

US Army Corps of Engineers. Seattle District

### NOTICE OF PREPARATION/CLEAN WATER ACT PUBLIC NOTICE

Planning, Environmental and Cultural Resources Branch P.O. Box 3755 Seattle, WA 98124-3755 ATTN: Zachary Wilson (PMP-E) Public Notice Date: April 1, 2021 Expiration Date: May 1, 2021

Reference: PMP-21-02 Name: Lynden Levee and Culvert Repair

Interested parties are hereby notified that the U.S. Army Corps of Engineers, Seattle District (Corps) plans to prepare, pursuant to the National Environmental Policy Act (NEPA), an environmental assessment for proposed levee repairs to the Lynden Levee, Whatcom County, Washington.

Repairs are intended to address damage caused during flooding in November 2017 on the Nooksack River.

The purpose of this Notice is to solicit comments from interested persons, groups, and agencies on the Corps' proposed action under NEPA.

A further purpose of this Notice is to solicit comments on the proposed disposal of fill material into the waters of the U.S. under the Clean Water Act. This Public Notice is being issued in accordance with rules and regulations published as 33 CFR 335 "Operation and Maintenance of Army Corps of Engineers Civil Works Projects Involving the Discharge of Dredged or Fill Material into Waters of the U.S. or Ocean Waters"; 33 CFR 336 "Factors to be Considered in Evaluation of Army Corps of Engineers Dredging Projects Involving the Discharge of Dredged Material into Waters of the U.S. and Ocean Waters"; 33 CFR 337 "Practice and Procedure"; and 33 CFR 338 "Other Corps Activities Involving the Discharge of Dredged Material or Fill into Waters of the U.S."

## AUTHORITY

The proposed levee repair is authorized by Public Law 84-99 (33 U.S. Code Section 701n). The Corps' rehabilitation and restoration work under this authority is limited to flood control works damaged or destroyed by floods. The statute authorizes rehabilitation to the condition and level of protection exhibited by the flood control work prior to the damaging event.

Whatcom County is the local non-Federal sponsor for the proposed levee repair project.

# **PROJECT LOCATION AND DESCRIPTION**

The Lynden Levee is located along the right bank of the Nooksack River as it passes the City of Lynden, Whatcom County, Washington. It is a non-Federal levee system constructed by local interests and protects public infrastructure, residential, commercial, and agricultural properties from recurring flooding from the Nooksack River. It is owned and operated by Whatcom County. The levee forms one segment of a three-segment system, which also includes Bertrand Creek Left Bank and River Road Levees. Lynden Levee ties into high ground at Hannegan Road at the upstream end of the levee. The downstream end of the levee ties into River Road Levee at Guide Meridian Road. The levee is approximately 13,800 linear feet (LF) long and is 3 to 6 feet high on the landward side. The top width is approximately 10 to 12 feet. The riverward slope and toe is armored with Class IV riprap. Based on onsite conditions, best professional judgment by engineers, and available historical and technical data, the Lynden Levee at the repair site had adequate scour protection as originally designed and constructed by the local entity that resembles an armored launchable toe. The slopes are vegetated with riparian vegetation and sod. The vegetation is over a layer of river silt that has been deposited along the levee from high water events. Vegetation includes pacific willows (*Salix lasiandra*), red alder (*Alnus rubra*), red elderberry (*Sambucus racemosa*), snowberry (*Symphoricarpos albus*), and salmonberry (*Rubus spectabilis*). Where shrubs and trees are absent, the levee is covered with sod. The riparian vegetation provides shade and riparian habitat to terrestrial and aquatic life.

Repairs would occur at two sites between the Lynden wastewater treatment plant (WWTP) and Guide Meridian Road (State Route 539; Figure 1). Two culverts are located at Site 1. The culverts are not gated and transport flood water behind the levee, contributing to flooding roads and blocking access to the Lynden WWTP. Total repair length at Site 1 is 457 LF and total repair length at Site 2 is 275 LF, totaling 732 LF of repairs. The total project footprint, including staging areas, is approximately 1.5 acres.



