waiver.

State Policy

RCW 90.58.020 enunciates the following state policy:

- ***To provide for the management of shorelines of the state by planning for and fostering all reasonable and appropriate uses.***
- ***To ensure the development of shorelines in a manner that promotes and enhances the public interest while allowing only limited reduction of rights in the public in the navigable waters***
- ***To protect against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights.***

The update to the design of the FPF does not constitute new or additional adverse effects to the site, with respect to shoreline function. In addition, the completion of the FPF will enhance fisheries resources, which is an objective of the CZMA. Therefore, the Corps has determined that this project is consistent to the maximum extent practicable with this approved enforceable policy pursuant to the CZMA.

Shorelines of Statewide Significance

The SMA establishes use preferences for shorelines of state-wide significance. The proposed activities are consistent with the criteria for activities within shorelines of statewide significance as follows:

1. Recognize and protect the statewide interest over local interest.

The overall purpose for the proposed action is to restore downstream fish passage past HAHD as authorized in WRDA 1999 as a restoration component of the AWSP. Out-migrating juvenile salmonids in the upper Green River must pass through the existing intake at HAHD. Depending on season and pool height, only 5-25% of juveniles survive depending on pool levels, depth, and other factors. The need for restored fish passage arises from the status and population trajectory of anadromous salmon species in the Green River watershed. As stated above, the one remaining unconstructed component of the AWSP is the FPF. Downstream fish passage would improve abundance and productivity of Endangered Species Act (ESA)-listed salmon in the Green-Duwamish basin and contribute to the survival and recovery of Southern Resident killer whales.

2. Preserve the natural character of the shoreline and minimize human-made intrusions on shorelines.

The new FPF will be designed and constructed based on current standards for fish passage structures: NMFS Anadromous Salmonid Passage Facility Design, 2011 edition. During construction, disturbance will result from tunnel blasting, excavation, and heavy equipment noise and exhaust. A minor change in character of the stream bank will result at the tunnel outlet to support the transport pipe and potentially the opposite bank if bank stabilization is required. The overall aesthetics of the dam will not be changed with the construction of a new structure adjacent to the current intake tower. Once FPF construction is completed, exposed soils from construction will be revegetated with native plants.

3. Plan for long term over short term benefit.

The FPF will have a long-term benefit to the environment by passing juvenile salmonids safely through HAHD and will aid survivability of the species as well as those that require them for their prey.

4. Protect the resource and ecology of the shoreline

Best management practices (BMPs) and conservation measures will be in place to limit impacts from construction, including downstream turbidity. Once completed, bare soils will be replanted with native vegetation.

5. Increase public access to publicly owned areas of the shorelines

The reservoir above HAHD and the Green River downstream to the City of Tacoma's Water Headworks are closed to public access, and the project therefore will not change public access to Washington state shorelines. The Green River flows off Federal property to King County and State of Washington lands.

6. Increase recreational opportunities for the public on the shorelines

There are no effects to commercial and recreational fishing at the project site as the adjacent watershed is closed to public access. Downstream fishing opportunities may be increased by the restoration of fish passage through HAHD.

General Use Preferences

RCW 90.58.020 also states that alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their appurtenant structures, port, shoreline recreation use, and other improvement facilitating public access to shorelines of the state, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the state.

The FPF above the dam and the outlet below the dam are located in restricted areas at an active Corps project within a closed municipal watershed. The outlet will be a large pipe with a supporting crib wall, which will use a small footprint for the improvement of fish passage.

The Clean Water Act

The Corps coordinated the original design with the Washington State Department of Ecology (Ecology) under CWA Section 401 and received a water quality certification in September 2002 (Order #02SEACR-4581). In that certification, Ecology concluded there are no permanent impacts to water quality from the project, and construction impacts will be short-term and minimal in nature. Due to the updated design of the FPF, the Corps will complete CWA Section 401 process prior to construction.

The Corps has prepared a Section 404(b)(1) evaluation to document findings regarding this action pursuant to Section 404 of the CWA. The Corps will distribute a Section 404 public notice for public comment along with the draft Supplemental Environmental Impact Statement (SEIS) prepared for the updated design. Based on the analyses presented in the SEIS, as well as in the Section 404(b)(1) Evaluation and Application by Analogy of the General Policies for the Evaluation of the Public Interest, the Corps finds that this project complies with the substantive elements of Section 404 of the CWA.

Washington Air Quality Requirements

This project does not require air quality permits.

State Environmental Policy Act

This Corps project will comply with the National Environmental Policy Act and is not subject to SEPA.

The Energy Facility Site Evaluation Council Law (EFSEC)

The proposed activities do not require an EFSEC permit.

Ocean Resources Management Act

The enforceable policies of the Ocean Resources Management Act and the WAC 173-26-360 Part IV: Ocean Use Guidelines do not apply to the project because the proposed action does not include sites in or adjacent to the Pacific Ocean.

King County Shoreline Master Program

The CZMA requires Federal activities that may affect coastal resources or uses be evaluated for consistency with relevant local Shoreline Master Program(s) (SMP). King County implemented the SMA through the adoption of goals and policies in Chapter 21A.25.10 (SMP Elements) of the development regulations in the County's Code. This Coastal Zone Consistency Determination is based on review of applicable policies and standards of the King County SMP. Applicable portions of the shoreline environment guidelines are presented below in ***bold italics***, and the Corps' consistency determination response is indicated in normal text.

The proposed project footprint is adjacent to an area designated as *Rural Environment*. The land use designation surrounding HAHD and the reservoir is *Forestry*. Active logging by the city of Tacoma occurs in the upland areas surrounding the dam.

21A.25.090 Shoreline use and modification – defined – no net loss of shoreline ecological functions allowed – sequencing compliance.

B. Shoreline modification is construction of a physical element such as a bulkhead, groin, berm, jetty, breakwater, dredging, filling, vegetation removal or alteration or application of chemicals that changes the natural or existing shoreline conditions. Shoreline modifications are identified in K.C.C. 21A.25.160.

C. King County shall ensure that uses and modifications within the shoreline jurisdiction do not cause a net loss of shoreline ecological functions and comply with the sequencing requirements under K.C.C. 21A.25.080.

All features and aspects of constructing the proposed FPF were previously approved by Ecology in their 2002 Order No. 02SEARCR-4581, which provided concurrence with the Corps' CZMA consistency determination. The updated design of the FPF adds a new tunnel with transport pipe outlet and a supporting crib wall within the reach of river that is 1,000 to 2,000 feet downstream from HAHD. This new pipe outlet with bank stabilization will be discussed in 21A.25.170 below. The consequences to shoreline ecological functions, as compared with those evaluated for Order 02SEARCR-4581, will be unchanged.

21A.25.160 Shoreline modification.

A. The shoreline modification table in this section determines whether a specific shoreline modification is allowed within each of the shoreline environments.

B. Shoreline modification table

- 7. a. If the department determines the primary purpose is restoration of the natural character and ecological functions of the shoreline, a shoreline habitat and natural systems enhancement project may include shoreline modification of vegetation, removal of nonnative or invasive plants, shoreline stabilization, including the installation of large woody debris, dredging and filling. Mitigation actions identified through biological assessments required by the National Marine Fisheries Services and applied to flood hazard mitigation projects may include shoreline modifications of vegetation, removal of nonnative or invasive plants,***

shoreline stabilization, including the installation of large woody debris, dredging and filling.

The updated FPF overall function fits best as a “Habitat and Natural Systems Enhancement Project” as the purpose is to address the 2019 jeopardy determination by NMFS. Modification of the shoreline is designated P7 according to Table B. According to the Table, designation “P” allows modification in Forestry and Rural areas. Designation “7” is meeting a mitigation requirement by NMFS. Therefore, the proposed modification is consistent with this element.

21A.25.170 Shoreline stabilization.

A. Shoreline stabilization shall not be considered an outright use and shall be permitted only when the department determines that shoreline protection is necessary for the protection of existing legally established primary structures, new or existing non-water-dependent development, new or existing water-dependent development or projects restoring ecological functions or remediating hazardous substance discharges. Vegetation, berms, bioengineering techniques and other nonstructural alternatives that preserve the natural character of the shore shall be preferred over riprap, concrete revetments, bulkheads, breakwaters and other structural stabilization. Riprap using rock or other natural materials shall be preferred over concrete revetments, bulkheads, breakwaters and other structural stabilization. Lesser impacting measures should be used before more impacting measures.

The updated design for the HAHD FPF meets the 2011 NMFS Anadromous Salmonid Passage Facility Design criteria and is intended to meet the Reasonable and Prudent Alternative contained in the 2019 NMFS BiOp for the AWSP. The fish tunnel outlet is expected to be a large fish transport pipe, with up to 1,200 cfs flow, and will be positioned to ensure the best opportunities for juvenile salmonid survivability. A crib wall will be constructed at the outlet for stability of the pipe. Additional stability in the form of riprap or a concrete wall maybe be used along approximately 400 linear feet of shoreline. The transport pipe’s outlet will flow into a constructed stilling basin that would be 150 feet long by 40 feet wide gently sloping into the river channel. The proposed modification is consistent with this element.

B. Structural shoreline stabilization may be permitted subject to the standards in this chapter and as follows:

- 4. The proposal is the minimum necessary to protect existing legally established primary structures, new or existing non-water-dependent development, new or existing water-dependent development or projects restoring ecological functions or remediating hazardous substance discharges; and***
- 5. Adequate mitigation measures will be provided to maintain existing shoreline processes and critical fish and wildlife habitat and ensure no net loss or function of intertidal or riparian habitat***

The proposed crib wall and riprap bank stabilization are intended to be constructed to stabilize the transport pipe outlet, which is part of the HAHD FPF action. A stilling basin will be constructed on the left bank and into the river channel to meet NMFS

fish passage criteria for fish passage outlets. As part of the post-construction clean-up, disturbed soils will be replanted with native vegetation. Therefore, it is consistent with this for bank stabilization requirements.

21A.25.190 Excavation, dredging and filling. Excavation, dredging and filling may be permitted in the rural environment subject to the provisions of K.C.C.

25.16.190 of the urban environment provided:

A. Fill or excavation landward of the ordinary high-water mark shall be subject to K.C.C. chapters 16.82 and 21A.24;

B. Fill may be permitted below the ordinary high-water mark only:

1. When necessary to support a water dependent use.

Since fish passage is water dependent by nature, the operation of the FPF will depend on outflows from the Eagle Gorge Reservoir of a specific minimum volume during times of migratory activity.

7. As part of mitigation actions, environmental restoration projects and habitat enhancement projects;

The updated design for the FPF is to meet current standards for Anadromous Fish Passage (NMFS 2011) and with the Reasonable and Prudent Alternative of the NMFS 2019 BiOp.

C. Fill or excavations shall be permitted only when technical information demonstrates water circulation, littoral drift, aquatic life and water quality will not be substantially impaired and that the fill or excavation will not obstruct the flow of the ordinary high water, flood waters or cutoff or isolate hydrolic features from each other;

The Corps has completed an Environmental Impact Statement (EIS) for the original design with the Record of Decision signed in 2001. A draft SEIS for the updated design has been completed in 2021. The actual construction of the FPF will not harm aquatic life, nor will it impede circulation through the Dam's existing intake structure. Water quality will be protected to the extent practical through the Section 401, CWA certification, the development and implementation of a water quality management plan, and full use and adherence to All Known and Reasonable pollution prevention and mitigation Technologies (AKART) as defined in Ch. 173-27 WAC.

D. Dredging and dredged material disposal below the ordinary high-water mark shall be permitted only:

1. When necessary for the operation of a water dependent use;

2. When necessary to mitigate conditions that endanger public safety or fisheries resources;

The construction of the tunnel for the FPF will require both drill and blast rock removal and some mechanical sediment removal. These activities will be behind the previously installed cofferdam with the outlet on the downstream side. Rock materials will be removed and disposed of in an adjacent upland site. Sediment will be contained by use of Reasonable and Prudent Measures (RPMs) as specified by the Section 7, ESA consultation that the Corps has obtained, and the Section 401, CWA. These RPMs include but are not limited to the following: develop a sediment management plan for the reservoir; require a contractor's sediment erosion control

plan; meet annually with the USFWS and NMFS during project construction. Since the purpose of this project is to increase downstream fish passage and survival, this project will decrease danger to fisheries resources.

F. Disposal of dredged material shall be done only in approved deep water disposal sites or approved upland disposal sites and is not allowed within wetlands or channel migration zones;

Materials created during the excavation of the tunnel will be disposed of at an upland material disposal and staging site owned by the city of Tacoma approximately 2 miles upstream from HAHD, in accordance with local, state, and Federal regulations.

H. In order to ensure that operations involving dredged material disposal and maintenance dredging are consistent with the King County shoreline master program as required by RCW 90.58.140(1), no dredging may commence in any shoreline environment without the responsible person having first obtained either a substantial development permit or a statement of exemption when required under K.C.C. 21A.25.290. A statement of exemption or shoreline permit is not required before emergency dredging needed to protect property from imminent damage by the elements, if statement of exemption or substantial development permit is subsequently obtained following the procedures in K.C.C. 16.82.065. (Ord. 16985 § 45, 2010: Ord. 16172 § 7, 2008: Ord. 13247 § 3, 1998: Ord. 5734 § 6, 1981: Ord. 3688 § 414, 1978. Formerly K.C.C. 25.16.190).

This is a Federal construction project on a congressionally authorized Federal facility. Dredging and drill and blast rock removal are only one part of the project. As the Federal Government has not waived sovereign immunity on projects of this nature, no construction permit or shoreline permit is required to be obtained by the Corps (WAC 173-27-060 –1 & 2). In addition, Ch. 173-27-40-2(p) specifically states that exemptions to the permit rule will be granted for projects that reduce or improve impediments to fish passage. Since the FPF is solely for the purpose of improving downstream fish passage at HAHD, it meets this requirement for an exemption.

Statement of Consistency

Based on the above evaluation, the Corps has determined that the proposed action, implementing the updated design for the HAHD FPF, is consistent with the enforceable policies of the approved CZMP of Washington, including the enforceable policies as specified in the local planning documents for King County that are incorporated in the approved programs. The action is therefore consistent with the State of Washington's CZMP to the maximum extent practicable.



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

*Northwest Regional Office • PO Box 330316 • Shoreline, Washington 98133-9716 • (206) 594-0000
711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341*

March 28, 2022

U.S. Army Corps of Engineers, Seattle District
ATTN: Laura Boerner, Chief, Planning, Environmental, and Cultural Resources Branch
4735 East Marginal Way South, Building 1202
Seattle, WA 98134-2388

RE: Coastal Zone Consistency for Activity Undertaken by a Federal Agency
Howard A. Hanson Dam Additional Water Supply Project Phase 1 Fish Passage
Facility, King County, Washington

Dear Laura Boerner:

On November 22, 2021, the U.S. Army Corps of Engineers, Seattle District (Corps) submitted a Supplemental Coastal Zone Management Act Consistency Determination for the above project. On January 21, 2022, the Corps agreed to an extension of Ecology's review period until April 14, 2022.

The project consists of completing construction of a downstream juvenile fish passage facility at the Howard A. Hanson Dam (HAHD) as the one remaining component of the Additional Water Storage Project Phase 1.

The Corps submitted a Consistency Determination and received concurrence in 2002 for the original Additional Water Storage Project; however, the project construction was not completed and was put on hold. The Corps' Supplemental Consistency Determination covers the following project components:

- Construction of a downstream fish passage facility of updated design at HAHD, within the excavation that is behind the existing permanent cofferdam;
- Installation of a fish transport pipe with excavation of a deceleration tunnel via controlled blasting through rock of the left bank to the downstream outlet to the Green River;
- Construction of the fish transport pipe outlet with a concrete stilling basin, approximately 800 feet downstream from the toe of HAHD; and
- Excavation of a plunge pool approximately 1,200 feet downstream from the toe of HAHD;
- Fill and bank stabilization around the fish passage facility and the pipe outlet, with revegetation of any areas cleared and grubbed with native vegetation.

The project site is located at River Mile 64.5 on the Green River, near the town of Palmer, King County, Washington.

Pursuant to Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended, Ecology concurs with the Corps' determination that the proposed work is consistent with Washington's CZMP.

If you have any questions regarding Ecology's consistency decision, please contact Rebekah Padgett at (425) 365-6571 or by e-mail at Rebekah.Padgett@ecy.wa.gov.

YOUR RIGHT TO APPEAL

You have a right to appeal this decision to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this decision. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do all of the following within 30 days of the date of receipt of this decision:

- File your appeal and a copy of this decision with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this decision on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Address and location information.

