

DRAFT MEMORANDUM

Date: February 17, 2023
To: LAND Steering Group
From: Lisa Bona and Shawn Mahugh, GeoEngineers, Inc.
Re: Memorandum #5: Draft Environmental Compliance and Permitting Considerations Memorandum,

Introduction

This memorandum provides an overview of environmental permits, licenses and approvals that may be necessary to construct structural and other inventions to reduce flood damage in the Chehalis Basin as proposed in the Preliminary Local Actions Non-Dam (LAND) Alternative. Of note, Corridor Floodplain Management and Voluntary Safe Structures Program elements could be permitted under the Aquatic Species Restoration Plan (ASRP), existing Community Flood Resistance and Resilience (CFAR) Safe Structures Program, or possibly other established programs and are not included in this memorandum.

Basis for Information Presented

The basis of information presented in this memorandum includes our current understanding of the structural interventions and combined floodplain habitat restoration/floodplain storage concepts, and on the following:

- Interviews with jurisdiction/agency staff regarding projects completed in the Chehalis Basin (K. Ashmore, C. Abercrombie, S. Boettcher, and B. Shay, personal communications, 2022);
- Information provided from Nat Kale of the Office of Chehalis Basin (OCB), Celina Abercrombie of Washington Department of Fish and Wildlife (WDFW), and Merri Martz of Anchor QEA regarding an ASRP environmental permitting overview (M. Martz, personal communication, 2022; Washington State Department of Ecology [Ecology], 2022);
- Discussion with Heather Page, Anchor QEA, regarding the *Proposed Chehalis River Basin Flood Damage Reduction Project SEPA* [State Environmental Policy Act] *Draft EIS* [Environmental Impact Statement] (Ecology 2020) and other local experiences; and
- Our experience in Washington State to permit projects like those components included in the structural intervention concepts.

GeoEngineers conducted phone interviews with city and other agency staff in June, July, and August 2022, including Brian Shay, City of Hoquiam; Kim Ashmore, City of Centralia; and Scott Boettcher, Chehalis River Basin Flood Authority. We also followed up with Heather Page, Anchor QEA, in February 2023, during preparation of this memorandum to get her perspective from work on the flood retention

facility project SEPA EIS. Our discussions were focused on permit requirements and lessons learned on permitting for various project types in the Chehalis Basin and elsewhere in western Washington.

Preliminary LAND Alternative Project Categories

The Preliminary LAND Alternative includes non-structural and structural project categories for within the Chehalis River Basin. This permitting memorandum specifically addresses environmental permitting that may be required for the structural and non-structural project categories, such as floodplain habitat restoration and floodable parks and trails, which could be combined with structural projects to make them more permittable and/or provide uplift for land use by plants, animals, and humans. The project types that may be expected to be included within the Preliminary LAND Alternative that we assessed follow and are summarized in Figure 1.

- **Improve Chehalis River Waterflow (Water Diversion).** This project would include construction of a new, approximately 700-foot-wide, one-mile-long flood water diversion channel by excavating approximately 1.3 million cubic yards of soil west of the existing Mellen Street Bridge to provide another path for flood water; remove the existing Mellen Street Bridge and reconstruct it approximately 2,000 feet to the south; and increase conveyance near the existing Mellen Street Bridge by removing approximately 1.3 million cubic yards of soil immediately upstream and for approximately 3,000 feet downstream of the existing Mellen Street Bridge. Although much of the excavation can be completed above the ordinary high-water mark (OHWM) of the Chehalis River, some excavation below the OHWM will be required. This project also includes two new bridges across the diversion feature and may include a new South Scheuber Road Bridge. Additionally, floodplain habitat restoration may be completed in conjunction with floodplain storage/management projects for smaller events or as mitigation for the diversion feature. Projects would be completed in Chehalis, Centralia, and unincorporated Lewis and Thurston counties. We anticipate the following project types for this concept:
 - Water diversion construction, with mass excavation and grading
 - Construct bridges, bridge approaches, and/or elevate/reconstruct some roads
 - Relocation and rerouting of electrical, communication, water, storm, and/or sewer utilities
 - Reconstruction and/or relocation of sewer pump stations and sewer mainlines
 - Reconstruction or relocation of public roadways, parking areas, and training facilities
 - Land acquisition and/or building demolition
 - Floodplain habitat restoration/floodplain storage and possibly incorporate floodable agriculture
 - Floodplain habitat restoration conducted as mitigation for impacts from construction of a structure(s)
 - Floodable parks and trails