Figure 1. Project Location.

## PURPOSE AND NEED

In November 2017, high flows occurred along the Nooksack River with a peak flow of 39,900 cubic feet per second (cfs) at the Everson USGS gage 12211200, corresponding to an annual chance of exceedance (ACE) of 40 percent (2.5-year return period).

Action is needed because the levee was damaged by flooding in November 2017 and no longer provides the required flood protection. Flooding scoured the levee's riverward slope and toe at both damage sites, resulting in loss of riprap and embankment material from within the levee prism. In areas the damage extended up the riverward slope to the levee crest. Shortly after the damage occurred, Corps inspections found up to 30 feet of material removed into the levee embankment. The Corps estimates that the levee at Site 1 lost approximately 8,333 cubic yards and 6,111 cubic yards at Site 2. Vegetation such as trees, shrubs, and sod were washed away from the riverward slope also took with them levee material. In the damaged condition, the level of protection provided by the Lynden Levee is diminished from 10 percent (10-year return period) to 100 percent (1-year return period) ACE event to residential and agricultural properties, and associated utilities and infrastructure. At Site 1, flooding also damaged two segmented concrete culverts and overtopped the levee, scouring the levee crest and landward slope. The two culverts (24- and 48-inch-diameter), which transport runoff from the City of Lynden through the Lynden Levee, exhibit evidence of sedimentation, joint separation, and/or settlement.

The purpose of the project is to restore the level of flood protection exhibited prior to the damaging event to protect lives and property from subsequent flooding.

## ALTERNATIVES

For the prospective levee repair, four alternatives are being considered as follows:

### <u>Alternative 1 – No Action Alternative</u>

Under this alternative, the levee would remain in its current damaged state. This alternative would not meet the project purpose because the levee would likely be further damaged in future flood events and could fail, which would endanger protected homes, businesses, and public infrastructure during future flood events. During any flood event threatening the integrity of the levee system, the Corps or other Federal and non-Federal agencies may act under emergency authorities to preserve the levee system and, to the extent possible, maintain protection of life and property behind the levee. Responding to damages during a flood event, however, would be temporary, less certain of success, potentially more expensive, and could be less protective of environmental and cultural resources. A response would also take time to activate and execute, so there is risk that it would not prevent levee failure, such as overtopping or breaching.

The No Action Alternative is not recommended because it would risk failure of the levee systems and would present unacceptable risk to life and property. It does not meet the project purpose and need. While the No Action Alternative is not recommended, it is carried forward for further evaluation to serve as a base condition for evaluation of other alternatives.

### • <u>Alternative 2 – Nonstructural Alternative</u>

This alternative consists of floodplain management strategies that involve changes in land use offered by other Federal and state programs. Such strategies would include zoning, easements, flood warning, floodplain evacuation, and flood insurance. Nonstructural strategies involve acquisition, relocation, elevation, and flood proofing existing structures. The costs and timeframe for implementing this alternative makes it impractical with the costs too high as compared with the value of the benefit received. Furthermore, the participation of the non-Federal sponsor would be required to implement a nonstructural alternative, and Whatcom County has not agreed to meet its various obligations in executing a nonstructural alternative. Therefore, this alternative will be eliminated from detailed consideration.

### • Alternative 3 – Levee Setback Alternative

This alternative would shift the alignment of the levee embankment landward by the necessary distance to avoid or minimize direct contact with the river current. Typically, the setback would be a newly constructed earth embankment structure and would abandon the existing levee located on the riverbank. In this instance, a setback levee may be more costly than other alternatives due to more extensive embankment material and real estate requirements. Such an approach could also encroach on existing structures, privately-owned land, and public infrastructure. It could leave important public utilities, like the Lynden WWTP, unprotected from flooding. This alternative would require participation of the non-Federal sponsor to implement, and Whatcom County has not agreed to meet its various obligations in executing a setback alternative. Therefore, this alternative will be eliminated from detailed consideration.