Filing an appeal with the PCHB:

Mailing Address:

Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

Street Address:

Pollution Control Hearings Board
1111 Israel RD SW STE 301
Tumwater, WA 98501

Serving a copy of the appeal on Ecology:

Mailing Address:

Department of Ecology
Attn: Appeals Processing Desk
PO Box 47608
Olympia, WA 98504-7608

Street Address:

Department of Ecology
Attn: Appeals Processing Desk
300 Desmond Drive SE
Lacey, WA 98503

Sincerely,



Joe Burcar, Section Manager
Northwest Regional Office
Shorelands and Environmental Assistance Program

Sent by electronic mail: laura.a.boerner@usace.army.mil

e-cc: Nancy Gleason, US Army Corps of Engineers
Stewart Reinbold, WA Department of Fish and Wildlife
Doug Robison, WA Department of Fish and Wildlife
Michael Garrity, WA Department of Fish and Wildlife
Ben Blank, WA Department of Fish and Wildlife
David Price, National Marine Fisheries Service
Stephanie Ehinger, National Marine Fisheries Service
Molly Good, U.S. Fish and Wildlife Service
Ralin Santiago, Ecology
Gary Myers, Ecology
Grant Yang, Ecology
Amy Jankowiak, Ecology
Jay Fennell, Ecology
Loree Randall, Ecology
ecyrefedpermits@ecy.wa.gov

Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A
ENVIRONMENTAL COMPLIANCE

NATIONAL HISTORIC PRESERVATION ACT
SECTION 106 CONSULTATION LETTERS

Final Integrated Validation Report and Supplemental
Environmental Impact Statement



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH BLDG 1202
SEATTLE, WA 98134-2388

22 September 2021

The Honorable Jaison Elkins, Chairman
Muckleshoot Indian Tribe
39015 172nd AVE SE
Auburn, WA 98092

SUBJECT: Howard A. Hanson Dam Additional Water Storage Project Fish Passage, King County, WA (DAHP Log.: 2021-08-05899)

Dear Chairman Elkins:

The U.S. Army Corps of Engineers (Corps) proposes to restore downstream fish passage, past Howard A. Hanson Dam (HAHD), by constructing a fish passage facility (undertaking) located in King County, Washington (Enclosure 1). In accordance with 36 C.F.R. § 800, the implementing regulations for Section 106 of the National Historic Preservation Act (NHPA), the Corps is conducting a review to determine potential effects to historic properties. As specified by 36 C.F.R. § 800.4(a)(4) we are requesting your assistance in gathering information on knowledge or concerns with historic properties with religious or cultural significance that may be affected by this project. The Corps is inviting you to participate in a Programmatic Agreement for the current undertaking. The objective of the agreement will be to develop a path forward to complete our responsibilities under section 106 of the National Historic Preservation Act.

Initial consultation for the HAHD Additional Water Storage Project (AWSP) began in 1998. Our consultation led to a Memorandum of Agreement (MOA) signed by the Corps, the City of Tacoma, and DAHP as signatories regarding construction and operation activities at the HAHD reservoir. The Muckleshoot Indian Tribe participated in the MOA as a consulting party. We have completed all the requirements of this MOA. In 2011 construction of the undertaking was halted because of cost overrun. No work has been conducted on the undertaking since this time. Currently the Corps is preparing a Validation Report and will present a revised cost estimate and updated analysis of the authorized project. Congressional action to increase the total cost limit for the project. If new funding is authorized full design and construction will begin on the authorized fish passage facility. The Corps requests your participation in a new Programmatic Agreement for the current undertaking, which is required for the Validation Report.

The 1998 consultation analyzed effects to the upper and lower watershed, but construction and redesign of the fish passage facility would not have any effects to the lower watershed. Therefore, the geographical scope of the 2021 consultation is limited to the upper watershed. The Corps has identified the APE (Enclosure 2) to include the previous excavation for the fish passage facility located near the HAHD Outlet Tower; the potential alignment for the fish

passage pipeline which will cut through the left abutment (Enclosure 3) and run along the left embankment of the spillway. The pipe will release the fish downstream of the dam; however the exact location has not been determined so the APB map will show a general area along the streambank, which will be refined as the construction design is finalized.

The project area is located in the East ½ of Section 28, Township 21 North, Range 08 East, Williamette Meridian, King County, Washington as shown on the Eagle Gorge, WA [2017] 7.5' quadrangle. The Corps has determined the APB to include the access road, staging area, and the Howard A. Hanson Dam (completed in 1962, determined eligible in 2009) built structures near where proposed construction will take place. The APB encompasses 77 acres, and the Corps believes the APB is sufficient to identify and consider both direct and indirect effects of the proposed project.

We would like to summarize efforts taken to date to identify cultural resources within the APB. The Corps staff archaeologist has conducted a records search and literature review of the Washington Information System Architectural and Archaeological Records Database. The literature review and records search indicates that four previous archaeological surveys have been conducted within ½-mile of the current project area. All four surveys were conducted within portions of the current APB and resulted in negative reports.

If you have information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible. A copy of this letter with enclosures will be furnished to: Laura Murphy, Cultural Resources, Muckleshoot Indian Tribe, 39015 172nd AVE SE, Auburn, WA 98092.

If you have any questions or desire additional information, please contact the Project Archaeologist, Agnes F Castrounevo at agnes.f.castrounevo@usace.army.mil or (206) (316-3096), or the Architectural Historian, Lys Opp-Beckman at lys.opp-beckman@usace.army.mil or (206) 764-6761. Thank you for your assistance with this undertaking.

Sincerely,

PUNKKE.MATTHE

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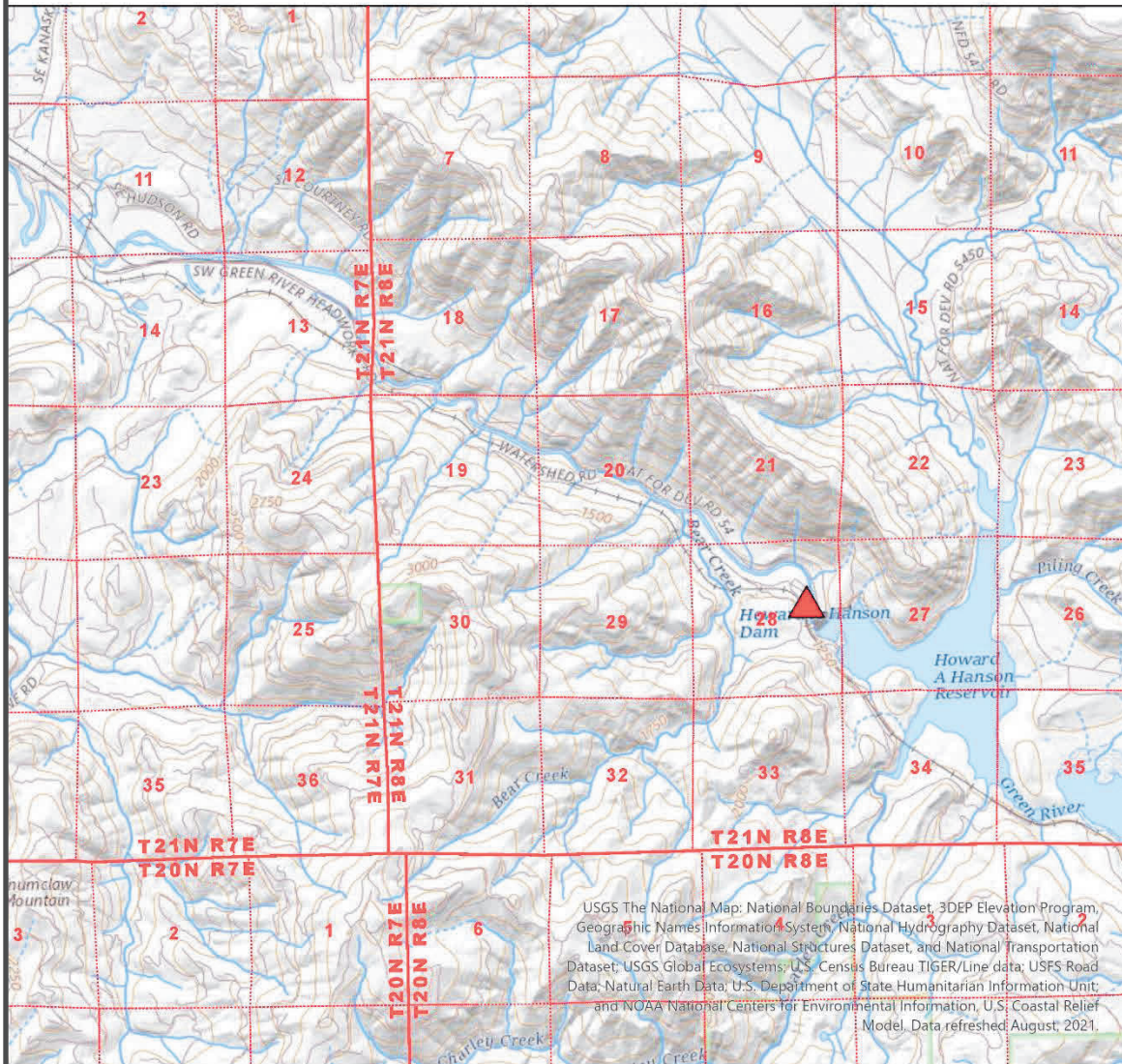
Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Enclosure/s



US Army Corps
of Engineers®
Seattle District

HOWARD A HANSON DAM AWS FISH PASSAGE PROJECT LOCATION MAP



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E 1/2 SECTION 28, TOWNSHIP 21 NORTH, RANGE 08 EAST, W.M.
KING COUNTY, WASHINGTON
EAGLE GORGE, WASHINGTON [2017] 7.5' USGS QUAD



PROJECT
LOCATION



Enclosure 1. Location Map



US Army Corps
of Engineers®
Seattle District

HOWARD A HANSON DAM AWS FISH PASSAGE PROJECT APE / STUDY AREA



APE / STUDY AREA

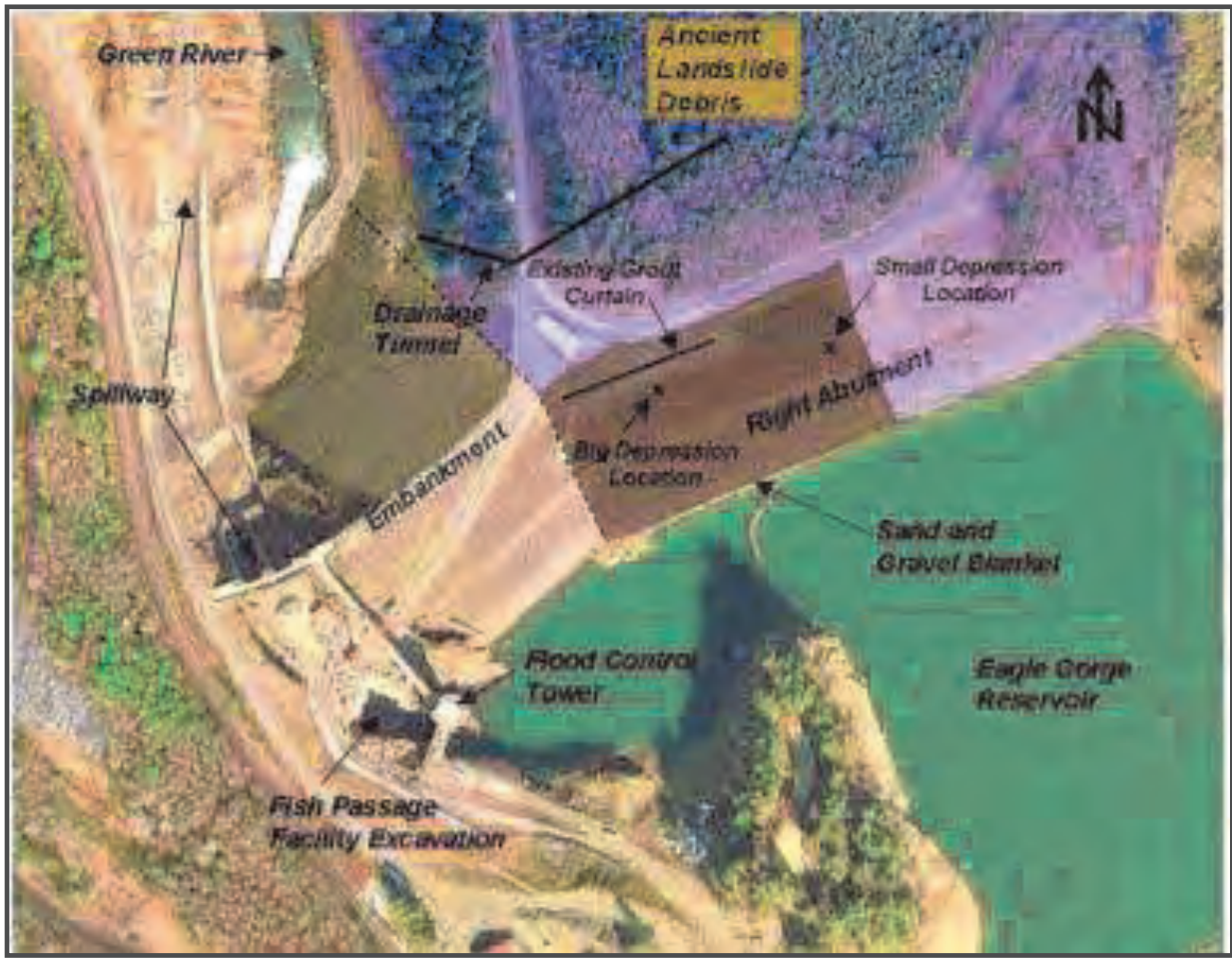
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E 1/2 Section 28, Township 21 North, Range 08 East, W.M.
King County, Washington
Eagle Gorge, Washington [2017] 7.5' USGS quad

0 0.04 0.08 0.16 0.24 0.32 Miles



Enclosure 2. APE and Study Area



Enclosure 3. Built environment site features previously identified in EIS.



DEPARTMENT OF THE ARMY
U.S ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH BLDG 1202
SEATTLE, WA 98134-2388

22 September 2021

The Honorable Leonard Forsman, Chairman
Suquamish Indian Tribe of the Port Madison Reservation
18490 Suquamish Way NE
Suquamish, WA 98392

SUBJECT: Howard A. Hanson Dam Additional Water Storage Project Fish Passage, King County, WA (DAHP Log.: 2021-08-05899)

Dear Chairman Forsman:

The U.S. Army Corps of Engineers (Corps) proposes to restore downstream fish passage, past Howard A. Hanson Dam (HAHD), by constructing a fish passage facility (undertaking) located in King County, Washington (Enclosure 1). In accordance with 36 C.F.R. §800, the implementing regulations for Section 106 of the National Historic Preservation Act (NHPA), the Corps is conducting a review to determine potential effects to historic properties. As specified by 36 C.F.R. § 800.4(a)(4) we are requesting your assistance in gathering information on knowledge or concerns with historic properties with religious or cultural significance that may be affected by this project. The Corps is inviting you to participate in a Programmatic Agreement for the current undertaking. The objective of the agreement will be to develop a path forward to complete our responsibilities under section 106 of the National Historic Preservation Act.

Initial consultation for the HAHD Additional Water Storage Project (AWSP) began in 1998. Our consultation led to a Memorandum of Agreement (MOA) signed by the Corps, the City of Tacoma, and DAHP as signatories regarding construction and operation activities at the HAHD reservoir. The Muckleshoot Indian Tribe participated in the MOA as a consulting party. We have completed all the requirements of this MOA. In 2011 construction of the undertaking was halted because of cost overrun. No work has been conducted on the undertaking since this time. Currently the Corps is preparing a Validation Report and will present a revised cost estimate and updated analysis of the authorized project. Congressional action to increase the total cost limit for the project. If new funding is authorized full design and construction will begin on the authorized fish passage facility. The Corps requests your participation in a new Programmatic Agreement for the current undertaking, which is required for the Validation Report.

The 1998 consultation analyzed effects to the upper and lower watershed, but construction and redesign of the fish passage facility would not have any effects to the lower watershed. Therefore, the geographical scope of the 2021 consultation is limited to the upper watershed. The Corps has identified the APE (Enclosure 2) to include the previous excavation for the fish passage facility located near the HAHD Outlet Tower; the potential alignment for the fish

passage pipeline which will cut through the left abutment and run along the left embankment of the spillway. The pipe will release the fish downstream of the dam; however the exact location has not been determined so the APB map will show a general area along the streambank, which will be refined as the construction design is finalized.

The project area is located in the East 1/2 of Section 28, Township 21 North, Range 08 East, Williamette Meridian, King County, Washington as shown on the Eagle Gorge, WA [2017] 7.5' quadrangle. The Corps has determined the APB to include the access road, staging area, and the Howard A. Hanson Dam (completed in 1962, determined eligible in 2009) built structures near where proposed construction will take place. The APB encompasses 77 acres, and the Corps believes the APB is sufficient to identify and consider both direct and indirect effects of the proposed project.

We would like to summarize efforts taken to date to identify cultural resources within the APB. The Corps staff archaeologist has conducted a records search and literature review of the Washington Information System Architectural and Archaeological Records Database. The literature review and records search indicates that four previous archaeological surveys have been conducted within 1/2-mile of the current project area. All four surveys were conducted within portions of the current APB and resulted in negative reports.

If you have information or concerns regarding properties which may be of religious or cultural significance that you believe may be affected by this project, please contact us as soon as possible. A copy of this letter with enclosures will be furnished to: Dennis Lewarch, Tribal Historic Preservation Officer, Squamish Indian Tribe of the Port Madison Reservation, 18490 Ssquamish Way NE, Ssquamish, WA 98392.