- **New and Expanded Levees/Floodwalls.** This project or set of projects would include constructing approximately 20.4 miles of new levees or floodwalls, including daylighting China Creek in the City of Chehalis; and expanding existing levees with possible projects within Chehalis or Centralia city limits or in unincorporated Lewis County. Project types expected for this concept include:
 - New and expanded levee or floodwall construction, with mass grading
 - Elevate existing bridges and some roadways, as required, and construct new bridges over existing creeks
 - Elevate roadways within floodplain and/or shoreline zone if required from expanding levees
 - Daylight China Creek and possibly incorporate green stormwater retrofit
 - Relocation and rerouting of electrical, communication, water, storm, and/or sewer utilities
 - Reconstruction or relocation of public roadways, parking areas, and training facilities
 - Land acquisition and/or building demolition
 - Floodplain habitat restoration/floodplain storage and possibly incorporate floodable agriculture
 - Floodplain habitat restoration conducted as mitigation for impacts from construction of a structure(s)
 - Floodable parks and trails

It is likely that if the large structural projects above are combined, they would be phased. Ideally, the material excavated to complete the diversion could be used to construct or expand the levees. With completion of both large structural projects, levee heights would likely not need to be as high to provide effective flood protection as needed for just building or expanding levees and floodwalls.

Regulatory Framework

The mix of projects that would be completed for the Preliminary LAND Alternative would be under the nexus of local, state, and federal jurisdictions. Depending on the funding and lead agency, individual projects may require State Environmental Policy Act (SEPA) or National Environmental Policy Act (NEPA) review – or both. The Federal Highway Administration (FHWA) could lead NEPA review and compliance as the Federal Lead Agency for roads or bridge projects they fund, for example, and would require preparation of an Environmental Assessment or an Environmental Impact Statement if a particular project is not categorically exempt. In addition, the U.S. Army Corps of Engineers (USACE) issuance of an Individual Permit under the Clean Water Act (CWA) for the scale of concepts proposed also would require NEPA review. Therefore, the USACE could request to be a cooperating agency under FHWA's NEPA process; if most of the funding is from FHWA, then the FHWA would retain lead agency status.

During the NEPA process, other environmental resource agencies, such as the U.S. Fish and Wildlife Service (USFWS), and National Oceanic and Atmospheric Association (NOAA) Fisheries if any fish species are listed as threatened or endangered in the basin by the time the project(s) are permitted, will be

consulted with by the Federal Lead Agency to comply with federal regulations associated with the Endangered Species Act of 1973 (ESA Section 7). These agencies, as well as federally recognized tribes, could request to be a cooperating agency or be requested to be a cooperating agency under the Federal Lead Agency's review process. Additionally, the Federal Lead Agency must ensure that federal statutes such as the National Historic Preservation Act (NHPA Section 106) and Sections 401, 402, and 404 of the CWA and Section 10 of the of the River and Harbors Act are properly implemented. The USACE would administer any Section 10 and Section 404 requirements, but Ecology would administer Sections 401 and 402 for projects completed within the state. Of note, Section 10 jurisdiction extends up the Chehalis River only as far as River Mile 68.5. The Washington Department of Archaeology and Historic Preservation (DAHP), tribes, and Ecology would be consulting parties for Section 106 compliance during the permitting process.

The U.S. Coast Guard (USCG) would be approached for a jurisdiction determination for a new or elevated bridge on the Chehalis River. As with USACE jurisdiction under Section 10, USCG jurisdiction for navigable waters only extends up to the Chehalis River Mile 68.5. A Bridge Permit would be required only if the U.S. Coast Guard has jurisdiction.

In addition to the USACE, USFWS, and possibly NOAA Fisheries, federal agency permitting and consultation, FEMA must provide conditional approval of projects constructed in the floodplain of communities that participate in the National Flood Insurance Program. FEMA also can serve as the Federal Lead Agency for NEPA if they are providing funding for a project.

Other state agencies, including Washington Department of Fish and Wildlife (WDFW) for projects in waterways and their habitat areas, and Washington Department of Natural Resources (WDNR) for aquatic use and forest practices, would require permits or leases/approval in many of the proposed projects.

The jurisdiction responsible to implement the SEPA process, such as a city or county, could adopt the NEPA decision, or more likely for the scale of the concepts, require a separate and concurrent SEPA review process, and the SEPA Lead Official would provide Ecology with the SEPA Checklist and their SEPA determination for the SEPA Register. Ecology would ensure 1) compliance with the Washington Shoreline Management Act for applicable projects, with administration and permitting by the local (city or county) jurisdiction; and 2) Coastal Zone Management Program consistency if the project is in Thurston County for projects and has a federal nexus (but not applicable for Lewis County).