### • Alternative 4 – Repair In-Kind Alternative (Current Preferred Alternative)

This alternative would repair the levee at each damaged site. This alternative is being evaluated as the current preferred alternative. Levee embankment and riverward armor would be restored at Site 1 and Site 2. In addition, repairs to Site 1 would replace two segmented concrete culverts with a flap gate culvert and repair the crown and landward slope to pre-flood conditions. Minor deviations in the structure's configuration would be integrated due to changes in materials, construction techniques, and safety standards that are necessary to make the repair. Minor deviations include an increase in riprap size at both repair sites and changes in the levee alignment and armored area at Site 1 to accommodate the new culvert and to reduce scour and erosion potential within the project reach. The deviations will not shift the levee into the river. The levee's riverward toe will remain within the pre-damaged footprint, while the landward toe will be shifted approximately 25 feet inland from the current location at the downstream end at Site 1 to accommodate the culvert. Additionally, there will be a slight increase in rock size (approximately 7 inches wider in diameter) above what is currently present. The proposed rock size and launchable toe design is based on hydraulic analysis using the HEC-RAS model and Corps design guidance (Engineer Manual EM 1110-2-1601). The hydraulic analysis that was completed provided an estimated river velocity. This expected velocity was used to size appropriate riprap size for scour protection. Based on scour calculations, the volume and class size needed was determined to be Class IV riprap. These changes are necessary to meet sound engineering principles consisting of the application of updated technology and construction techniques and reflect Corps design requirements in the interest of levee safety when conducting repairs under P.L. 84-99.

Total construction length would be approximately 73 2 LF, including any necessary transitions, at the two sites (Figure 1). All repairs would occur within or landward of the pre-damage footprint of the levee.

The current recommended repair is described further below. Design plans for repairs to Site 1 and 2 under this alternative are in Appendix A.

Repairs would occur in the summer of 2021. The Corps would start construction in June and complete the repair in early September 2021 at the latest. All in-water work would occur in the fish window (June 15 to August 31). Mitigation plantings would be completed in early fall 2021 (September to October).

At Site 1, Whatcom County has proposed a concurrent project to re-grade the area behind the Lynden Levee to combine the drainage areas currently served by the two culverts away from a small WWTP lagoon. This is not a component of the Corps' project or major Federal action under NEPA, but is described for contextual purposes, only. The new culvert would align with the grading proposed by the local sponsor. The Corps developed the following preliminary project sequencing approach to complete repairs to the Lynden Levee while accommodating Whatcom County's distinct but concurrent project.

- The Corps would remove the two culverts at Site 1 and install a 48-inch culvert with a side-hinged flap gate. The embankment would be re-constructed, and the drainage channel backfilled with select excavation spoils above the culvert outlet. All grading around the new culvert would be completed, but riprap armor would not be placed at this stage. To maintain drainage during this stage, the Corps would direct incoming water to a sump and would pump water around the work area to the river.
- 2. The Corps would construct the Site 2 repairs. While Site 2 work is ongoing, Whatcom County would re-grade the drainage area upland of Site 1 to direct drainage to the new culvert.
- 3. The Corps would return to Site 1 to complete repairs along the riverbank downstream of the culvert and to place riprap armor along the culvert and side channel. Priority would be given to completing the launchable toe and any other in-water work within the in-water work window (June 15 to August 31).

The repair area at each site would be cleared, and sloughed material would be excavated from the scoured toe region. Remnant riprap and other materials would be removed from the levee for reuse or offsite disposal. At each site, a launchable toe would be constructed, and the slopes regraded and armored with riprap. The upstream and downstream ends of the repairs would smoothly transition into the adjacent slopes. Construction lengths at Sites 1 and 2 are 457 LF and 275 LF, respectively.

The new culvert at Site 1 would have a flap gate that operates to reduce flooding to the Lynden WWTP and roadway. It is designed to withstand maximum expected flows. The gate would be installed on the riverward side of the culvert and is vertically hinged,

slightly over-center axis. The flap gate is intended to limit interior flooding for floods of small magnitude that do not overtop the levee at the project site or upstream reaches that would otherwise flood the interior protected area.