If you have any questions or desire additional information, please contact the Project Archaeologist, Agnes F. Castronuevo at agnes.f.castronuevo@usace.army.mil or (206) (316-3096), or the Architectural Historian, Lys Opp-Beckman at lys.opp-beckman@usace.army.mil or (206) 764-6761. Thank you for your assistance with this undertaking.

Sincerely,

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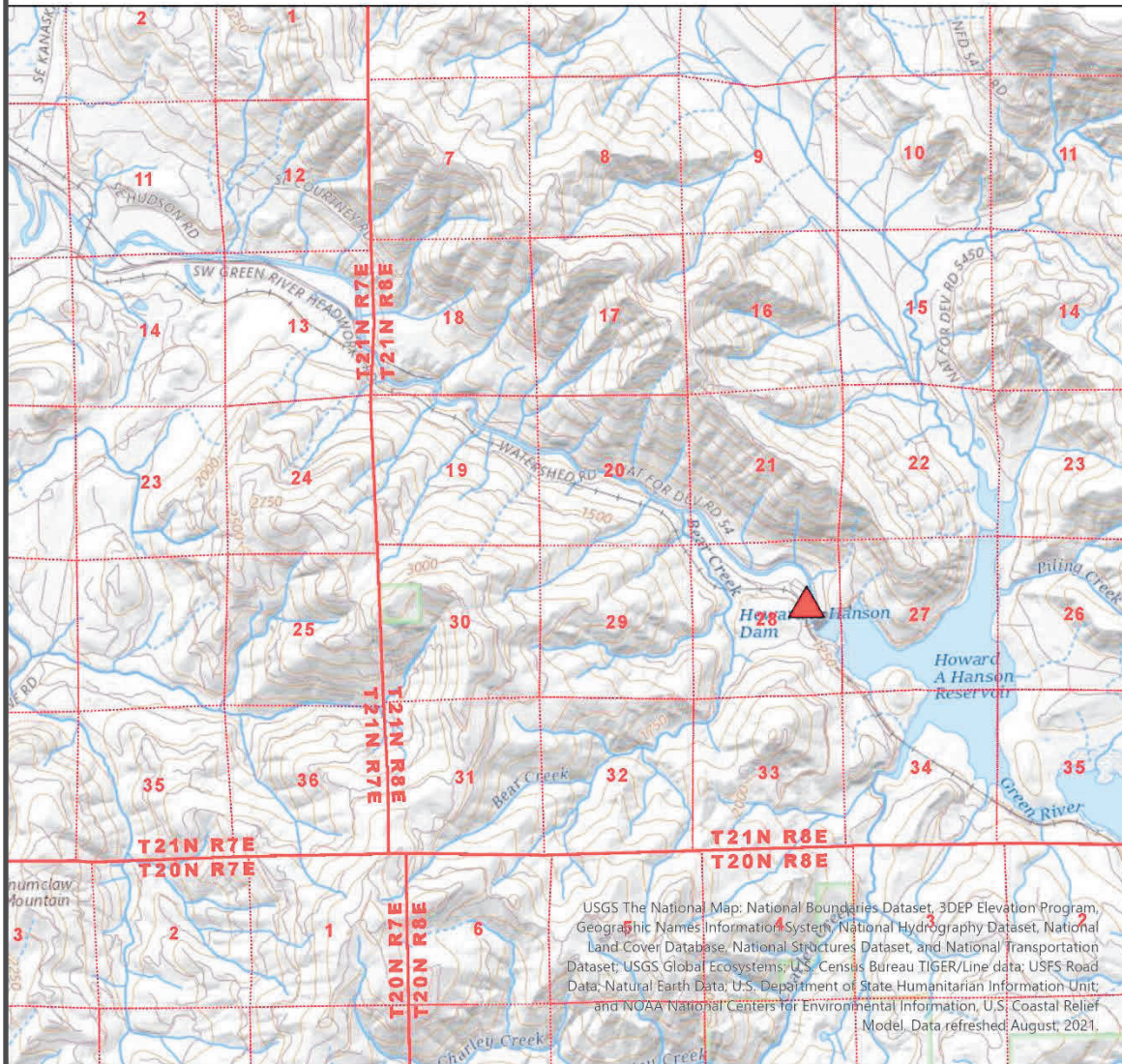
Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Enclosure/s



US Army Corps
of Engineers®
Seattle District

HOWARD A HANSON DAM AWS FISH PASSAGE PROJECT LOCATION MAP



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August, 2021.

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E 1/2 SECTION 28, TOWNSHIP 21 NORTH, RANGE 08 EAST, W.M.
KING COUNTY, WASHINGTON
EAGLE GORGE, WASHINGTON [2017] 7.5' USGS QUAD

 PROJECT LOCATION



Enclosure 1. Location Map



US Army Corps
of Engineers®
Seattle District

HOWARD A HANSON DAM AWS FISH PASSAGE PROJECT APE / STUDY AREA



APE / STUDY AREA

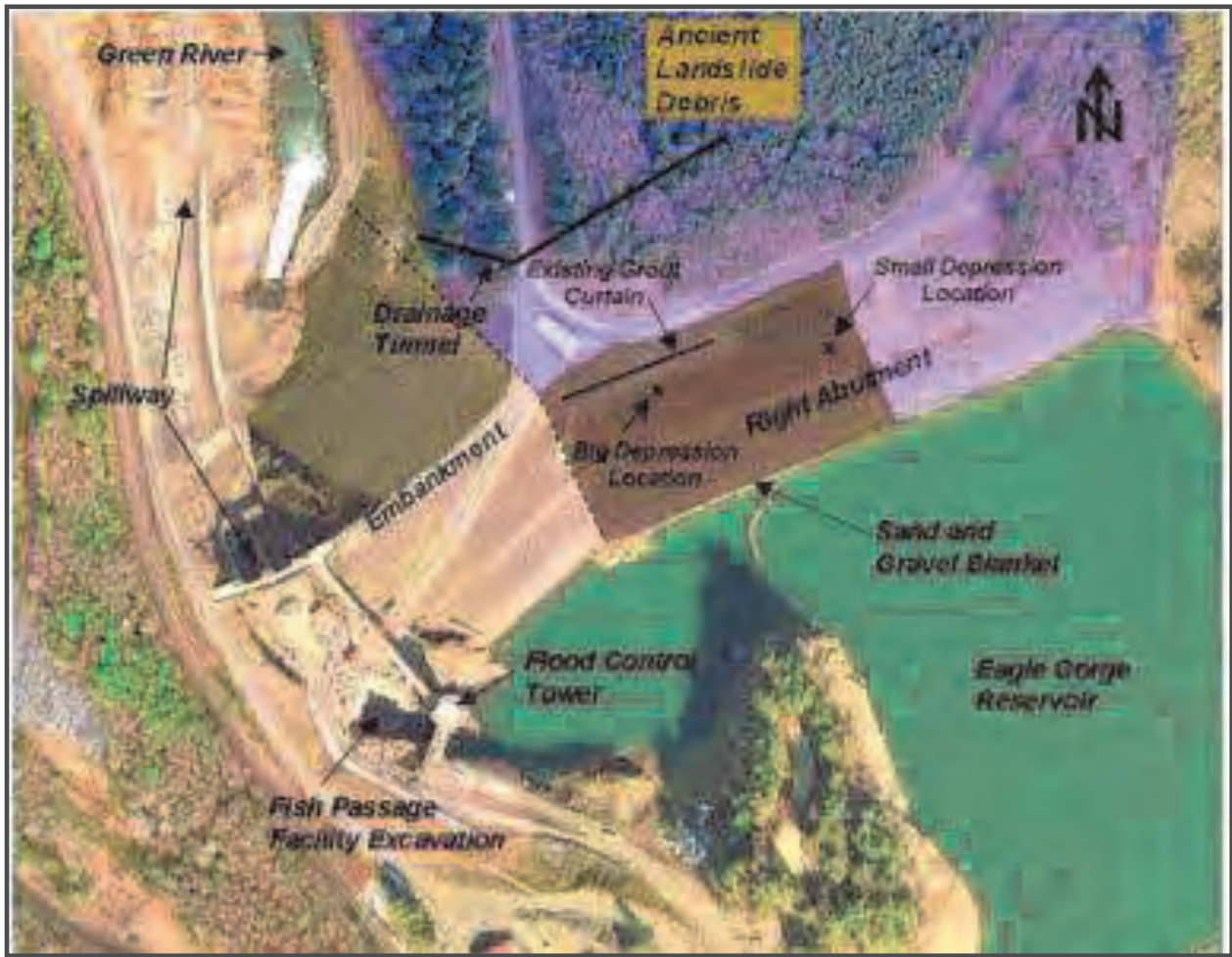
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E 1/2 Section 28, Township 21 North, Range 08 East, W.M.
King County, Washington
Eagle Gorge, Washington [2017] 7.5' USGS quad

0 0.04 0.08 0.16 0.24 0.32 Miles



Enclosure 2. APE and Study Area



Enclosure 3. Built environment site features previously identified in EIS.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

Planning, Environmental and Cultural Resources Branch

22 September 2021

Tyler H. Patterson
Environmental Programs Manager
Tacoma Public Utilities, Tacoma Water
3628 South 35th Street
Tacoma, Washington 98409
tpatterson@cityoftacoma.org

SUBJECT: Consultation for the Howard A. Hanson Dam Additional Water Storage Project Fish Passage, King County, WA

Dear Mr. Patterson:

The U.S. Army Corps of Engineers (Corps) proposes to restore downstream fish passage, past Howard A. Hanson Dam (HAHD), by constructing a fish passage facility (undertaking) located in King County, Washington (Enclosure 1). The Corps has determined and documented the area of potential effect (APE) for the undertaking. We are consulting with your office under Section 106 as provided at 36 C.F.R. § 800.3(f)(1). The Corps has also determined this project has the potential to cause effects to cultural resources, though the extent and nature of possible effects is unknown at this time. The letter requests any information you or your agency might have on historic properties within the APE and agreement to enter into a Programmatic Agreement as Per 36 C.F.R. § 800.14.

Initial consultation for the HAHD Additional Water Storage Project (AWSP) began in 1998. Our consultation led to a Memorandum of Agreement (MOA) signed by the Corps, the City of Tacoma, and DAHP as signatories regarding construction and operation activities at the HAHD reservoir. The Muckleshoot Indian Tribe as signed the MOA as a concurring party. We have completed all the requirements of this MOA. In 2011 construction of the undertaking was halted because of cost overrun. No work has been conducted on the undertaking since this time. Currently the Corps is preparing a Validation Report and will present a revised cost estimate and updated analysis of the authorized project. Congressional action to increase the total cost limit for the project. If new funding is authorized full design and construction will begin on the authorized fish passage facility.

The 1998 consultation analyzed effects to the upper and lower watershed, but construction and redesign of the fish passage facility would not have any effects to the lower watershed. Therefore, the geographical scope of the 2021 consultation is limited to the upper watershed. The Corps has identified the APE (Enclosure 2) to include the previous excavation for the fish

passage facility located near the HAHD Outlet Tower; the potential alignment for the fish passage pipeline which will cut through the left abutment and run along the left embankment of the spillway (Enclosure 3). The pipe will release the fish downstream of the dam; however the exact location has not been determined so the APE map will show a general area along the streambank, which will be refined as the construction design is finalized.

The project area is located in the East ½ of Section 28, Township 21 North, Range 08 East, Willamette Meridian, King County, Washington as shown on the Eagle Gorge, WA [2017] 7.5' quadrangle. The Corps has determined the APE to include the access road, staging area, and the Howard A. Hanson Dam (completed in 1962, determined eligible in 2009) built structures near where proposed construction will take place. The APE encompasses 77 acres, and the Corps believes the APE is sufficient to identify and consider both direct and indirect effects of the proposed project. The Corps is making a good faith effort to gather information from affected Tribes identified pursuant to 36 C.F.R. § 800.3(f). We have initiated consultation with SHOP and notified the Muckleshoot Indian Tribe and the Suquamish Indian Tribe to assist in identifying properties which may be of religious and cultural significance.

On September 2nd, 2021 Corps representatives, Matthew Punke, Agnes Castronuevo, and Lys Opp-Beckman met virtually with Tacoma Water staff. The purpose of this meeting was a brief overview of past section 106 consultation and to familiarize Tacoma Water staff with the need enter into a Programmatic Agreement as per 36 CFR 800.14. The Corps is requesting that Tacoma Water enter into a Programmatic Agreement that will guide all parties through the 106 process when and if the Corps receives funding to complete the fish passage facility.

If you have any questions or desire additional information, please contact the project Archaeologist, Agnes F. Castronuevo at agnes.f.castronuevo@usace.army.mil or (206) (316-3096), or the Architectural Historian, Lys Opp-Beckman at lys.opp-beckman@usace.army.mil or (206) 708-5899. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Sincerely,

PUNKE.MATTHE
W.M.1151361001



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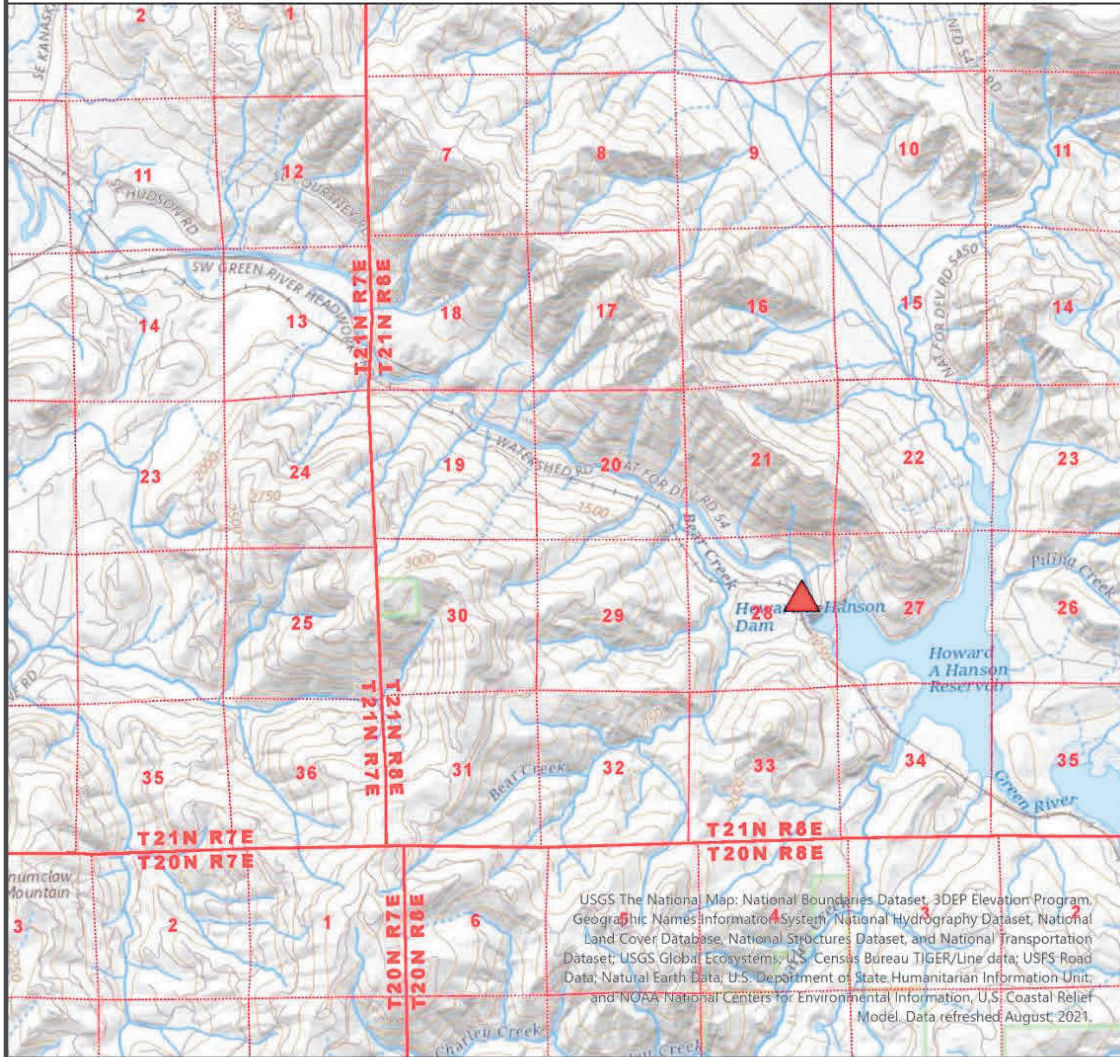
Laura Boerner, LG, LHG
Chief, Planning, Environmental and
Cultural Resources Branch

Enclosure/s



US Army Corps
of Engineers®
Seattle District

HOWARD A HANSON DAM AWS FISH PASSAGE PROJECT LOCATION MAP



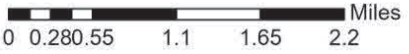
USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August, 2021.