Local (city or county) jurisdictions also will require proposed projects comply with their critical area codes and floodplain management requirements/codes. Additionally, local grading permits, while not strictly environmental, will require SEPA reviews for projects with large excavation volumes. Other local land use and development, building, storm drainage, right-of-way and/or other permits or reviews may be required, depending on the type of project.

Anticipated environmental permits, licenses, and approvals for the various federal, state, and local agencies/jurisdictions and various project types are included in Figure 1. We focus on the natural resource permits, licenses, and approvals in our analysis, and not the local land use and development and/or other permits and approvals listed above that will be required, depending on the project type, because each jurisdiction has slightly different triggers and requirements. A circled “X” in the matrix cell indicates that a particular environmental permit, license, or approval is likely required for a particular project type; a blank cell indicates that permit, license, or approval is likely not required. An “O” in the matrix cell indicates that it depends on the project design for a specific project type. A flow chart that shows the decision-making process and lead agencies for typical environment permits in Washington state is provided as Figure 2.

While this memorandum focuses on permits, licenses, and approvals associated with the specific project types, it should be noted that local planning documents, such as Comprehensive Plan, Shoreline Master Program, and city or county codes would need to be reviewed and potentially updated to address the large-scale concepts proposed.

Potential for LAND Projects Permit Streamlining

In several interviews, we asked agency and consultant staff if there is the possibility of using a permit streamlining approach for the LAND projects. They offered their experiences with permit streamlining.

For example, ASRP permitting can be streamlined for fish habitat enhancement projects that are proposed. Under the Habitat Recovery Pilot Program (HRPP) administered by WDFW under a Hydraulic Project Approval, and which expires June 30, 2025, projects under certain categories – including ASRP-funded projects – can benefit from streamlined state and local government permitting. However, the HRPP does not apply to projects with identified cultural resources or projects with concerns raised about public health and safety. The HRPP is not included in Figures 1 and 2 because it has limited applicability.

Another avenue for streamlining local and state permitting for projects available through the WDFW HPA process is if the project qualifies for the Fish Habitat Enhancement Process (FHEP). However, this process is limited to projects that eliminate fish passage barriers, use bioengineering to restore eroded or unstable stream banks, or install large woody material that benefit fish. Additionally, the process still requires federal permits as well as particular local permits with a federal government nexus, such as floodplain development permits, to satisfy FEMA’s NFIP.

The responses indicate that the restrictions these permit processes have make them generally unrealistic to use for LAND projects. There may be instances where the FHEP can be used for floodplain restoration projects. However, there are a few options to screen projects and adjust project design, when possible, to streamline permitting:

- Select projects that don't require FEMA Conditional Letter of Map Revision/Letter of Map Revision and/or Physical Map Revision process.
- Select projects that won't have cultural resources issues.
- When possible, select projects that can be completed under a USACE Nationwide Permit rather than an individual USACE permit.

Additionally, an approach to proactively address possible concerns, minimize the duration of reviews, and reduce the number of deliverables required for permit applications to the various permitting agencies and consulting parties would be to form a working group from jurisdictions/agencies and tribes to vet projects or project categories. If questions, comments, and concerns can be addressed during the preliminary design phase, then permit streamlining of some degree is possible. Depending on the project type, location and regulatory jurisdiction, necessary permits may be obtained in less than one year if streamlining is possible, although larger projects could require more than two years to work through a NEPA process, including completing the required discipline studies and application documents.

As an example of how agencies can coordinate, the King County Flood Control District (Washington) took the lead in developing a System-wide Improvement Framework (SWIF) to address levee deficiencies and system-wide issues in the Green River basin by working with other jurisdictions and agencies to develop the framework for a suite of actions in the basin. Permitting agencies would then look at each project as submitted for permits to assess that the project is done in accordance with the SWIF. The SWIF policy was established by the USACE in 2011 "for non-federal levee sponsors to plan and implement levee improvement actions that may require a longer-term comprehensive approach in order to address competing federal mandates and legal requirements that apply to levee systems and the riverine environment in which they are located" (King County, 2023).

Most of the project categories and especially combination of categories, such as a water diversion with constructing or elevating bridges and a floodplain habitat restoration component, will require NEPA review and could require an Environmental Impact Statement prepared by the lead agency. Each project should first be evaluated for whether a NEPA Categorical Exclusion could apply, or whether an Environmental Assessment instead of an EIS would be adequate to address potential environmental impacts resulting from the project.