A closure trigger mechanism would allow the flap gate to close under its own weight on the rising limb of the flood hydrograph on the Nooksack River channel. The trigger mechanism and the vertical setting of the hinge alignment would be automatic but manually adjustable for Whatcom County or the City of Lynden to change the setting if needed. The ability to manually override operation of the gate is desired, but typical gate closing and opening operation is automatically triggered by the river level.

The U.S. Geological Survey Everson gage would be the primary source of information for flap gate operation adjustment and operator calibration, though the gate's triggering mechanism would be directly responsive to the Nooksack River channel water surface elevation at the gate itself. When flow at the Everson gage reaches 20,000 cfs, staff would be alerted that the flap gate may automatically activate as the river rises. If flow is forecasted to rise above 23,000 cfs, the adjustment on the flap gate closure triggering mechanism should ensure closure of the gate until flows recede. At lower flows when the flap gate is not in operation, the culvert will remain open, maximizing the amount of time off-channel refuge is available for fish. When flows in the Nooksack River drop below 5,000 cfs, there is no direct connection to the culvert from the river due to the outlet's perched location.

Repairs to the Lynden Levee would require removal of vegetation within the construction footprint. At Site 1, the Corps estimates 8 Pacific willows and 12 red alder trees between 30 to 50 feet tall, with an understory of red elderberry, snowberry, and salmonberry would be removed. Site 2 is also vegetated similarly, although with fewer understory shrubs. Site 2 has 11 red alders and four willow trees approximately 20 to 30 feet tall on the riverward slope that would need to be removed.

Mitigation is proposed to compensate for impacts to riparian vegetation (trees, shrubs, and sod). The repair incorporates willow plantings into the riverward side of the levee. Willow plantings would comprise bundles of live willow stakes. Each willow bundle consists of 10 stakes of Sitka willow (Salix sitchensis) in a lens of topsoil two feet high by about three feet long. The planting bundles would be spaced at 25 feet apart for continued levee inspection, just above the launchable toe and close to the ordinary high-water mark (OHWM). Topsoil would be placed and hydroseeded where armor is not placed. At Site 1, the designated tree and shrub planting area would be planted to compensate for impacts to riparian vegetation at each repair site (Appendix A). Trees would be planted at a 3:1 ratio for mitigation of tree loss at each repair site. The overcompensation in numbers of planted trees versus lost trees is also intended to compensate for the temporal lag until full maturity, as well as the loss of sod cover on portions of the riverward armored slope. Repairs would remove a total of 34 trees, which corresponds to 102 tree plantings. Tree plantings would consist of conifer trees rather than deciduous trees, such as western red cedar (Thuja plicata), Sitka spruce (Picea sitchensis), and grand fir (Abies grandis). Shrub plantings would be native species for the area. Available stock would determine final species make-up. Based on best professional judgement by Corps biologists, the shrub plantings in the approximately 1,125 square foot shrub planting area and willow stakes installed along

the repair at each site compensate for impacts to an estimated 260 feet of shoreline that supports low density understory vegetation by providing shade along the repair length (willow bundles) and understory habitat (willow bundles and shrub plantings). Mitigation plantings will provide shade and create a thermal buffer that can reduce local mean temperature and temperature fluctuations in adjacent areas. This is particularly important at Site 1 where off-channel habitat will be used by salmon. The plantings will also compensate for impacts to habitat amenities other than temperature on riparian and aquatic life at each site.