PROJECT
LOCATION

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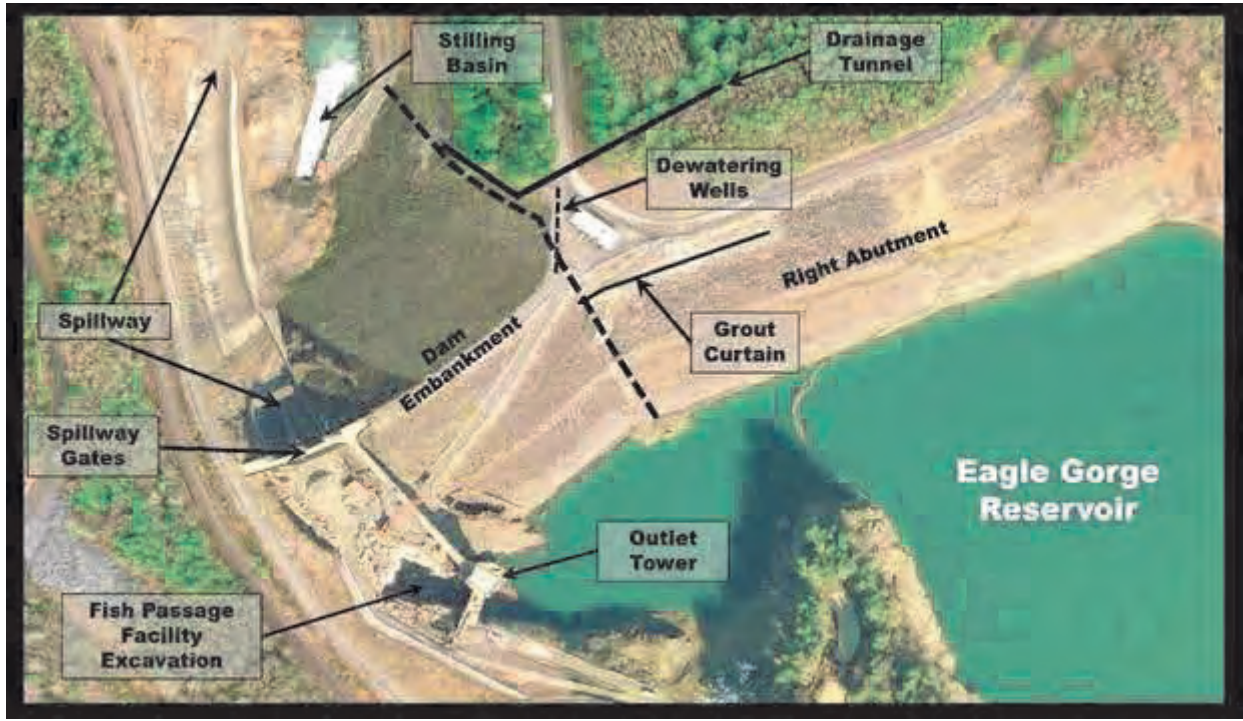
E 1/2 SECTION 28, TOWNSHIP 21 NORTH, RANGE 08 EAST, W.M.
KING COUNTY, WASHINGTON
EAGLE GORGE, WASHINGTON [2017] 7.5' USGS QUAD



Enclosure 1. Location Map



Enclosure 2. APE



Enclosure 3. Built environment site features previously identified in EIS.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
PO BOX 3755
SEATTLE, WA 98124-3755

9/21/2021

Allyson Brooks, Ph.D.
State Historic Preservation Officer
Department of Archaeology and Historic Preservation (DAHP)
Post Office Box 48343
Olympia, Washington 98504-8343

SUBJECT: Section 106 Consultation for the Howard A. Hanson Dam Additional Water Storage Project Fish Passage, King County, WA (DAHP Log.: 2021-08-05899)

Dear Dr. Brooks:

The U.S. Army Corps of Engineers (Corps) proposes to restore downstream fish passage, past Howard A. Hanson Dam (HAHD), by constructing a fish passage facility (undertaking) located in King County, Washington (Enclosure 1). Downstream fish passage would improve the abundance and productivity of Endangered Species Act-listed salmon. The increase in salmon would contribute to the survival and recovery of Southern Resident killer whales. The Corps has determined and documented the area of potential effect (APE) for the undertaking and is consulting with your office under Section 106 as provided at 36 C.F.R. § 800.4(a). The Corps has also determined this project has the potential to cause effects to cultural resources, though the extent and nature of possible effects is unknown at this time. The letter requests agreement with the Corps' APE determination and agreement to enter into a Programmatic Agreement as Per 36 C.F.R. § 800.14.

Initial consultation for the HAHD Additional Water Storage Project (AWSP) began in 1998. Our consultation led to a Memorandum of Agreement (MOA) signed by the Corps, the City of Tacoma, and DAHP as signatories regarding construction and operation activities at the HAHD reservoir. The Muckleshoot Indian Tribe signed the MOA as concurring party. We have completed all the requirements of this MOA. In 2011 construction of the undertaking was halted because of cost overrun. No work has been conducted on the undertaking since this time. Currently the Corps is preparing a Validation Report and will present a revised cost estimate and updated analysis of the authorized project. Congressional action to increase the total cost limit for the project. If new funding is authorized full design and construction will begin on the authorized fish passage facility.

The 1998 consultation analyzed effects to the upper and lower watershed, but construction and redesign of the fish passage facility would not have any effects to the lower watershed. Therefore, the geographical scope of the 2021 consultation is limited to the upper watershed.

The Corps has identified the APE (Enclosure 2) to include the previous excavation for the fish passage facility located near the HAHD Outlet Tower; the potential alignment for the fish passage pipeline which will cut through the left abutment and run along the left embankment of the spillway (Enclosure 3.). The pipe will release the fish downstream of the dam; however the exact location has not been determined so the APE map will show a general area along the streambank, which will be refined as the construction design is finalized.

On August 25th, 2021 Corps representatives, Laura Boerner, Matthew Punke and Nancy Gleason, met virtually with Nick Vann, Holly Borth, and Rob Whitlam of the DAHP. The meeting was conducted to re-introduce the proposed construction of the HHD AWS Fish Passage facility, discuss the status of the 2003 MOA, discuss the Corps process for funding the project, and potential paths forward for completing section 106. It was noted the HAHD was found eligible for National Register listing in 2009. The Corps discussed the expeditious nature of this project and asked for SHPO support to help facilitate Section 106 compliance. Because we are only in our conceptual design stage, 10% design, the Corps does not fully know or understand the nature of any potential effects this undertaking may have. However, to receive funding the Corps is required to demonstrate a path forward to complete our legal obligations under Section 106 of the NHPA, per ER-1105-2-100. The Corps is requesting that Washington State Historic Preservation Officer enter into a Programmatic Agreement that will guide all parties through the 106 process when and if the Corps receives funding to complete the fish passage facility.

The project area is located in the East ½ of Section 28, Township 21 North, Range 08 East, Willamette Meridian, King County, Washington as shown on the Eagle Gorge, WA [2017] 7.5' quadrangle. The Corps has determined the APE to include the access road, staging area, and the Howard A. Hanson Dam (completed in 1962, determined eligible in 2009) built structures near where proposed construction will take place. The APE encompasses 77 acres, and the Corps believes the APE is sufficient to identify and consider both direct and indirect effects of the proposed project. The Corps is making a good faith effort to gather information from affected Tribes identified pursuant to 36 C.F.R. § 800.3(f). We have notified the Muckleshoot Indian Tribe and the Suquamish Indian Tribe to assist in identifying properties which may be of religious and cultural significance.

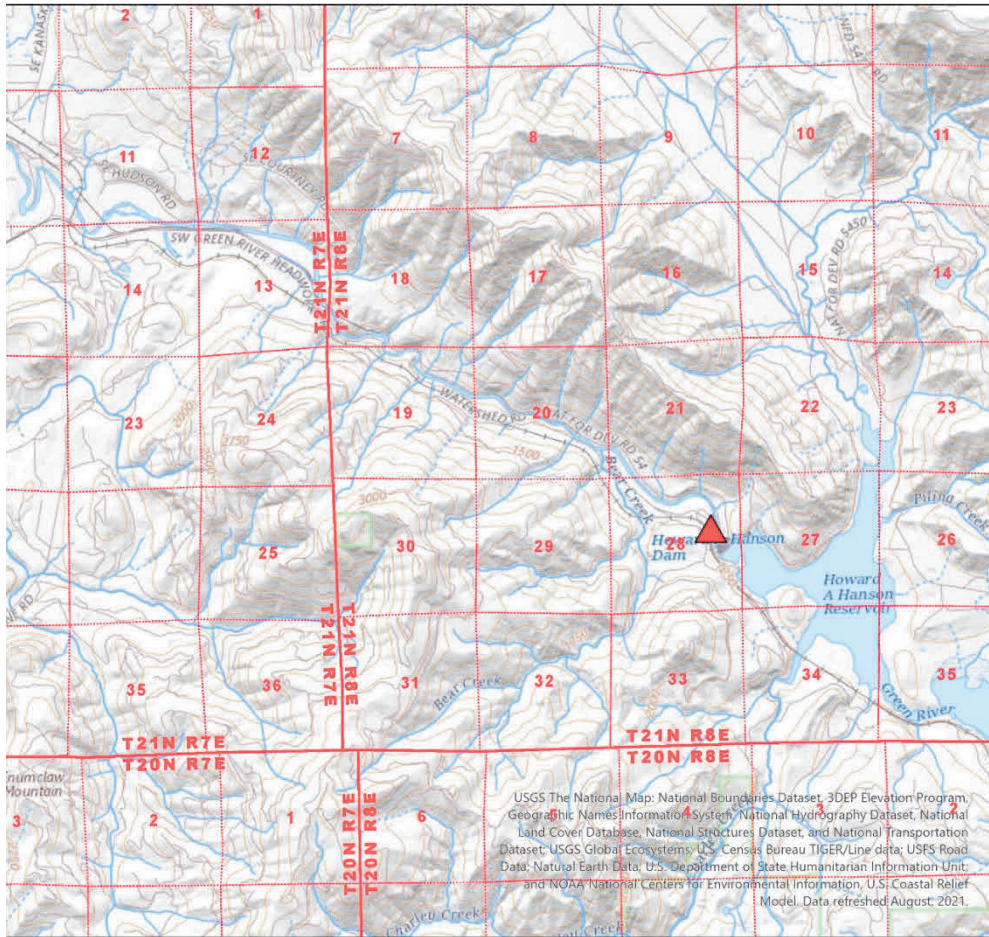
The Corps requests your review and agreement with our determination of the APE. The corps further requests concurrence with the potential to cause unknown effects to cultural resources and entry into a PA. If you have any questions or desire additional information, please contact the project Archaeologist, Agnes F. Castronuevo at agnes.f.castronuevo@usace.army.mil or (206) (316-3096), or the Architectural Historian, Lys Opp-Beckman at lys.opp-beckman@usace.army.mil or (206) 708-5899. I may be contacted at laura.a.boerner@usace.army.mil or (206) 764-6761.

Enclosure/s

Sincerely,
PUNKE.MATT
HEW.M.11513
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Laura Boerner, LG, LHG
Chief, Planning, Environmental and
Cultural Resources Branch
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HOWARD A HANSON DAM AWS FISH PASSAGE PROJECT LOCATION MAP



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August 2021.

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PROJECT LOCATION

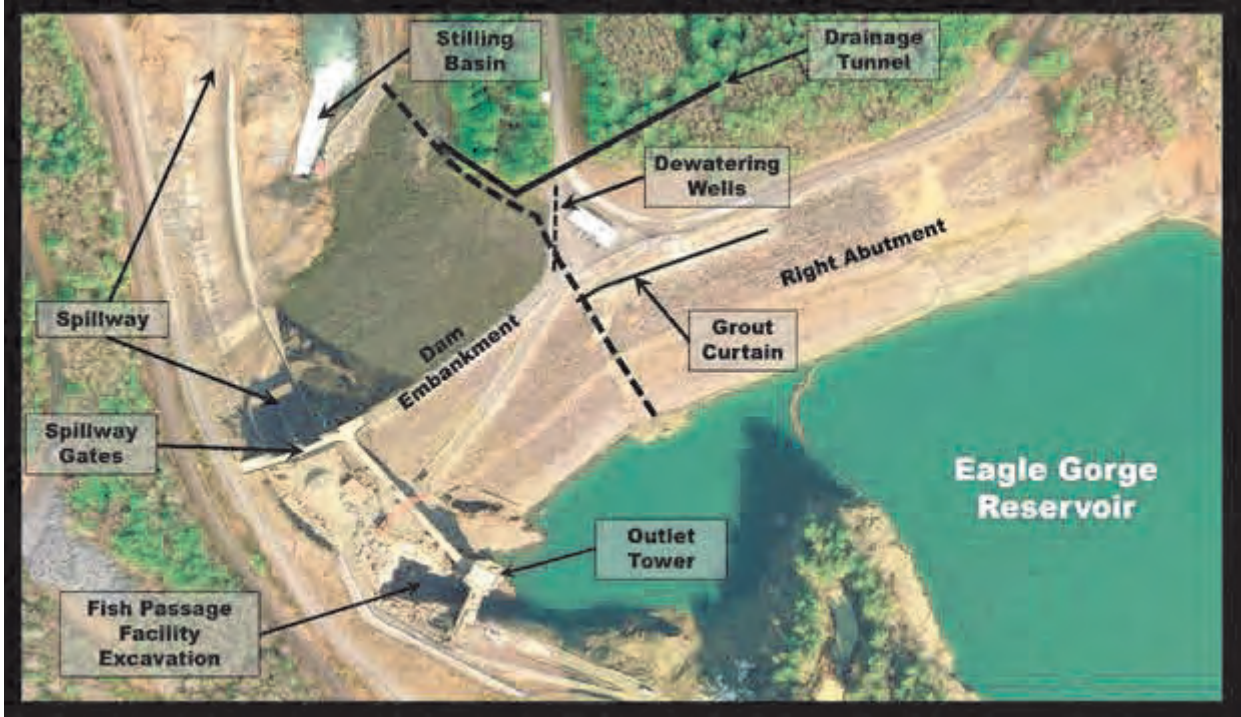
E 1/2 SECTION 28, TOWNSHIP 21 NORTH, RANGE 08 EAST, W.M.
KING COUNTY, WASHINGTON
EAGLE GORGE, WASHINGTON [2017] 7.5' USGS QUAD



Enclosure 1. Location Map



Enclosure 2. APE



Enclosure 3. Built environment site features previously identified in EIS.

Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A
ENVIRONMENTAL COMPLIANCE

LETTERS TO TRIBAL GOVERNMENTS FOR
NATURAL RESOURCES CONSIDERATIONS



DEPARTMENT OF THE ARMY
U.S ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH BLDG 1202
SEATTLE, WA 98134-2388

8 November 2021

The Honorable Jaison Elkins, Chairman
Muckleshoot Indian Tribe
39015 172nd AVE SE
Auburn, WA 98092

SUBJECT: Howard A. Hanson Dam Additional Water Storage Project Downstream Fish Passage, King County, WA

Dear Chairman Elkins:

The U.S. Army Corps of Engineers, Seattle District (Corps) proposes to restore downstream fish passage past Howard A. Hanson Dam (HAHD) by constructing a fish passage facility located in King County, Washington. A downstream fish passage structure is a component of the HAHD Additional Water Storage Project (AWSP) originally authorized in Section 101(b)(15) of the Water Resources Development Act (WRDA) of 1999. The purpose of this letter is to provide project information to you and to invite you and your staff to participate in the project evaluation and design process. The Corps appreciates the earlier participation of tribal staff in our fish passage facility design option workshops that occurred December 8-10, 2020 and May 18-20, 2021. We also value the continuing coordination with your fisheries staff throughout 2021.

The Corps prepared an Environmental Impact Statement in 1998 and signed a Record of Decision on July 25, 2001 for the AWSP in compliance with the National Environmental Policy Act. Phase I of the AWSP has been implemented and raised the reservoir elevation from 1,147 feet to 1,167 feet. However, the fish passage facility included in the Phase I recommendation has not been completed. Construction of the facility started in 2003; however, in 2011 construction was halted because of the likelihood of exceeding the authorized cost limit. To restart the effort, the Corps is preparing a Validation Report and Supplemental Environmental Impact Statement (VR/SEIS) to present a revised cost estimate and updated analysis of the authorized project. Congressional action is required to increase the total cost limit for the project. If new funding is authorized, full design and construction will begin on the authorized fish passage facility.

The Corps will provide a copy of our draft VR/SEIS to your staff for review in advance of the public comment period anticipated to begin mid-November 2021. The public comment period will be open for 45 days with an expected end date in late December 2021 or early January 2022. We are interested in your comments on the proposed action and will fully consider any comments we receive. We would appreciate receiving your comments by the anticipated end date of the document's public comment period so we may give full consideration of any proposed changes prior to finalizing our report.

We wish to maintain assurance of your interests and be apprised of any objections, requests, or requirements you may have. The Corps welcomes the opportunity to work with your Tribe on the technical issues of this study as well. Should you decide to engage any of your technical staff on this study, please provide the name(s) and contact information of any person(s) with whom you wish us to work directly on technical matters of concern to your Tribe.