To streamline efforts, permit applications could take advantage of existing SEPA EIS work in the basin. The *Proposed Chehalis River Basin Flood Damage Reduction Project SEPA Draft EIS* (Ecology 2020), for example, already includes a brief discussion of LAND projects. Additional details of LAND projects could also be included in developing the final Ecology SEPA EIS, depending on the timing. Permit applications for LAND projects could reference the final Ecology EIS and local jurisdictions might satisfy SEPA by requiring supplemental documents with LAND project conceptual details as those projects are identified and progress through conceptual design. Heather Page (Anchor QEA, personal communication, 2023)

indicated that Section 106 and Endangered Species Act consultation will still need to be completed for each individual project or combined project set, regardless of previous consultation on the flood retention facility EIS. Also, LAND projects involving floodplain restoration actions that specifically improve habitat for aquatic species or other restorative flood protection actions may potentially be able to incorporate information contained in the *Chehalis Basin Strategy Programmatic EIS* (Ecology 2016; 2017).

Programmatic permits are possible for certain types of projects with a very specific scope. Scott Boettcher (personal communication, 2022) mentioned that programmatic permits have been approved by the USACE, WDFW, and Ecology for certain Washington State Department of Transportation (WSDOT) regional road maintenance projects after a period of working through permit conditions as an agency working group, for example. The development of a programmatic permit for flood damage reduction interventions could include combinations of both structural and nonstructural actions, such as elevating roadways and restoring floodplain habitat. Restoration actions, including those done to increase flood storage or as mitigation for impacts to wetlands or floodplain habitat could be incorporated into programmatic permit approvals to provide no net loss of waters of the U.S. and Washington State and improve ecological and flood storage functions associated with each action approved through the programmatic authorization.

Regardless of whether a programmatic permit(s) is possible for certain types of projects, incorporating habitat restoration components into the selected concept(s) could make the concept more permittable. Restoration could be done as stand-alone projects, that would have a combined effect of increasing flood storage during small flood events, for example, or might be required as mitigation for permanent impacts to wetlands or wildlife habitat that result from the structural components. Areas for focus would be those with the highest potential benefit to the basin and the least disruption to existing land use. Potential streamlining is possible if there is coordination with the ASRP team as projects are being identified, although it is unclear how joint ASRP/LAND projects could be completed using ASRP permits and funding sources, as the ASRP does not include a flood damage reduction goal. A working group comprising ASRP and LAND representatives could be formed, however, to address the challenge of differing program goals and coordinate so that projects are selected that provide overall habitat restoration and flood damage reduction benefits.

Additionally, floodable park and trail elements also could be incorporated into the portfolio of projects in the selected concept. These elements and others, such as green stormwater retrofits and designated open spaces for recreational uses, could help meet planning and community development goals of local jurisdictions and provide amenities to flood protection or reduction features – such as levees or Chehalis River diversion. These elements also may find support from surrounding residents for the amenities that they provide. Projects with community support are easier to permit.

Even for projects that are smaller in nature than a Chehalis River diversion – such as daylighting China Creek through downtown Centralia – permitting agencies favor incorporating natural in-stream and adjacent habitat improvement features into the design. Stand-alone floodplain habitat restoration projects and other projects with a net ecological benefit are preferred by the agencies and generally prioritized for more rapid review and approval.

References

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- Shay, Brian (City of Hoquiam), 2022. Personal communication with L. Bona and S. Mahugh (GeoEngineers, Inc.) regarding CLOMR/LOMR and other levee permitting experiences. July 19, 2022.

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Figure 1: Possible Permits, Licenses, or Approvals for Community-Based Flood Damage Reduction Preliminary LAND Alternative Projects