#### Conservation Measures

The Corps has developed a list of conservation measures and incorporated these into the levee repair design to reduce environmental impacts of the repair. For this project the measures are the following:

- Hydroseed with a native seed mix and mulch would be placed on disturbed areas not armored with rock.
- Repairs would start at the upstream end and continue downstream. This would allow the repaired levee to act as a localized flow deflector and help manage flows in the work area, reducing turbidity.
- Willow stakes and plantings are incorporated into the repair. Monitoring and adaptive management, including replacement and maintenance, after the first year would be conducted by the Corps. If after the first year less than 80 percent of the plantings survive, all the dead plantings would be replaced. In preparation for any required adaptive management re-plantings, the Corps would evaluate why the plantings failed and plan the best path forward for successful replacement. The Corps would engage with the non-Federal sponsor to assist in identifying the problem and alternate planting practices for successful replanting. These may include planting different species, changing the planting location, or adding pest control or exclusion devices. If replacement occurs, the plantings would be monitored for an additional year by the Corps. The Corps would report the success of the mitigation plantings to the resource agencies coordinated with for the repair.
- Rock would be placed individually or in small bucket loads, with no uncontrolled dumping of rocks in-water or along the levee slope. Large rock would be placed and manipulated using the thumb attachment. Small rock that is impracticable to manipulate with the thumb attachment, such as quarry spalls, would be transferred from the bucket to the levee slope in a pouring motion.
- In-water work would be limited to the in-water work window (June 15 to August 31) to limit impacts to aquatic species, particularly salmon.

### Best Management Practices

Best management practices (BMPs) would be employed to minimize project impacts. Project construction includes environmental enhancements to offset temporary construction impacts and vegetation loss on the levee slope. Environmental enhancements would be assessed further during the NEPA analysis, including full consideration of those proposed by agencies during NEPA coordination. Appropriate enhancements would be incorporated into the project. Environmental enhancements already incorporated into the design concept include BMPs to protect water quality.

Final selection of the preferred alternative and finalization of the design, including any additional environmental measures, would occur during the NEPA process and before construction. Any recommendations that emerge from the Endangered Species Act (ESA) and Clean Water Act Section 401 evaluations would be considered.

## IMPACTS OF THE PROJECT

Anticipated impacts are as follows:

<u>Wetlands</u>: No wetlands were observed in the project footprint during site visits. Whatcom County has delineated a wetland behind the levee at Site 1, outside of the construction footprint. The Corps' construction or staging activities under the Current Preferred Alternative will not impact wetlands.

<u>Terrestrial Habitat</u>: Land at and around each repair site is heavily developed and influenced by human activities. Vegetation around Site 1 consists of a forested riparian area and frequently mowed grassy fields. In the construction footprint of Site 1, there are eight Pacific willows and 12 red alder trees between 30 to 50 feet tall, with an understory of red elderberry, snowberry and salmonberry. Vegetation in the grassy field behind Site 1 includes tall fescue (*Schedonorus arundinaceus*), common dandelion (*Taraxacum officinale*), and red clover (*Trifolium pretense*). Site 2 is also vegetated similarly, with 11 red alders and four willow trees approximately 20 to 30 feet tall on the riverward slope. Landward of Site 2 are corn fields. Trees and shrubs within the project footprint would be removed. To mitigate for this the Corps proposes to incorporate willow bundles into the levee repairs and plant trees and shrubs in the designated tree and shrub planting area at Site 1 (Appendix A).

Aquatic Habitat and Water Quality: Throughout its course, local entities constructed levees to confine the Nooksack River, restricting the river's access to the floodplain. In the action area, the Nooksack River is a confined, single-channel, low-gradient system. The Lynden Levee is on the right bank of the Nooksack River, in a downstream reach of an outside bend. River energy is parallel to the alignment except during large flood flows when the river energies are directed into the levee, and during low-flow periods when gravel bars direct flow into the bank.

The Washington State Department of Ecology (Ecology) lists the Nooksack River in the action area on the 303(d) list for dissolved oxygen. Approximately eight miles downstream of the damaged sites, the Nooksack River is on the 303(d) list for temperature.