A copy of this letter has also been sent to the following Tribal staff: Melissa Calvert and Isabel Tinoco. The Corps is also formally coordinating with the Suquamish Tribe, Snoqualmie Indian Tribe, and the Confederated Tribes and Bands of the Yakama Nation regarding this same matter. If you are aware of any other Tribes that may also be interested, please inform the Corps. For additional information regarding the HAHD Fish Passage Facility project, please contact Ms. Katherine LaPonte, Project Manager, at (206) 316-3894 or Katherine.M.Laponte@usace.army.mil. For assistance with general information regarding tribal coordination or to request a government-to-government meeting, please contact Ms. Melissa Leslie, Acting Tribal Liaison, at (206) 764-6587 or melissa.leslie@usace.army.mil.

Sincerely,

BOERNER.LAUR

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Laura Boerner, LG, LHG

Chief, Planning, Environmental, and

Cultural Resources Branch



DEPARTMENT OF THE ARMY
U.S ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH BLDG 1202
SEATTLE, WA 98134-2388

8 November 2021

The Honorable Robert de los Angeles
Snoqualmie Indian Tribe
9571 Ethan Wade Lane SE
P.O. Box 969
Snoqualmie, WA 98065

SUBJECT: Howard A. Hanson Dam Additional Water Storage Project Downstream Fish Passage, King County, WA

Dear Chairman de los Angeles:

The U.S. Army Corps of Engineers, Seattle District (Corps) proposes to restore downstream fish passage past Howard A. Hanson Dam (HAHD) by constructing a fish passage facility located in King County, Washington. A downstream fish passage structure is a component of the HAHD Additional Water Storage Project (AWSP) originally authorized in Section 101(b)(15) of the Water Resources Development Act (WRDA) of 1999. The purpose of this letter is to provide project information to you and to invite you and your staff to participate in the project evaluation and design process.

The Corps prepared an Environmental Impact Statement in 1998 and signed a Record of Decision on July 25, 2001 for the AWSP in compliance with the National Environmental Policy Act. Phase I of the AWSP has been implemented and raised the reservoir elevation from 1,147 feet to 1,167 feet. However, the fish passage facility included in the Phase I recommendation has not been completed. Construction of the facility started in 2003; however, in 2011 construction was halted because of the likelihood of exceeding the authorized cost limit. To restart the effort, the Corps is preparing a Validation Report and Supplemental Environmental Impact Statement (VR/SEIS) to present a revised cost estimate and updated analysis of the authorized project. Congressional action is required to increase the total cost limit for the project. If new funding is authorized, full design and construction will begin on the authorized fish passage facility.

The Corps will publish our draft VR/SEIS for a public comment period anticipated to begin mid-November 2021. The public comment period will be open for 45 days with an expected end date in late December 2021 or early January 2022. You and your staff will receive email notification as soon as it becomes available. The document will be available online at our website: <https://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/>. We are interested in your comments on the proposed action and will fully consider any comments we receive. We would appreciate receiving your comments by the anticipated end

date of the document's public comment period so we may give full consideration of any proposed changes prior to finalizing our report.

We wish to maintain assurance of your interests and be apprised of any objections, requests, or requirements you may have. The Corps welcomes the opportunity to work with your Tribe on the technical issues of this study as well. Should you decide to engage any of your technical staff on this study, please provide the name(s) and contact information of any person(s) with whom you wish us to work directly on technical matters of concern to your Tribe.

A copy of this letter has also been sent to the following Tribal staff: Cindy Spiry and Steven Mullen-Moses. The Corps is also formally coordinating with the Muckleshoot Indian Tribe, Squamish Tribe, and Confederated Tribes and Bands of the Yakama Nation regarding this same matter. If you are aware of any other Tribes that may also be interested, please inform the Corps.

For additional information regarding the HAHD Fish Passage Facility project, please contact Ms. Katherine LaPonte, Project Manager, at (206) 316-3894 or Katherine.M.Laponte@usace.army.mil. For assistance with general information regarding tribal coordination or to request a government-to-government meeting, please contact Ms. Melissa Leslie, Acting Tribal Liaison, at (206) 764-6587 or melissa.leslie@usace.army.mil.

Sincerely,

BOERNER.LAURA
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Laura Boerner, LG, LHG

Chief, Planning, Environmental, and

Cultural Resources Branch



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH BLDG 1202
SEATTLE, WA 98134-2388

8 November 2021

The Honorable Leonard Forsman
Suquamish Indian Tribe of the Port Madison Reservation
18490 Suquamish Way NE
Suquamish, WA 98392

SUBJECT: Howard A. Hanson Dam Additional Water Storage Project Downstream Fish Passage, King County, WA

Dear Chairman Forsman:

The U.S. Army Corps of Engineers, Seattle District (Corps) proposes to restore downstream fish passage past Howard A. Hanson Dam (HAHD) by constructing a fish passage facility located in King County, Washington. A downstream fish passage structure is a component of the HAHD Additional Water Storage Project (AWSP) originally authorized in Section 101(b)(15) of the Water Resources Development Act (WRDA) of 1999. The purpose of this letter is to provide project information to you and to invite you and your staff to participate in the project evaluation and design process.

The Corps prepared an Environmental Impact Statement in 1998 and signed a Record of Decision on July 25, 2001 for the AWSP in compliance with the National Environmental Policy Act. Phase I of the AWSP has been implemented and raised the reservoir elevation from 1,147 feet to 1,167 feet. However, the fish passage facility included in the Phase I recommendation has not been completed. Construction of the facility started in 2003; however, in 2011 construction was halted because of the likelihood of exceeding the authorized cost limit. To restart the effort, the Corps is preparing a Validation Report and Supplemental Environmental Impact Statement (VR/SEIS) to present a revised cost estimate and updated analysis of the authorized project. Congressional action is required to increase the total cost limit for the project. If new funding is authorized, full design and construction will begin on the authorized fish passage facility.

The Corps will provide a copy of our draft VR/SEIS to your staff for review in advance of the public comment period anticipated to begin mid-November 2021. The public comment period will be open for 45 days with an expected end date in late December 2021 or early January 2022. We are interested in your comments on the proposed action and will fully consider any comments we receive. We would appreciate receiving your comments by the anticipated end date of the document's public comment period so we may give full consideration of any proposed changes prior to finalizing our report.

We wish to maintain assurance of your interests and be apprised of any objections, requests, or requirements you may have. The Corps welcomes the opportunity to work with your Tribe on the technical issues of this study as well. Should you decide to engage any of your technical staff on this study, please provide the name(s) and contact information of any person(s) with whom you wish us to work directly on technical matters of concern to your Tribe.

A copy of this letter has also been sent to the following Tribal staff: Tom Ostrom, Dennis Lewarch, and Rob Purser. The Corps is also formally coordinating with the Muckleshoot Indian Tribe, Snoqualmie Indian Tribe, and the Confederated Tribes and Bands of the Yakama Nation regarding this same matter. If you are aware of any other Tribes that may also be interested, please inform the Corps.

For additional information regarding the HAHD Fish Passage Facility project, please contact Ms. Katherine LaPonte, Project Manager, at (206) 316-3894 or Katherine.M.Laponte@usace.army.mil. For assistance with general information regarding tribal coordination or to request a government-to-government meeting, please contact Ms. Ms. Melissa Leslie, Acting Tribal Liaison, at (206) 764-6587 or melissa.l.leslie@usace.army.mil.

Sincerely,

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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch



DEPARTMENT OF THE ARMY
U.S ARMY CORPS OF ENGINEERS, SEATTLE DISTRICT
4735 EAST MARGINAL WAY SOUTH BLDG 1202
SEATTLE, WA 98134-2388

8 November 2021

The Honorable Delano Saluskin
Confederated Tribes and Bands of the Yakama Nation
P.O. Box 151
401 Fort Road
Toppenish, WA 98948-0151

SUBJECT: Howard A. Hanson Dam Additional Water Storage Project Downstream Fish Passage, King County, WA

Dear Chairman Saluskin:

The U.S. Army Corps of Engineers, Seattle District (Corps) proposes to restore downstream fish passage past Howard A. Hanson Dam (HAHD) by constructing a fish passage facility located in King County, Washington. A downstream fish passage structure is a component of the HAHD Additional Water Storage Project (AWSP) originally authorized in Section 101(b)(15) of the Water Resources Development Act (WRDA) of 1999. The purpose of this letter is to provide project information to you and to invite you and your staff to participate in the project evaluation and design process.

The Corps prepared an Environmental Impact Statement in 1998 and signed a Record of Decision on July 25, 2001 for the AWSP in compliance with the National Environmental Policy Act. Phase I of the AWSP has been implemented and raised the reservoir elevation from 1,147 feet to 1,167 feet. However, the fish passage facility included in the Phase I recommendation has not been completed. Construction of the facility started in 2003; however, in 2011 construction was halted because of the likelihood of exceeding the authorized cost limit. To restart the effort, the Corps is preparing a Validation Report and Supplemental Environmental Impact Statement (VR/SEIS) to present a revised cost estimate and updated analysis of the authorized project. Congressional action is required to increase the total cost limit for the project. If new funding is authorized, full design and construction will begin on the authorized fish passage facility.

The Corps will publish our draft VR/SEIS for a public comment period anticipated to begin mid-November 2021. The public comment period will be open for 45 days with an expected end date in late December 2021 or early January 2022. You and your staff will receive email notification as soon as it becomes available. The document will be available online at our website: <https://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/>. We are interested in your comments on the proposed action and will fully consider any comments we receive. We would appreciate receiving your comments by the anticipated end

date of the document's public comment period so we may give full consideration of any proposed changes prior to finalizing our report.

We wish to maintain assurance of your interests and be apprised of any objections, requests, or requirements you may have. The Corps welcomes the opportunity to work with your Tribe on the technical issues of this study as well. Should you decide to engage any of your technical staff on this study, please provide the name(s) and contact information of any person(s) with whom you wish us to work directly on technical matters of concern to your Tribe.

A copy of this letter has also been sent to the following Tribal staff: Phillip Rigdon and Casey Barney. The Corps is also formally coordinating with the Muckleshoot Indian Tribe, Squamish Tribe, and Snoqualmie Indian Tribe regarding this same matter. If you are aware of any other Tribes that may also be interested, please inform the Corps.

For additional information regarding the HAHD Fish Passage Facility project, please contact Ms. Katherine LaPonte, Project Manager, at (206) 316-3894 or Katherine.M.Laponte@usace.army.mil. For assistance with general information regarding tribal coordination or to request a government-to-government meeting, please contact Ms. Melissa Leslie, Acting Tribal Liaison, at (206) 764-6587 or melissa.leslie@usace.army.mil.

Sincerely,

BOERNER.LAURA.
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Laura Boerner, LG, LHG
Chief, Planning, Environmental, and
Cultural Resources Branch

Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A

ENVIRONMENTAL COMPLIANCE

NATIONAL HISTORIC PRESERVATION ACT
PROGRAMMATIC AGREEMENT

Final Integrated Validation Report and Supplemental
Environmental Impact Statement

**PROGRAMMATIC AGREEMENT AMONGST
THE U.S. ARMY CORPS OF ENGINEERS SEATTLE DISTRICT;
THE WASHINGTON STATE DEPARTMENT OF ARCHAEOLOGY AND HISTORIC
PRESERVATION AS SIGNATORIES; AND
CITY OF TACOMA AS CONCURRING PARTY
FOR
THE HOWARD A. HANSON DAM
ADDITIONAL WATER STORAGE PROJECT FISH PASSAGE**

INTRODUCTION

WHEREAS, in order to restore downstream fish passage at the Howard A. Hanson Dam (HAHD), the U.S. Army Corps of Engineers (Corps) proposes construction of a downstream fish passage, the passage would improve the abundance and productivity of Endangered Species Act-listed salmon, hereafter referred to as the undertaking.

WHEREAS, the undertaking is located in King County, Washington (Appendix A); and

WHEREAS, the Corps initiated this undertaking in 1998; and

WHEREAS, the Corps, Washington State Office of Archaeology and Historic Preservation, and City of Tacoma entered into a Memorandum of Agreement (MOA) in 2003 and all stipulations of that MOA have been completed; and

WHEREAS, the Corps in consultation with the Washington State Historic Preservation Officer (SHPO) has determined (HAHD) is eligible for inclusion on the National Register of Historic Places (NRHP) under Criterion A.; and

WHEREAS, the Corps suspended construction of the fish passage in 2011 as a result of lack of funding; and

WHEREAS, the Corps is completing a Section 902 Validation Study to request new funding to complete design and construction of the AWS project fish passage; and

WHEREAS, the Corps has determined that this is a Federal Undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. § 306108, and its implementing regulations under 36 CFR § 800 (2004); and

WHEREAS, the Corps has determined the area of potential effect (APE) for the undertaking to be the areas required to construct the fish passage including all access roads, staging areas, and any visual impacts; and

WHEREAS, the APE is approximately 77 acres located in Section 28, Township 21 North, Range 8 East, of the Willamette Meridian in King County; and

WHEREAS, the Corps has determined a phased approach to identification and evaluation is the appropriate and necessary approach for the agency to meet the requirements of Section 106 of the NHPA under 36 CFR § 800.4 (b) (2) and 36 CFR § 800.14 (b); and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1)(i)(C), the Corps has invited the Advisory Council on Historic Preservation (ACHP), to participate in the development of this Programmatic Agreement (PA); and per their letter dated October 28th, 2021 the ACHP declined to participate in the development of a PA; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1)(i)(C), the Corps has consulted with the SHPO about the agency's intent to implement the project and has invited them to participate in the development of the PA by letter dated September 21st, 2021; and

WHEREAS, the SHPO agreed to participate in the development of a PA; and, responded by letter on October 6th, 2021 stating that the SHPO would be working with the Corps and City of Tacoma (Tacoma) on development of this PA; and

WHEREAS, Tacoma is the non-federal sponsor for the undertaking and has been consulted regarding potential historic properties and effects, and has been invited to participate in this Agreement as a Concurring Party; and

WHEREAS, the Corps has consulted with the Muckleshoot and Suquamish Tribes and offered them the opportunity to participate in this agreement as concurring parties; and

WHEREAS, the Suquamish Tribe declined to participate in a letter dated 28, September 2021; and

WHEREAS, the Corps has initiated consultation with the Muckleshoot Indian Tribe through government to government correspondence and has yet to receive a response; and

WHEREAS, the Corps will continue to consult with the Muckleshoot Indian Tribe throughout the undertaking; and

WHEREAS, the Corps has notified the following entities, and offered them the opportunity to participate in this agreement as concurring parties: Washington Trust for Historic Preservation, White River Valley Museum, Historical Society of Seattle and King County, and Museum of History and Industry; and

WHEREAS, Washington Trust for Historic Preservation declined to participate in the PA on October 29, 2021; and

WHEREAS, White River Valley Museum, Historical Society of Seattle and King County, and Museum of History and Industry did not respond to consultation requests; and

WHEREAS, the Corps has determined that although the prior historic property identification provides baseline data, additional research, field survey, and evaluation may be necessary; and

NOW, THEREFORE, the Corps and the Washington SHPO as Signatories, and the City of Tacoma as a Concurring Party agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the Undertaking on historic properties.

STIPULATIONS

I. APPLICABILITY

- A.** This PA applies to the construction of a fish passage at HAHD as part of the additional water storage project, initiated in 1998.
- B.** The Corps believes that the APE as identified in the PA is sufficient to cover all the effects of the undertaking as per 36 CFR § 800.16(d). If there is a revision to the APE, the Corps will notify SHPO and all consulting parties. The revised APE will include the following, if applicable: the vertical and horizontal depth of disturbance, staging, access and environmental mitigation areas and visual intrusions.
- C.** This PA will not apply to any other undertaking at or within the HAHD operating project.
- D.** Resolution of adverse effects will follow Stipulation II.E and will require the creation of a memorandum of agreement.