	Water Diversion	Sewer Pump Station or Mainline Reconstruction and/or Relocation	Construct or Elevate Bridges	Utility Relocation and Rerouting	Public Roadways/Parking Areas/Training Facilities Reconstruction and/or Relocation	Land Acquisition and/or Building Demolition	Elevate and/or Reconstruct Roadways and Bridge Approaches	New and Expanded Levees/Floodwalls	Daylight China Creek	Floodplain Habitat Restoration/Floodplain Storage	Floodplain Habitat Restoration as Mitigation	Floodable Parks and Trails
Federal												
Endangered Species Act Consultation (USFWS)	⊗	○	○	○	○	○	○	⊗	⊗	○	⊗	○
CLOMR/LOMR/Map Revision (FEMA)	⊗		○	○	○		○	⊗	⊗	⊗	○	○
National Historic Preservation Act Section 106 Consultation (USACE or Other Federal Lead Agency)	⊗	○	○	○	○	○	○	⊗	⊗	○	⊗	○
Clean Water Act Section 404 Permit (USACE) (Dredge or Fill Into WOTUS)/Section 10 Permit (In/Over/Under/Affecting Navigable WOTUS)	⊗	○	○	○	○	○	○	⊗	⊗	○	⊗	○
USCG Jurisdiction Determination and/or Bridge Permit		○	○	○								
Tribal												
Section 106 Consultation	⊗	○	○	○	○	○	○	⊗	⊗	○	⊗	○
Section 7 ESA Consultation	⊗	○	○	○	○	○	○	⊗	⊗	○	⊗	○
Washington State												
Aquatic Lands Lease and/or Use Authorization (WDNR)	○	○	○	○				○				
CZM Program Consistency (Ecology) (Thurston but not Lewis Co.)								○		○	○	○
Forest Practices Applications (WDNR)	○				○			○		○	○	○
Hydraulic Project Approval (HPA) (WDFW)	⊗	○	⊗	○		○	○	⊗	⊗	○	○	○
NPDES Construction Stormwater Permit (Ecology)	⊗	○	⊗	○	○	○	⊗	⊗	⊗	○	○	○
Clean Water Act Section 401 Water Quality Certification (Ecology)	⊗	○	○	○	○	○	○	⊗	⊗	○	⊗	○
Shoreline Permits (Ecology Approval of Local Review)	⊗	○	⊗	○	○	○	○	⊗	⊗	○	○	○
Local (City or County)												
Critical Areas Review	⊗	○	⊗	○	○	○	○	⊗	⊗	○	⊗	○
Floodplain Development Permit (Lewis County)	⊗	○	○	○	○	○	○	○		○	○	○
Shoreline Substantial Development Permit with Shoreline Critical Areas Review	⊗	○	⊗	○	○	○	○	⊗	⊗	○	○	○
Shoreline Conditional Use Permit	○	○	○	○	○			○	○	○	○	○
Shoreline Variance	○	○	○	○	○		○	○	○	○	○	○
Shoreline Exemption										○		
Land Use, Development, Grading, Building, Right-of-Way, etc.	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	○	⊗	⊗

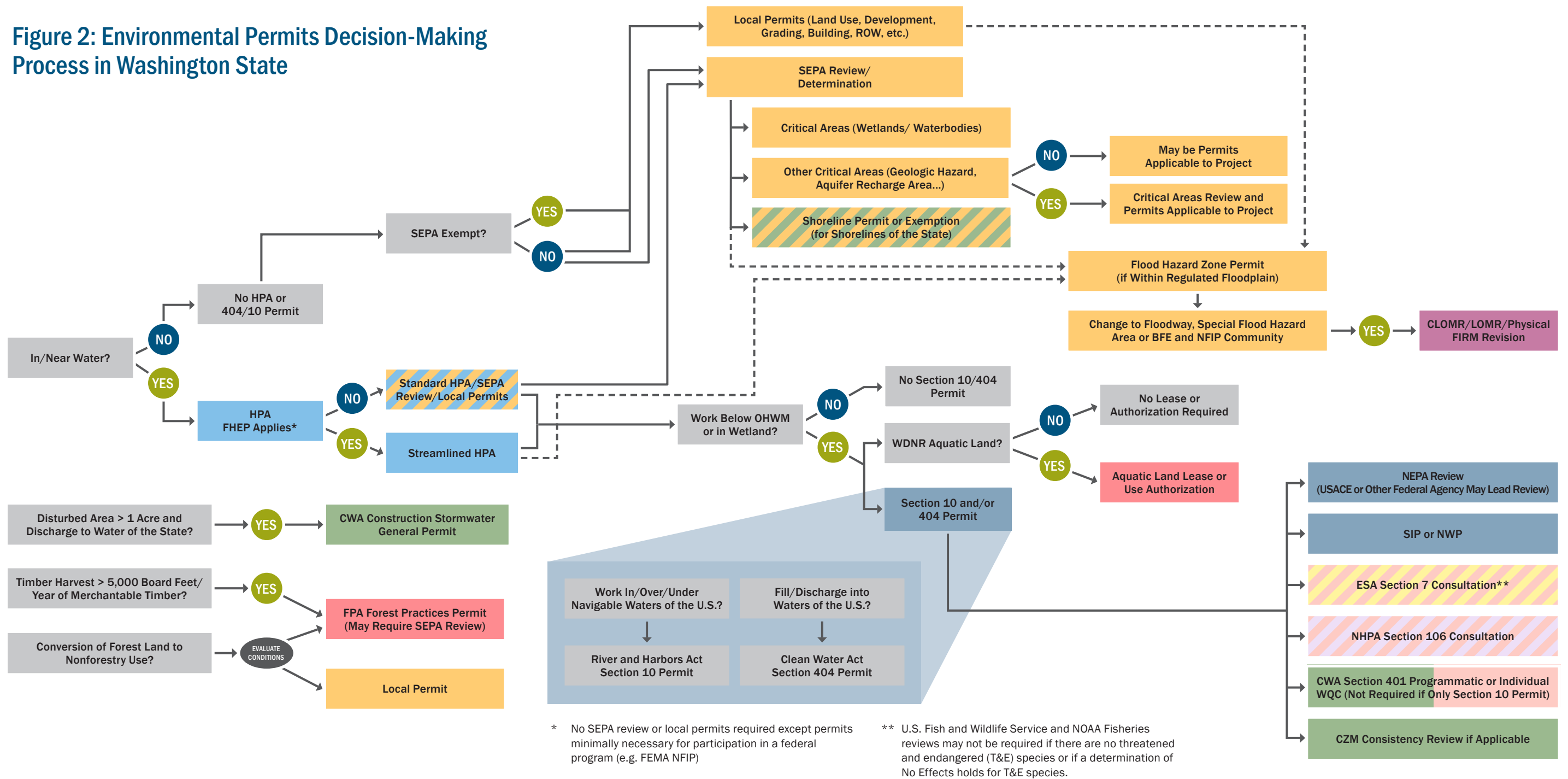
⊗ = Permit, license and/or approval needed
○ = Depends on location and/or size of project