Construction activities from the proposed repair may cause localized and temporary increases in turbidity. To reduce turbidity and potential related effects on juvenile salmonids, all in-water construction work would take place during the established fish window (June 15 to August 31). The design and implementation of construction would incorporate best management practices such as turbidity monitoring during construction and placement of the cofferdam to ensure any temporary increases are compliant with Washington State Water Quality conditions. The Corps does not expect significant turbidity to be generated from pumping water around the worksite. Suspended

sediments are expected to settle in the ponded area landward of the levee before reaching the culvert or sump. When work is completed the Corps will slowly turn off the pump to moderate the flow into the culvert and outlet channel. Turbidity monitoring will occur and BMPs will be implemented throughout construction to reduce or control turbidity, such as placing haybales to capture suspended sediment. No exceedances are anticipated; however, should construction efforts increase turbidity above the state standards, work would be halted and modified such that standards can be met, and further exceedances limited.

The anticipated removal of streamside trees, shrubs, and sod within the repair footprints could affect water quality (temperature) and natural cover such as shade and overhanging large wood for habitat. Armor will absorb or reflect sunlight and may increase local water temperatures until it is shaded or silted over. The previously described plantings are intended to compensate for this impact.

Two small culverts penetrate the upper part of the levee at Site 1 (Figure 2). These culverts collect runoff and stormwater from the City of Lynden. Flowing water through the western culvert is infrequent, and it is mostly dry throughout the year. During the inwater work period, the flow entering the eastern culvert is less than 10 gallons per minute. The drainage channel and its outlet for these culverts is perched above the OHWM of the Nooksack River and is only accessible as habitat for fish during an above-normal flow event. When water levels are high enough (approximately 5,000 cfs in the Nooksack River), fish can access the drainage channel and use it as refuge habitat from high flows in the Nooksack River; these are primarily juvenile fish including coho salmon (*Oncorhynchus kisutch*) during high water events. At flows exceeding 8,000 cfs fish may also arrive in the area behind the levee from flows that overtop Hannegan Road from Stickney Slough to the east.



Figure 2. Location of the two culverts at Site 1 circled in white. Color gradations indicate elevation in feet.

This off-channel refuge habitat is only accessible by the culverts or overtopping flows during rising flood events, up to the elevation that overtops Hannegan Road from Stickney Slough to the east (Figure 3). When floodwater overtops Hannegan Road, water from the Nooksack River flows into the culverts. During the receding flood, the culverts become a drain for the system.

After the area is flooded from overtopping flows, water either remains in low areas landward of the levee or continues flowing west to Fish Trap Creek, the nearest waterway landward and down gradient from the repair site. As flood water recedes, it drains back into the Nooksack River through the culverts or west towards Fish Trap Creek. Fish that remain in the drainage connected to the culverts can access the Nooksack River if existing culvert conditions (e.g. debris and joint separation) allow. After the proposed repair is complete, the flap gate would temporarily prevent fish access until it opens during the falling limb of a flood event. This temporary blockage is unavoidable due of the nature of the flap gate because it closes to provide the flood risk reduction inherent in the design of the culvert and repaired levee. Fish that do not remain in this drainage may become stranded or follow flows west towards Fish Trap Creek. These fish are exposed to receding water and high summer temperatures, as well as predation from birds and wildlife. The proposed repair is specific to the damaged levee and does not address this issue. The County's concurrent project re-grades the area behind the Lynden Levee does not address this issue fully but will cause some flows back into the culvert drainage that would otherwise continue west. The general flow conditions in the area are shown in Figure 3.



Figure 3. General flow conditions during a rising flood event at Site 1. Overtopping flows from Hannegan Road drain back into the river at the culverts or continue to flow west of the Site 1.

<u>Fish and Wildlife</u>: The Nooksack River in the project reach supports steelhead (*O. mykiss*), coho salmon, Chinook salmon (*O. tshawytscha*), bull trout (*Salvelinus confluentus*), cutthroat trout (*O. clarki*), pink salmon (*O. gorbuscha*), chum salmon (*O. keta*), rainbow trout (*O. mykiss*), and sockeye salmon (*O. nerka*).