II. IDENTIFICATION, EVALUATION AND RESOLUTION OF ADVERSE EFFECT

A. *Establish the Undertaking and APE* (36 CFR §800.3)

- 1. The Corps shall make a reasonable and good faith effort to identify historic properties that may be affected by an undertaking as described in 36 CFR §800.4 (b) (1). The following procedures describe the process the Corps will follow when conducting identification, evaluation, effects assessment and where applicable, treatment measure to avoid, lessen or mitigate anticipated adverse effects.
- 2. When the Corps has progressed to the 65% design then the Corps will complete the following prior to proceeding to Stipulation II.B:
 - a) Review the undertaking's APE;
 - (1) If the APE has changed then the Corps will notify SHPO and other consulting parties as per Stipulation I.B.
 - b) Review existing information on historic properties potentially affected by the undertaking including documentation of previous Tribal consultation; and
 - c) Actively consult with Indian Tribes that have knowledge of or concerns with historic properties, historic properties of religious or cultural significance to Indian Tribes, traditional cultural properties, or sacred sites located within the APE; and

- d) Determine if a field survey (identification) is needed in accordance with Stipulation II.B.3. Appendix E outlines the survey standards and methodology for a field survey. A field survey is needed when:
 - (1) No previous survey has been completed within the last ten (10) years; or
 - (2) Known archaeological resources or historic properties are located within or adjacent to the APE; or

B. Identification of Historic Properties (36 CFR § 800.4)

1. If the APE or portion of the APE was previously inventoried to the current standards (Appendix D), consultation and concurrence with the SHPO/THPO and the Indian Tribe(s) has occurred (in the past 10 years or meets current state standards), the Corps may proceed with determining eligibility and effect without additional inventory but with the following provisions:
 - a) If any previously recorded properties exist within the APE, regardless of eligibility determination, the Corps shall review records to determine if new information is available that would alter the previous determination.
 - (1) If no new information is available, then the Corps has satisfied its Section 106 responsibility and may proceed with the undertaking.
 - (2) If new information is identified that may alter the previous determination, the Corps will apply the national register criteria in accordance with 36 CFR §800.4 (c)(1).
 - b) Built environment structures or other above ground resources which were not 50 years old at the time of the previous survey, but which are now 50 years or older will be assessed for eligibility.
2. The Corps assisted the Muckleshoot Indian Tribe in completing an ethnohistoric study at Howard A. Hanson Dam in 2013. The Tribe retains the results of that study. The Corps will consult with affected Tribes to ensure that the data is accurate and consult with the Muckleshoot Indian Tribe to verify if any Traditional Cultural Properties are present within the APE and proceed to Stipulation II D.
3. When the Corps has determined that a field inventory is required or deemed appropriate the Corps will ensure that surveys or other historic property identification evaluation efforts are conducted in accordance with appropriate professional standards, including the Secretary of Interior's Standards and Guidelines for identification, evaluation and documentation (48 FR 44716) and specific guidance provided in Appendix D.
 - a) If no historic properties are identified within the APE, the Corps will document this information in a short report (Appendix E) which will be provided to SHPO.
4. The Corps shall document properties in compliance with Washington State Standards for Cultural Resources Reporting and Appendix E, Survey Standards. Before proceeding to Stipulation D, the Corps shall:
 - a) Complete Historic Property Inventory (HPI) forms for built environment features older than 50 years or will turn 50 years old by the time of project

implementation. HPI forms shall be submitted through WISAARD for review and concurrence by the SHPO and recorded in a report in accordance with Stipulation IV and Appendix D.

- b) Document archaeological resources in accordance with state SHPO standards and standards outlined in Appendix D.

C. Evaluate Historic Significance (36 CFR § 800.4(c))

1. All properties discovered or recorded within the APE during an inventory shall be evaluated for inclusion in the NRHP unless avoided by the proposed work. The Corps shall evaluate eligibility in accordance with the National Park Service Bulletin 15 *Guidelines How to Apply the National Register Criteria for Evaluation and the National Register Bulletin 15* and 36 CFR §60.4.
2. Field identification and evaluation will be limited to the APE for which the Corps has legal access.

D. Results of Identification and Evaluation (36 CFR § 800.4(d))

1. *No historic properties affected:* the Corps determines that no historic properties are present or that historic properties are present but that the proposed undertaking will have no effect on the historic property as defined in 36 CFR § 800.4(d)(1); the Corps will document and report its determination and findings to SHPO and proceed with the proposed undertaking.
2. *Historic properties affected:* the Corps shall consult with SHPO/THPO and appropriate consulting parties in the event historic properties will be affected. The Corps shall proceed with assessment of effect under Stipulation II.E.

E. Assessment of Effect (36 CFR § 800.5) and Resolution of Adverse Effects (36 CFR §800.6)

1. The Corps shall apply the criteria of adverse effect in consultation with the SHPO and applicable consulting parties as provided at 36 CFR § 800.5(a)(1).
2. *No adverse effect.* The Corps in consultation with the SHPO may propose a finding of no adverse effect. The Corps shall document and report a determination of no adverse effect and proceed with the proposed undertaking.
3. *Adverse effect.* The Corps determines this undertaking will have an adverse effect to historic properties as defined at 36 CFR § 800.5(1). The Corps shall consult with SHPO and applicable consulting parties in accordance with 36 CFR § 800.5 and Stipulation II.E.4.
4. To resolve for adverse effects to historic properties, the Corps and the SHPO agree to an expedited consultation process. The Corps shall:
 - a) Submit a consultation letter to the SHPO and applicable consulting parties that provides a description of the APE, undertaking, identification results and the Corps' determination of adverse effect as provided for at 36 CFR 800.3(g).
 - (1) Consulting parties have 30 days to concur with the Corps determination.
 - b) After 30 days, the Corps will consult with the SHPO and applicable consulting parties to determine the appropriate mitigation to resolve for the adverse effect.

Consultation may be in the form of an in-person or virtual meeting, letters, or emails.

- c) The Corps shall invite the ACHP to participate in the consultation process to resolve for adverse effects. ACHP will have 15 days to notify the Corps of their interest to participate.
- d) The Corps shall prepare a memorandum of agreement (MOA) in consultation with SHPO and ACHP (if applicable) and applicable consulting parties to resolve for adverse effects to historic properties by the undertaking. The MOA will contain background information, descriptions of the historic property, NRHP criteria, description of the adverse effect, proposed treatment, and how the proposed treatment will address the adverse effect.
 - (1) The Corps shall distribute the draft MOA to applicable consulting parties for review. Consulting parties have 30 days to provide comments on the MOA.
 - (2) The Corps will incorporate comments received from consulting parties and provide a revised draft to appropriate consulting parties for final review. Upon acceptance by all consulting parties, the Corps shall finalize the memorandum of agreement and route for signatures.

F. *Post-Review Discoveries*

- 1. The Corps and the City of Tacoma shall develop a protocol for the treatment of inadvertently discovered human remains located on non-Federally owned project lands in accordance with Washington state law (RCW 27.44). Discoveries of human remains on federal fee lands of the HAHD project are subject to the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA). If archaeological resources or historic age properties are discovered during the construction phase that may be historically significant or unanticipated effects on historic properties are found, the Corps shall implement measures identified in a discovery plan that will be developed prior to construction

III. MITIGATION

- A. The Corps shall consult with the SHPO and appropriate consulting parties to identify an appropriate mitigation measure to resolve for adverse effects to historic properties. A list of proposed mitigation measures is provided below; however this list is meant to assist the consultation process and is in no way exhaustive. Proposed mitigation measures include but are not limited to:
 - 1. Historic Context Statements
 - a) The context statement may focus on an individual property, a traditional cultural landscape, the built environment, a historic district, a set of related properties or other related properties associated with the undertaking. If a historic context statement is chosen as a mitigation measure the Corps will consult with SHPO,

Tribes and other consulting parties, as appropriate to identify the topic; audience; framework of a historic context statement; and format for the final deliverable.

2. Oral History

- a) The oral history may focus on traditional cultural properties, HAHD construction and development, and the historic use of land and how it changed over time with the development of flood control projects. This list is not an exhaustive list of what could be covered by an oral history mitigation measure but provides some ideas. If oral history is chosen as a mitigation measure the Corps will consult with SHPO, Tribes and other consulting parties, as appropriate, to identify the topic; audience; framework of the oral history mitigation; and format for the final deliverable.

3. Geo-Referencing of Historical Maps and Aerial Photographs

- a) The geo-referencing of historical maps and aerial photographs may focus on areas associated with historic development, changes to rivers and rivers systems that were changed with the construction of flood control projects. If geo-referencing is chosen as a mitigation measure the Corps will consult with the SHPO, Tribes and other consulting parties, as appropriate, to identify the historical maps and/or aerial photographs for scanning and geo-referencing and what the final package would look like including draft, final format, metadata and type of file format (i.e. .TIFF).

4. Historic Property Inventory

- a) Historic property inventory may be done to establish the appropriate level of effort to accomplish an inventory/re-inventory. Efforts may be directed toward the resurvey of previously designated historic properties, per 36 CFR §800.4(l), which have undergone change or lack sufficient documentation, or the survey of new historic properties and/or districts that lack formal designation. The proposed mitigation measure will describe the boundaries of the survey area and the data collection method in keeping with the Washington SHPO guidance for conducting history property inventories. If historic property inventory is chosen as a mitigation measure the Corps will consult with SHPO, Tribes and other consulting parties, as appropriate.

5. Educational or Public Interpretation

- a) The educational or public interpretation may include historical markers, signs, displays, educational pamphlets, websites, workshops, videos, articles, reports, story maps, and other similar mechanisms to educate the public on historic properties within the local community, state, or region. If educational or public interpretation is chosen as a mitigation measure the Corps will consult with the SHPO, Tribes and other consulting parties, as appropriate, to identify the topic; audience; framework of a historic context statement; and format for the final deliverable.

6. Ethnographic Overview/Study

- a) The ethnographic overview/statements may focus on a single topic or may provide a general overview of information. If ethnographic overview/study is chosen as a mitigation measure, the Corps will consult with SHPO/THPO, Tribes and other consulting parties, as appropriate, to identify the topic; framework of the ethnographic statement/study including oral history component.

IV. REPORTING

- A. Long Report: A long report will be produced when historic properties are identified within the APE. A long report will follow DAHP standards as recorded on the DAHP website: <https://dahp.wa.gov/>.
- B. Short Report: A short report is an abbreviated report prepared when no historic properties are not located within the APE. Appendix E is a blank short report. The Corps will upload the short report through WISAARD for SHPO review for a 30-day review period. If the Corps does not receive comments within that 30-day review period, the Corps may proceed to the next step in the section 106 process. The Corps will take into consideration comments made and incorporate changes in the final document.
- C. Annual Meeting: during the period of implementation of this PA, the Corps will discuss this undertaking in an annual meeting to share information, monitor progress, and common issues. All signatories and consulting parties will be invited to attend.

V. THRESHOLDS FOR ACHP NOTIFICATION

- A. The Corps shall invite the ACHP to participate in the consultation process to resolve for adverse effects for:
 - i. Undertakings that the Corps determines are highly controversial;
 - ii. Undertakings that will have an adverse effect to historic properties when the Corps and the SHPO have not reached a resolution via formal written agreement;
 - iii. The ACHP reserves the right to participate on its own initiative or at the request of the SHPO or consulting party. In this event, the ACHP will notify the Corps in accordance with 36 CFR §800. 2(b).

VI. DISPUTE RESOLUTION

- A. Should any signatory to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, the Corps shall consult with such party to resolve the objection. If the Corps determines that such objection cannot be resolved, the Corps will:
 - 1. Forward all documentation relevant to the dispute, including the Corps' proposed resolution, to the ACHP. The ACHP shall provide the Corps with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the Corps shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The Corps will then proceed according to its final decision.

2. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the Corps may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the Corps shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the PA, and provide them and the ACHP with a copy of such written response.
- B. The Corps' responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

VII. AMENDMENTS

- A. Any Signatory to this PA may request that the other Consulting Parties consider amending the PA if circumstances change over time and warrant revision of the Stipulations of the PA. Amendments shall be executed in writing and shall be signed by all Consulting Parties in the same manner as the original PA.
- B. Agreement among the Consulting Parties to modify an appendix will not require an amendment to this PA, pursuant to Stipulation VII.A; however, it must be documented with written concurrence.

VIII. TERMINATION

- A. Any Signatory to this PA may initiate termination by providing written notice to the other Consulting Parties of their intent. After notification by the initiating party, the Consulting Parties shall have 30 days (or another time period agreed to by all signatories) to consult to seek agreement on amendments or any other actions that would address the issues and avoid termination. If such consultation fails, the PA will terminate at the end of the 30-day period, unless all Signatories agree to a longer period.
- B. In the event of termination, the Corps shall comply with 36 CFR § 800 regarding the undertaking covered by this PA or with regard to ongoing actions under this PA.

IX. DURATION

- A. Unless terminated in accordance with Stipulation VIII.A, this PA shall remain in effect for a period of 5 years after the date it takes effect as defined in X.A. Ninety days prior to the conclusion of the five-year period, the Corps will notify all parties in writing. If there are no objections from consulting parties, the terms of the PA will automatically extend for another five years. If any party objects to extending the PA, or proposes amendments, the Corps will consult with the parties to consider amendments or other actions to avoid termination. If agreement cannot be reached by the termination date, then the PA will remain in effect until agreement is reached or the PA is terminated in accordance with Stipulation VIII.A.


X. GENERAL PROVISIONS

- A. This PA shall become effective on the date of the final signature of a signatory or invited signatory. The Corps shall ensure that each Consulting Party is provided a copy of the fully executed PA.

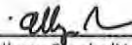
- B. Anti-Deficiency Act: The Corps' obligations under this PA are subject to the availability of appropriated funds, and the Stipulations of this PA are subject to the provisions of the Anti-Deficiency Act. The Corps shall make reasonable and good faith efforts to secure the necessary funds to implement this PA in its entirety. If compliance with the PA is impacted by the Corps' inability to secure necessary funds, the Corps shall consult with the signatories to this PA in accordance with the amendment procedures found at Stipulation VII and termination procedures found at Stipulation VIII.
- C. Execution of this PA by the Corps, SHPO, ACHP, and the signatories implementation of its terms, evidence that the Corps has taken into account the effects of this project upon historic properties and afforded the ACHP an opportunity to comment.

SIGNATORY PARTIES

U.S. Army Corps of Engineers, Seattle District


 _____ Date 7 Mar 2022
 Alexander "Xander" L. Bullock, Colonel
 Corps of Engineers, District Commander

Washington State Department of Archaeology and Historic Preservation


 _____ Date Mar 7, 2022
 Allyson Brooks (Mar 7, 2022 11:49 PST)
 Allyson Brooks, Ph.D
 Washington State Historic Preservation Officer

CONCURRING PARTY

City of Tacoma

 Jackie Flowers
 Director of Utilities
 _____ Date _____

APPENDIX A
Area of Potential Effects for HAHD Additional Water Storage Fish Passage Project



APPENDIX B
Previously Recorded Historic Properties

Introduction

The tables below contain previously recorded archaeological sites and built environment resources in and/or adjacent to the project footprint. The below information was obtained from a records search in the Washington Information System for Architectural and Archaeological Records Data (WISAARD). Once the Pre-Construction, Engineering and Design phase of the project begins additional research will be performed including a new record search in WISAARD, and other sources.

Table 1. Known archaeological sites located in or near the project area

Site Number*	Description	NRHP Eligibility		Location	Potential Effect to Resource Based on Current Design**
Howard A Hanson Dam Archaeological Sites					
KI01072	Historic logging and railroad features	Potentially Eligible		½ mile SE of project	No effect
KI01749	Original NPRR alignment	Potentially Eligible		½ mile NE of project	No effect
DT00184	Archaeological Historic District	Eligible		½ mile E of project	No effect
KI00273	Prehistoric	Unevaluated		1/2 mile E of project	No effect
KI00274	Prehistoric	Unevaluated		1/2 mile E of project	No effect
KI00275	Prehistoric	Unevaluated		½ mile E of project	No effect
KI00276	Prehistoric	Unevaluated		½ mile E of project	No effect
Howard A Hanson Dam Structures					
DAHP Property ID: 103103	Dam Embankment	Eligible		In project area	Has the potential to cause loss of historic fabric and impact the setting.

DAHP Property ID: 103103	Spillway	Eligible		In project area	The project has the potential to impact the setting.
DAHP Property ID: 103103	Stilling Basin	Eligible		In project area	The project has the potential to impact the setting.
DAHP Property ID: 103103	Outlet Tower	Eligible		In project area	The project has the potential to impact the setting.

APPENDIX C

Survey Standards for Built Environment and Archaeological Resources

Reconnaissance Level Survey for the Built Environment

<https://dahp.wa.gov/sites/default/files/CR%20Update%20Dec%202019%20.pdf>

The Reconnaissance Level Survey (RLS) is designed as a “first-look” at a broad group of historic resources and records basic information that is collected from the exterior of a building only. Information collected through a RLS is assembled in a final report. Reconnaissance surveys are visual or predictive surveys that identify the general distribution, location and nature of cultural resources within a given area. Documentation at this level rarely exceeds property address, observational information on architectural style and features, and photographic information. However based on the skill and expertise of the surveyor it should be possible to discern if a property appears to be connected to a larger context and the merits of its architecture. This information should be recorded in the “Statement of Significance” section of the database. Note that reconnaissance surveys are often conducted to establish the boundaries for intensive surveys to follow.

Reconnaissance surveys consist of walking around an area and noting the general distribution of buildings, structures, and neighborhoods representing different architectural styles, periods and modes of construction. Because reconnaissance surveys record only observable information, they may not provide sufficient information with which to make determinations of eligibility beyond architectural significance.

A reconnaissance level survey should include the following:

- Resource name - either the historic name, if known or a generic name that describes the resource, i.e. residence, commercial building, gas station, etc...
- Property type
- Location information sufficient to find the property if one were looking for it in person or on a map
- Surveyor and survey name
- Date recorded
- Current use of the building should be noted since it is observable from the street
- Historic use, if apparent from the building type
- Historic Context
- A discussion of the seven aspects of integrity
- All observable architectural information (characteristics & styles)
- Description of Physical Appearance section on the Narrative must be completed

- Changes to Structure should be noted in pulldown menu
- Statement of Significance - based on the knowledge of the surveyor and what you can gather from the street, briefly discuss the National Register criteria and clearly indicate how and why a resource does or does not meet National Register criteria
- Determination of Eligibility opinion - Fill in the boxes which denote if the resource eligible for listing in the National Register either individually or part of a district?
- Approximate date of construction
- Digital image(s) of the resource

A reconnaissance level survey does not need to include the following:

- National, State or Local Register status
- The historic use of the property
- The architect/engineer/builder
- An in-depth Statement of Significance which addresses the NR criteria which involves in-depth research
- A bibliography (unless sources were consulted by the surveyor)

USACE Archaeological Survey Methodology & Standards

Pedestrian Survey

1. Conduct a systematic visual survey of the ground surface for cultural materials.
2. The survey will include all proposed staging areas
3. The Corps shall take overview photographs of the Survey area.
4. The Corps shall take field notes that include date and time survey was conducted, weather, condition of survey area, vegetation that may inhibit survey, and any archaeological resources and historic properties observed during the survey.
5. If the survey location is on a steep slope or under unsafe conditions no survey will be conducted.