CLOMR - Conditional Letter of Map Revision
CZM - Coastal Zone Management
Ecology - Washington State Department of Ecology
ESA - Endangered Species Act
FEMA - Federal Emergency Management Agency

FHEP - Fish Habitat Enhancement Process; a streamlined means of processing an HPA if a project meets conditions specified in RCW 77.55.181(1)(c)1.
HPA - Hydraulic Project Approval
NPDES - National Pollutant Discharge Elimination System
USACE - United States Army Corps of Engineers

USCG - United States Coast Guard
USFWS - United States Fish and Wildlife Service
WDFW - Washington State Department of Fish and Wildlife
WDNR - Washington State Department of Natural Resources
WOTUS - Waters of the United States

Figure 2: Environmental Permits Decision-Making Process in Washington State



Regulatory Jurisdictions

FEMA	Federal Emergency Management Agency	DAHP	Washington State Department of Archaeology and Historic Preservation	Tribal	Tribal Government
USACE	U.S. Army Corps of Engineers	Ecology	Washington State Department of Ecology	Local	City or County Government
USFWS	U.S. Fish and Wildlife Services and/or NOAA Fisheries	WDFW	Washington State Department of Fish and Wildlife		
		WDNR	Washington State Department of Natural Resources		

--- Possible Requirement

Agency Involvement

One of the Agencies
Indicated Has Jurisdiction

Both of the Agencies
Indicated Has Jurisdiction

Note: SEPA and/or NEPA reviews are triggered by a government action, such as agency decision on a specific project, unless the project is categorically exempt. NEPA vs. SEPA review depends on whether a project is on federal land, receives federal funding and/or has a federal agency lead. Some projects may require both NEPA and SEPA review.

Abbreviations

BFE - Base Flood Elevation	NEPA - National Environmental Policy Act
CLOMR - Conditional Letter of Map Revision	NFIP - FEMA National Flood Insurance Program
CWA - Clean Water Act	NHPA - National Historic Preservation Act
CZM - Coastal Zone Management Program	NOAA - National Oceanic and Atmospheric Administration
ESA - Endangered Species Act	NWP - Nationwide Permit
FEMA - Federal Emergency Management Agency	OHWM - Ordinary High Water Mark
FHEP - Fish Habitat Enhancement Process	ROW - Right of Way
FIRM - Flood Insurance Rate Map	SEPA - State Environmental Policy Act
FPA - Forest Practices Act	SIP - Standard Individual Permit
HPA - Hydraulic Project Approval	WQC - Water Quality Certification
LOMR - Letter of Map Revision	