Subsurface Testing

1. If determined appropriate, the Corps shall conduct subsurface testing.
2. Subsurface testing shall consist of shovel probes that go to a minimum depth of 50 cm and a diameter of 30cm. Shovel probe transect intervals shall be between 15 to 30 meters depending on if the APE is located in a high probability area or not.
3. Shovel test probes shall be dug in arbitrary 10cm levels. All soils are screened through a ¼-inch hardware mesh at a minimum.
4. The Corps shall take overview photographs of the APE, representative photographs of shovel probes and any archaeological resources that are identified.

5. The Corps shall take field notes that include date and time survey was conducted, weather, condition of APE, vegetation that may inhibit survey, and any archaeological resources and historic properties that are identified during the survey.
6. A GPS point shall be taken of each shovel probe location.

APPENDIX D
Short Report Template



PROJECT NAME:							
LOCATION INFORMATION:			Township	Range	Section	Project Acres:	
County:		State:				Total surveyed	
USGS Topo:						APE	
Contact Address:							
UNDERTAKING/APE (list of actions comprising the undertaking and description of the geographical area in which activities will occur)							
BACKGROUND							Date of Record Search:
LITERATURE REVIEW AND RECORDS SEARCH							
Survey Conditions:							
Survey Problems:							
Survey Results:							
RECOMMENDATIONS /CONCLUSIONS:							
Avoidance/Monitoring Measures:							
Tribal Consultation:							

Comments:				
Attachments:				
Author Signature/Title Archeologist		Report Date		
		CORPS Seattle District		
REFERENCES				






Final PA_AWS

Final Audit Report

2022-03-07

Created:	2022-03-07
By:	Teresa Gibson (Teresa.Gibson@dahp.wa.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAjs4lkBSbVx17IDRDGXvTb-qhKLf42PJc

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-  Document created by Teresa Gibson (Teresa.Gibson@dahp.wa.gov)
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-  Document e-signed by Allyson Brooks (allyson.brooks@dahp.wa.gov)
Signature Date: 2022-03-07 - 7:49:27 PM GMT - Time Source: server
-  Agreement completed.
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Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A

ENVIRONMENTAL COMPLIANCE

FISH AND WILDLIFE COORDINATION ACT

Final Integrated Validation Report and Supplemental
Environmental Impact Statement



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. S.E., Suite 102
Lacey, Washington 98503

In Reply Refer To:

2022-0032094

XRef: 01EWF00-2014-FE-0308

Laura A. Boerner, Branch Chief
Planning, Environmental, and Cultural Resources Branch
U.S. Army Corps of Engineers, Seattle District
4735 E. Marginal Way South, Building 1202
Seattle, Washington 98134-2388

Dear Ms. Boerner:

Subject: Fish and Wildlife Coordination Regarding Howard A. Hanson Dam
Continued Operations

The U.S. Fish and Wildlife Service (Service) received your November 23, 2021, request for coordination with the U.S. Army Corps of Engineers (Corps), Seattle District, to support our participation in the Howard A. Hanson (HAHD) Continued Operations project located on the Green/Duwamish River in King County, Washington. The Service prepared this letter under the authority of, and in accordance with, provisions of the Fish and Wildlife Coordination Act of 1934 [16 U.S.C. 661 *et seq.*; 45 Stat. 401] (FWCA) to fulfill Section 2(b) of the FWCA. This letter is based on previously issued National Environmental Policy Act documents from 1998, the Corp's project description from 2014, the Service's Biological Opinion (Opinion) from 2022, and related information provided through recent correspondence with the Corps.

The proposed project includes continued operations and maintenance of HAHD and the implementation of Phase 1 of the Additional Water Storage Project (AWSP). The project also includes the finalization of the design and construction of a fish passage facility to restore downstream fish passage at HAHD, authorized in the Water Resources Development Act of 1999 as a restoration component of the AWSP. The geographic extent of the project includes the natural upstream limit (i.e., approximately 100 miles) of anadromous fish access above HAHD, altered flows at and below HAHD (located at river mile 64.5) on the Green/Duwamish River, and downstream to Elliott Bay.

PACIFIC REGION 1

IDAHO, OREGON*, WASHINGTON,
AMERICAN SAMOA, GUAM, HAWAII, NORTHERN MARIANA ISLANDS

*PARTIAL

In July 1998, the Service completed a Coordination Act Report (CAR) for the Howard Hanson Additional Water Storage Project, included in the Corps' August 1998, Final Feasibility Study Report and Final Environmental Impact Statement (Corps 1998). Through the CAR, the Service analyzed effects of the storage project on a variety of Federal trust fish, wildlife, and plant resources and habitat types (e.g., mixed deciduous/coniferous forests) and provided recommendations (Corps 1998, pp. 146-151) to the Corps to incorporate into the AWSP. The Record of Decision documents the Service's recommendations and the Corps' responses (Corps 1998, pp. 168-172) resulting from this coordination process. In the CAR, the Service concluded that the AWSP offers the most feasible opportunity for restoring some fishery resources (e.g., Chinook and coho salmon [*Oncorhynchus tshawytscha* and *O. kisutch*], and steelhead [*O. mykiss*] runs) to their former habitat upstream and adopting an adaptive management approach to project operation.

On February 3, 2022, the Service issued an Opinion that the HAHD project, as proposed, is not likely to jeopardize the continued existence of the bull trout and/or destroy and/or adversely modify designated critical habitat (USFWS 2022). Through the Opinion, the Service provided conservation recommendations to minimize or avoid adverse effects of the proposed action on federally listed species and critical habitats (USFWS 2022, pp. 73-74).

The Service maintains support for the conservation recommendations issued in the July 1998, CAR and the February 2022, Opinion. Given the construction of the fish passage facility as part of the HAHD project, the Service expects that there will be more opportunities for restoring additional fishery resources (including bull trout) to suitable habitat upstream of HAHD, thereby enhancing their spawning and rearing potential and, ultimately, their survivability.

Given the presence of Pacific lamprey (*Entosphenus tridentatus*) and freshwater mussels in the Green/Duwamish River, the Service also provides the following conservation recommendations (enclosed) for the Corps to consider in implementation of the proposed project.

With this letter, the Service concludes its coordination with the Corps under the FWCA. The Service appreciates the opportunity to coordinate with the Corps on the proposed project. If the Corps has questions regarding previously-issued recommendations and the enclosed conservation recommendations, then please contact biologist Molly Good (molly_good@fws.gov).

Sincerely,

for Brad Thompson, State Supervisor
Washington Fish and Wildlife Office

Literature Cited

Corps (U.S. Army Corps of Engineers). 1998. Appendix I, Agency Coordination Documents and Public Review Comments and Responses, Additional Water Storage Project, Final Feasibility Study Report and Final EIS. U.S. Army Corps of Engineers, Seattle, Washington, 334 pp.

USFWS (U.S. Fish and Wildlife Service). 2022. Biological Opinion on the Howard A. Hanson Dam Continued Operations Project. U.S. Fish and Wildlife Service, Lacey, Washington, 136 pp

Enclosure

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by implementing conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities designed to minimize or avoid adverse effects of a proposed action on listed species or designated critical habitat, to assist in the implementation of recovery plans or to obtain information.

Pacific and Other Native Lamprey Species

The following recommendations are for Pacific lamprey but may also benefit other species of lamprey (e.g., river lamprey [*Lampetra ayresii*], Western brook lamprey [*L. richardsoni*]), which we know less about. Consideration of Pacific lamprey during permitted in-water work for salmonids is important because their abundance and distribution has significantly declined throughout its range over the past three decades, and efforts to reverse this decline are needed (USFWS 2019¹). Pacific lamprey are both culturally and ecologically important. Lamprey are a Tribal Trust species, and have a high cultural significance to Native American tribes from California to Alaska.

While Pacific lamprey are anadromous like salmon, their life history has some unique aspects that are typically not considered during implementation of instream activities, even when using design considerations and best management practices (BMPs) for salmonids. Adjustments to minimize adverse effects to Pacific lamprey should be made at the project design phase to accommodate lamprey passage, lamprey spawning periods, existence of nests, upstream and downstream movement, and avoid direct mortality to larval lamprey burrowed in the substrate.

For context, an abbreviated description of Pacific lamprey life history and habitat use in freshwater is provided as follows: as adults, Pacific lamprey return from the ocean to fresh water primarily during spring and summer months, primarily moving at night. They often spend about one year in freshwater habitat before spawning, usually holding under large substrate (e.g., large boulders, bedrock crevices) associated with low water velocities until the following spring, when they move to spawning areas. Adult lampreys spawn generally between March and July in gravel bottom stream, usually at the upstream end of riffle habitat near suitable habitat for larval lamprey (ammocoetes), and they die after spawning (Beamish 1980).

After hatching, the larval lamprey drift downstream to areas of low stream velocity and burrow into depositional areas with sand or silt substrate, and filter feed on algae, diatoms, and detritus for 3 to 7 years. Larvae can be difficult to detect since they range in size from about .08 to 6 inches long; the smaller ones are easy to overlook. Larvae will move downstream during flow events, mostly at night. Many age classes of larvae will congregate together, often occurring in large clusters in depositional sites with fine sediments where habitats are optimal, making lamprey larvae populations particularly susceptible to activities that involve dredging/excavating, stranding and use of toxic chemicals. Metamorphosis of

¹U.S. Fish and Wildlife Service. 2019. Pacific lamprey (*Entosphenus tridentatus*) Assessment. 302 pp.

larval lamprey into the juvenile out-migrant form (macrophthalmia) occurs generally from July through November but is variable depending on distance from salt water. Out-migration to the ocean occurs during or shortly after transformation (Beamish 1980). Out-migration generally peaks with rising stream and river flows in late winter or early spring (Kostow 2002).

Lampreys likely provide substantial benefits to ecosystem health and water quality on which federally listed fishes rely. Lamprey have been documented as prey by many different animal species, including 20 species of fish (both native and non-native), 11 species of birds, and 9 marine mammals (ODFW, 2020, p.119; Table A3.4). Because the caloric content of Pacific lamprey is significantly higher than salmon (Close et al., 2002; Clemens et al., 2019 as cited in ODFW 2020), lampreys may serve as important “predation buffers” for federally listed salmonids and distract predators away from feeding upon salmon at times. The Oregon Department of Fish and Wildlife (ODFW) (2020, p. 116) summarized ecological benefits into three categories:

1. Ecosystem engineers;
2. Nutrient suppliers to freshwater ecosystems and recyclers of nutrients within these systems; and,
3. Prey sources for other animals/predation buffers to salmonids.

The ODFW, in its *Coastal, Columbia, and Snake Conservation Plan for Lampreys in Oregon* (ODFW 2020, p. 116), further describes these categories follows:

- As ‘ecosystem engineers,’ lampreys benefit the surrounding habitat in freshwater streams in ways that differ by life stage. For example, as adults, lampreys construct redds in which they spawn. Construction of these redds alters the streambed in ways that favor aggregations of aquatic insects that process stream nutrients and feed juvenile fishes (Hogg et al., 2014). In addition, the burrowing behavior of larval lamprey has been associated with increased water exchange between the stream and substrate in the streambed, increased oxygen in the substrate, and an increase in fine particulate matter on the surface of the substrate (Shirakawa et al., 2013; Boeker and Geist 2016).
- Anadromous lampreys provide marine-derived nutrients to freshwater ecosystems (Close et al., 2002; Nislow and Kynard 2009). Their spawned-out carcasses decay and release nutrients into the surrounding water (Weaver et al., 2015). These nutrients are assimilated by aquatic insects (Weaver et al., 2016), which may be consumed by juvenile salmonids. As nutrient recyclers, larval lamprey feed on detritus and algae and convert these food sources into energy stored as animal (larval lamprey) tissue (Close et al., 2002) that is then available to larger predators that eat them. Lampreys are a prey source for humans (see below) and many different animals (Table A3.4).
- Larval and juvenile lampreys migrating downstream may focus the attention of predatory fishes and birds, thereby potentially offering a predation reprieve for juvenile salmon and steelhead. Similarly, the high caloric content, ease of capture (relative to salmonids), and

the tendency to migrate in schools may make Pacific lamprey desirable prey sources for pinnipeds, thereby buffering adult salmon and steelhead from predation (Close et al., 2002).”

Threats to Pacific Lampreys

Threats to lampreys include:

- Lack of awareness;
- Poor passage conditions and entrainment;
- De-watering and streamflow management from water diversions, instream projects, and hydropower peaking;
- Dredging from construction, channel maintenance, and mining activities;
- Chemical poisoning from accidental spills or chemical treatments;
- Poor water quality; and,
- Stream and floodplain degradation (i.e., channelization, loss of side channels, scouring).

From the above list, it is clear that many of the same threats to anadromous salmon also impact Pacific lamprey. Thus, some BMPs for salmon are also beneficial to lampreys. However, lamprey have some unique life-history aspects that are not often considered during implementation of instream activities, simply due to lack of awareness. An oversight at a single project can greatly impact lampreys in the project area, and over time, multiple projects may cumulatively impact local populations. As an example, larval lamprey remain burrowed for several years in stream substrates, and many individuals (hundreds to thousands) of multiple age classes can concentrate together in the preferred habitats (depositional areas), making larval lamprey populations particularly susceptible to activities that involve dredging/excavating, stranding, and toxic chemical spills.

Lamprey Recommendations

Species-specific adjustments to minimize adverse effects to Pacific lamprey can be made at the project design phase and during implementation to accommodate lamprey passage, lamprey spawning periods, existence of nests, upstream and downstream movement, and to avoid direct mortality to larval lamprey burrowed in the substrate.

Biological considerations of lamprey should be incorporated into project design, objectives, salvage and BMPs for the protection and conservation of this species. Such efforts collectively may reduce the need for future ESA listings. Currently, there are several guidance documents available to assist in such actions:

1. *Best Management Guidelines for Native Lampreys during In-Water Work* (Lamprey Technical Workgroup 2020)
<https://www.pacificlamprey.org/wp-content/uploads/2022/02/BMGs-for-Native-Lampreys-in->

[In-Water-Work_2020.04.30.pdf](#) covers a broad spectrum of actions including biology, salvage during dewatering actions, habitat restoration, screening, and passage and includes case studies.

2. *Practical Guidelines for Incorporating Adult Pacific Lamprey Passage at Fishways* (Lamprey Technical Workgroup 2017)
https://www.pacificlamprey.org/wp-content/uploads/2022/02/Guidelines-for-Lamprey-Passage-at-Fishways_2017.06.20.pdf includes specific guidance on providing upstream passage within existing fishways and in new fishway designs, and includes case studies.
3. *Barriers to Adult Pacific Lamprey at Road Crossings: Guidelines for Evaluating and Providing Passage* (Lamprey Technical Workgroup 2020)
https://www.pacificlamprey.org/wp-content/uploads/2022/02/LTW_2020_LampreyPassage@RDXings_Final_062920.pdf includes culvert passage assessments and recommendations for lamprey passage, and includes case studies.
4. Additional documents, information, materials and updates may be found on the website for the Pacific Lamprey Conservation Initiative's Lamprey Technical Workgroup
<https://www.pacificlamprey.org/ltwg/>

Lamprey Reporting

In order for the U.S. Fish and Wildlife Service (Service) to be kept informed of actions that minimize or avoid adverse effects or that benefit Pacific lamprey, other lamprey species, and their habitats, the Service requests notification of the implementation of any of the above conservation recommendations, and copies of any relevant publications for conserving lamprey species and their habitats. Please send documents to:

State Supervisor
 U.S. Fish and Wildlife Service
 Oregon Fish and Wildlife Office
 Attn: Ann Gray
 2600 SE 98th Avenue, Suite 100
 Portland, Oregon 97266

Freshwater Mussels

While no species of freshwater mussels are federally listed in the Pacific Northwest, they are of high value (culturally, ecologically, and environmentally) to many entities. The Service recommends that the action agencies require considerations for the biological needs of all native freshwater mussel species for all permits requiring instream or near-stream projects. There are six species of western freshwater mussels: the western pearlshell (*Margaritifera falcate*), the western ridged mussel (*Gonidea angulata*), the winged floater (*Anodonta nuttalliana*), the Oregon floater (*A. oregonensis*), the Yukon floater (*A. beringiana*), and

woebegone floater (*A. dejecta*). The Xerces Society for Invertebrate Conservation (Xerces Society) maintains a great resource for western freshwater mussels at:

<https://xerces.org/endangered-species/freshwater-mussels>. To paraphrase from the Xerces Society's website:

Freshwater mussels are experiencing a dramatic decline; 72 percent of North American freshwater mussels are considered extinct or imperiled, representing one of the most at-risk groups of animals in the United States. The decline of freshwater mussels has been well studied in eastern North America but has received very little attention in states west of the Rocky Mountains.

Native freshwater mussels have immense ecological and cultural significance. As filter-feeders, they can substantially improve water quality by filtering out harmful pollutants, which benefits both humans and aquatic ecosystems. These animals can be highly sensitive to environmental changes and, thus, have great potential to be used as indicators of water quality. Freshwater mussels have been historically important sources of food, tools, and other implements for many Native American tribes. Native Americans in the interior Columbia River basin have harvested these animals for at least 10,000 years, and they remain an important cultural heritage for tribes today.

Mussel Recommendations

The biological considerations of freshwater mussel species should be incorporated into project design, objectives, salvage and relocation, and BMPs for the protection and conservation of this species. The Xerces Society has developed a publication "*Conservation the Gems of Our Waters: Best Management Practices for Protecting Native Western Freshwater Mussels during Aquatic and Riparian Restoration, Construction, and Land Management Projects and Activities*" (Blevins et al., 2017), and a companion handbook, *Mussel Friendly Restoration* (Blevins et al., 2019) that are both available online at <https://xerces.org/publications/guidelines/mussel-friendly-restoration>. These documents include information on determining if mussels are present at your site, project development and review, salvage and relocation, monitoring and practices for minimizing project impacts for several different activities (i.e., construction, vegetation management, flow management, restoration). The Xerces Society website also has a field identification guide developed by the Xerces Society and Confederation Tribes of the Umatilla Indian Reservation at: <https://pnwmussels.org/field-guides/>.

Freshwater Mussels Reporting

In order for the Service to be kept informed of actions that minimize or avoid adverse effects or that benefit freshwater mussels, and their habitats, the Service requests notification of the

implementation of any of the above conservation recommendations, and copies of any relevant publications for conserving mussel species and their habitats. Please send documents to:

State Supervisor
 U.S. Fish and Wildlife Service
 Oregon Fish and Wildlife Office
 Attn: Courtney Newlon
 2600 SE 98th Avenue, Suite 100
 Portland, Oregon 97266

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Howard A. Hanson Dam
Additional Water Storage Project
Section 902 Post Authorization Change
Validation Study – Fish Passage
King County, Washington

APPENDIX A
ENVIRONMENTAL COMPLIANCE

COASTAL ZONE MANAGEMENT ACT
CONCURRENCE 2002

CLEAN WATER ACT SECTION 401
WATER QUALITY CERTIFICATION 2002

Final Integrated Validation Report and Supplemental
Environmental Impact Statement



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

15 West Yakima Avenue, Suite 200 • Yakima, Washington 98902-3452 • (509) 575-2490

September 10, 2002
CERTIFIED MAIL

Philip L. Hoffman
Department of the Army
Seattle District, Corps of Engineers
PO Box 3755
Seattle, WA 98124-3755

Dear Mr. Hoffman:

RE: Order #02SEACR-4581 – Water Quality Certification/Coastal Zone Consistency
Determination for U.S. Army Corps of Engineers, Howard Hanson Dam Fish Passage
Structure

The request for certification for proposed work in and adjacent to the Green River has been reviewed. On behalf of the State of Washington, we certify that the proposed work, as conditioned by the enclosed Order, will comply with applicable provisions of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, as amended, and other appropriate requirements of state law. This letter also serves as the state response to the Corps of Engineers.

Pursuant to 16 U.S.C. 1456 et. seq. (Section 307(c)(3) of the Coastal Zone Management Act of 1972 as amended), Ecology concurs with the applicant's determination that this work will be consistent with the approved Washington State Coastal Zone Management Program. This concurrence is based upon the applicant's compliance with all applicable enforceable policies of the Coastal Zone Management Program, including Section 401 of the Federal Water Pollution Control Act.

This certification is subject to the conditions contained in the enclosed Order. If you have any questions, please contact Mark Schuppe at (509) 575-2384. Written comments can be sent to him at the Department of Ecology, Central Regional Office, 15 W. Yakima Avenue, Suite 200, Yakima, WA 98902, or at msch461@ecy.wa.gov. The enclosed Order may be appealed by following the procedures described in the Order.

Sincerely,

Derek I. Sandison, Section Manager
Shorelands and Environmental Assistance Program

Philip L. Hoffman
September 10, 2002
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DIS:MS:gh
020908
Enclosure: Order

cc: Alice Kelly, Ecology - NWRO
Ron Devitt, Ecology - NWRO
Yvonne Oliva, Ecology - HQ
Larry Fisher, WA Department of Fish and Wildlife - Bellevue

**IN THE MATTER OF GRANTING
A WATER QUALITY
CERTIFICATION TO:**
U.S. Army Corps of Engineers
in accordance with 33 U.S.C. 1341
FWPCA § 401, RCW 90.48.260,
and Chapter 173-201A WAC

) **ORDER #02SEACR-4581**
) U.S. Army Corps of Engineers Reference
) No. PL-02-04. To construct a fish passage
) facility at Howard Hanson Dam, within
) Eagle Gorge Reservoir at river mile 64 of
) the Green River, upstream of the City of
) Auburn, King County, Washington.

TO: Phillip L. Hoffman
US Army Corps of Engineers
Seattle District
P.O. Box 3755
Seattle, WA 98124

On July 8, 2002, a public notice for a proposed water quality certification from the State of Washington was distributed for the above-referenced project pursuant to the provisions of 33 U.S.C. 1341 (FWPCA § 401). The proposed project entails installation of a cofferdam, including 50,000 cubic yards of rock excavation and removal, excavation of the left bank for hydraulic function augmentation, construction of the fish passage facility in the dry behind the cofferdam, construction of a new access road to the existing intake tower, and the construction and installation of new fish transport pipes in the flood control tunnel. The project is located on the reservoir side of Howard Hanson Dam at river mile 64 of the Green River, King County, Washington, and within Sections 27 and 28, Township 21 North, Range 8 East, W.M. The purpose of the project is to provide increased fish passage through the dam for anadromous fish listed under the Endangered Species Act.

AUTHORITIES:

In exercising authority under 33 U.S.C. 1341, 16 U.S.C. 1456, and RCW 90.48.260, Ecology has investigated this application pursuant to the following:

1. Conformance with applicable water quality-based, technology-based, and toxic or pretreatment effluent limitations as provided under 33 U.S.C. Sections 1311, 1312, 1313, 1316, and 1317 (FWPCA Sections 301, 303, 306, and 307);
2. Conformance with the state water quality standards as provided for in Chapter 173-201A WAC authorized by 33 U.S.C. 1313 and by Chapter 90.48 RCW, and with other appropriate requirements of state law; and
3. Conformance with the provision of using all known, available, and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

*Order #02SEACR-4581, U.S. Army Corps of Engineers
September 10, 2002
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CONDITIONS OF ORDER #02SEACR-4581 AND WATER QUALITY CERTIFICATION:

In view of the foregoing and in accordance with 33 U.S.C. 1341, RCW 90.48.260 and Chapter 173-201A WAC, water quality certification is granted to the U.S. Army Corps of Engineers subject to the following conditions:

A. No Impairment of Water Quality:

A1. The Green River and Eagle Gorge Reservoir (WRIA #9) are Class AA waters of the state. Certification of this proposal does not authorize the U.S. Army Corps of Engineers to exceed applicable state water quality standards (Chapter 173-201A WAC) or sediment quality standards (Chapter 173-204 WAC). Water quality criteria contained in WAC 173-201A-030(1) and WAC 173-201A-040 shall apply to this project, unless otherwise authorized by Ecology. This Order does not authorize temporary exceedances of water quality standards beyond the limits established in WAC 173-201A-110(3). Furthermore, nothing in this certification shall absolve the U.S. Army Corps of Engineers from liability for contamination and any subsequent cleanup of surface waters or sediments occurring as a result of project construction or operations.

The Green River (Segment YD05HE) has been identified on the current 303(d) list as exceeding state water quality standards for temperature. This proposed project shall not result in further exceedances of this standard. The water quality standard for the above-listed parameter is:

Temperature – Temperature shall not exceed 16.0° C due to human activities. When natural conditions exceed 16.0° C, no temperature increases will be allowed that will raise the receiving water temperature by greater than 0.3° C. Incremental temperature increases resulting from point source activities shall not, at any time, exceed $t = 23/(T+5)$, where:
 t = The maximum permissible temperature increase measured at a mixing zone boundary, and
 T = The background temperature as measured at a point or points unaffected by the discharge and representative of the highest ambient water temperature in the vicinity of the discharge.
 Incremental temperature increases resulting from nonpoint source activities shall not exceed 2.8° C.

B. Temporary Modification of Water Quality Standards:

B1. Conditions listed below are issued under the authority of Chapter 90.48 RCW and Chapter 173-201A WAC and are intended to allow short-term modification of state water quality standards. Except as specifically authorized by this Order, all applicable provisions of Chapter 173-201A WAC shall be met.

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B2. Certification of this project does not authorize the applicant to exceed the turbidity standard for Class AA waters beyond the mixing zone described below at condition B3. Turbidity in Class AA waters shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.

B3. Mixing Zone: Consistent with WAC 173-201A-100(7) and -110(3) a mixing zone is established within which the turbidity standard is waived. The mixing zone is established to allow only temporary exceedances of the turbidity criteria during and immediately after project construction. The temporary turbidity mixing zone shall be as follows:

For projects working within or along lakes, ponds, wetlands, estuaries, marine waters, or other non-flowing waters, the point of compliance is typically at a radius of 150 feet from the activity causing the turbidity exceedence. This will conflict with the U.S. Army Corps of Engineers operational safety requirements since it would put the point of compliance too close to the intake structure for boats to approach to conduct water quality monitoring. The point of compliance shall be at the closest point beyond 150 feet that does not encroach on the safety zone for the intake structure. The U.S. Army Corps of Engineers shall provide Ecology with the information that identifies the safety zone for the intake structure.

C. **Water Quality and Supply Protection:**

C1. All activities authorized by this certification shall comply with the June 2002 Water Quality and Supply Protection Plan, Howard Hanson Dam, Phase 1 Fish Passage Construction, prepared for the U.S. Army Corps of Engineers and Tacoma Public Utilities by Economic and Engineering Services, Inc.

C2. The following plans required to be developed by the contractor in the above-referenced plan, shall be submitted to Ecology. Activities authorized by this certification shall not begin until these plans have been approved by Ecology.

- Emergency Demobilization Submittal
- Erosion and Sediment Control Submittal
- Spill Prevention, Response, and Containment Submittal
- Pollution Control Submittal
- Emergency Response Submittal

D. Construction:

D1. Construction Stormwater and Erosion Control:

- D1a. Work in or near waters of the state shall be done so as to minimize turbidity, erosion, and other water quality impacts. Construction stormwater, sediment, and erosion control Best Management Practices suitable to prevent exceedances of state water quality standards shall be in place before starting clearing, filling, and grading work at the impact sites.
- D1b. A construction stormwater general permit shall be obtained from Ecology's Water Quality Program prior to the commencement of any activities authorized by this certification.
- D1c. Prior to clearing and grading in wetlands, the adjacent wetlands shall be protected from construction impacts. Construction fencing or flagging (using brightly colored tape at no less than twenty-five foot (25') intervals) of the existing wetlands and stream channels to be protected shall be completed prior to clearing. All project staff shall be trained to recognize construction fencing or flagging that identifies wetland boundaries. Equipment shall not be moved into or operated in wetlands or stream channels that are not authorized to be filled.
- D2. During clearing and filling at the various project sites, the U.S. Army Corps of Engineers shall take all necessary measures to minimize the alteration or disturbance of existing wetland and upland vegetation.
- D3. Construction debris and excess excavated or dredged material shall be disposed of at an upland location so that it cannot enter a waterway and in a manner that prevents degradation of state waters.
- D4. Concrete and concrete by-products shall be completely sealed off from the ordinary high water mark (OHWM) and wetted perimeter of Eagle Gorge Reservoir and the Green River, totally contained through the use of sealed forms, and not allowed to contaminate or enter the OHWM.
- D5. Wash water containing oils, grease, or other hazardous materials resulting from wash down of equipment or working areas shall be contained for proper disposal, and shall not be discharged into state waters or storm drains.
- D6. A sand and gravel general permit shall be obtained from Ecology's Water Quality Program prior to the operation of any concrete batch plant, or prior to the initiation of any activity that would require authorization by a sand and gravel general permit.

*Order #02SEACR-4581, U.S. Army Corps of Engineers
September 10, 2002
Page 5 of 7*

D7. The U.S. Army Corps of Engineers shall provide written notice to Ecology's, Mark Schuppe, at least 14 days prior to the start of placing fill in wetlands or other waters of the state, and within 14 days after completion of construction at each project site and mitigation site.

D8. Clean Fill Criteria: The U.S. Army Corps of Engineers shall ensure that fill placed for the proposed project does not contain toxic materials in toxic amounts.

E. Emergency/Contingency Measures:

E1. In the event the U.S. Army Corps of Engineers is unable to comply with any of this Order's terms and conditions due to any cause, the U.S. Army Corps of Engineers shall:

- Immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the violation and correct the problem.
- Notify Ecology of the failure to comply. Spill events shall be reported immediately to Ecology's 24-Hour Spill Response Team at (425) 649-7000, and within 24 hours to Ecology's, Ron Devitt, at (425) 649-7028.
- Submit a detailed written report to Ecology within five days that describes the nature of the violation, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of any samples taken, and any other pertinent information.

Compliance with this condition does not relieve the U.S. Army Corps of Engineers from responsibility to maintain continuous compliance with the terms and conditions of this Order or the resulting liability from failure to comply.

E2. Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters. No refueling of equipment shall occur over, or within 50 feet of rivers, creeks, or wetlands.

F. General Conditions:

F1. This certification does not exempt the U.S. Army Corps of Engineers or its contractors from compliance with other statutes and codes administered by federal, state, and local agencies.

F2. The U.S. Army Corps of Engineers will be out of compliance with this certification if the project is constructed and/or operated in a manner not consistent with the project description contained in the Public Notice for certification, or as otherwise approved by Ecology. Additional mitigation measures may be required through other local, state, or federal requirements.

*Order =02SEACR-4581. U.S. Army Corps of Engineers
September 10, 2002
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- F3. The U.S. Army Corps of Engineers will be out of compliance with this certification and must reapply with an updated application if five years elapse between the date of the issuance of this certification and the beginning of construction and/or discharge for which the federal license or permit is being sought.
- F4. The U.S. Army Corps of Engineers will be out of compliance with this certification and must reapply with an updated application if the information contained in the Public Notice is voided by subsequent submittals to the federal agency. Any future action at this project location, emergency or otherwise, that is not defined in the public notice, or has not been approved by Ecology, is not authorized by this Order. All future actions shall be coordinated with Ecology for approval prior to implementation of such action.
- F5. Copies of this Order shall be kept on the job site and readily available for reference by Ecology personnel, the construction superintendent, construction managers and foremen, and state and local government inspectors.

To avoid violations or non-compliance with this Order, the U.S. Army Corps of Engineers shall ensure that project managers, construction superintendents, and other responsible parties have read and understand relevant aspects of this Order and any subsequent revisions or Ecology-approved plans.

The U.S. Army Corps of Engineers shall provide to Ecology a signed statement from each project manager and construction superintendent working at the project and mitigation sites that they have read and understand the conditions of the above-referenced permits, plans, and approvals. These statements shall be provided to Ecology no less than seven (7) days before construction begins at each project or mitigation site.

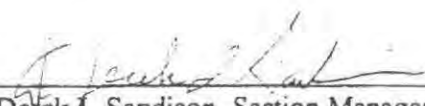
- F6. The U.S. Army Corps of Engineers shall provide access to the project site and all mitigation sites upon request by Ecology personnel for site inspections, monitoring, necessary data collection, or to ensure that conditions of this Order are being met.
- F7. Nothing in this Order waives Ecology's authority to issue additional orders if Ecology determines further actions are necessary to implement the water quality laws of the state. Further, Ecology retains continuing jurisdiction to make modifications hereto through supplemental order, if additional impacts due to project construction or operation are identified (e.g., violations of water quality standards, downstream erosion, etc.), or if additional conditions are necessary to further protect the public interest.
- F8. Liability: Any person who fails to comply with any provision of this Order shall be liable for a penalty of up to ten thousand dollars (\$10,000) per violation for each day of continuing noncompliance.

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Appeal Process:

Any person aggrieved by this Order may obtain review thereof by appeal, within thirty (30) days of receipt of this Order, to the Washington Pollution Control Hearings Board, P.O. Box 40903, Olympia, WA 98504-0903. Concurrently, a copy of the appeal must be sent to the Department of Ecology, Enforcement Section, P.O. Box 47600, Olympia, WA 98504-7600. These procedures are consistent with the provisions of Chapter 43.21B RCW and the rules and regulations adopted thereunder.

Dated September 10, 2002 at Yakima, Washington.



Derek I. Sandison, Section Manager
Shorelands and Environmental Assistance Program
Department of Ecology
State of Washington

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