The drainage channel at Site 1 is perched above the OHWM of the Nooksack River and is only accessible to fish during flows above 5,000 cfs. Any fish carried by overtopping flows are likely carried west into the field and beyond by flood waters, reside in the drainage basin and stormwater infrastructure surrounding Lynden, or pass through the culverts back into the river. No spawning occurs in the drainage channel. Steelhead and fall Chinook spawn in the mainstem Nooksack River. Chinook, steelhead, and bull trout have not been documented in the drainage basin behind the levee.

Migratory songbirds and waterfowl use the project sites throughout the year for shelter, food, migration, and breeding habitat. Open areas in the vicinity, including the project area, may host furbearing mammals, such as beaver and river otter. Birds and wildlife would experience temporary impacts from construction activities, with long-term impacts from vegetation removal. Plantings would compensate for impacts to vegetation loss. Once repairs are completed, these species are expected to return to the project site. The new culvert would provide improved off-channel refuge habitat to fish during high flow events.

Species listed under ESA potentially affected by the proposed repairs or occurring around the repair sites include Puget Sound Chinook salmon, Puget Sound steelhead, coastal/Puget Sound bull trout, southern resident killer whale (SRKW, *Orcinus orca*), gray wolf (*Canis lupis*), North American wolverine (*Gulo gulo luscus*), marbled murrelet (*Brachyramphus marmoratus*), streaked horned lark (*Eremophila alpestris strigata*), and yellow-bulled cuckoo (*Coccyzus americanus*).

Repairs are expected to have no effect to gray wolf, North American wolverine, streaked horned lark, and yellow-billed cuckoo. No critical habitat for these four species is designated in the action area. Thus, these species and their critical habitat would not be affected by the proposed repairs.

Given the project location between Puget Sound and inland nesting areas to the east, there is the potential that marbled murrelets could fly over the action area while transiting between the inland and marine areas. However, the additional noise and disturbance generated by the project is not expected to affect marbled murrelets flying over. Since marbled murrelets are unlikely to detect any change while flying past the construction sites, the proposed repairs may affect, but are not likely to adversely affect marbled murrelet. The project sites do not include marbled murrelet critical habitat.

Chinook salmon are a preferential prey item of SRKWs and have been in decline in the Nooksack River. In addition, chum salmon are also preferred by SRKW, although not to the extent that Chinook are. SRKW prey species could experience temporary construction related impacts. The proposed repairs may affect, but are not likely to adversely affect SRKW because the action is not expected to appreciably change the availability of prey in the Puget Sound. The project sites do not include SKRW critical habitat.

ESA-listed Chinook, steelhead, and bull trout may be present in the Nooksack River during repairs. These species have the potential to be directly or indirectly impacted by in-water work. None of these species has been observed in the drainage basin behind the levee, but these and other salmon seek refuge in the area during flood events. Repairs would occur in summer during the in-water work window (June 15 to August 31) when flows are generally at their lowest and temperatures at their highest. The existing culverts are broken and a barrier to fish using additional off-channel refuge during high flow events. The new culvert would reduce flooding to important infrastructure while maximizing the amount of time fish can access off-channel refuge during floods. ESA-listed fish and other aquatic species may be affected by construction activities from noise, vibration, turbidity, and vegetation disturbance. Impacts to vegetation would be compensated for by the proposed plantings. Any impact to water temperature by temporary loss of minor vegetation over a 732-foot length of riparian levee is expected to be difficult to measure relative to the overall volume of the Nooksack River, and so is considered discountable.

<u>Cultural Resources</u>: The Corps is working to identify historic properties that may be affected by the proposed action as required by Section 106 of the National Historic Preservation Act. The Corps is consulting with the Washington State Historic Preservation Officer, Indian tribes, and other consulting parties, about the project and would complete identification and evaluation for historic properties as well as make agency findings of effect for Section 106 prior to approval of the proposed action. As of this time, the Corps has not identified any historic properties within the area of potential effect and does not anticipate that the proposed project would affect historic properties.

<u>Air Quality</u>: Construction vehicles and heavy equipment used during the proposed construction would temporarily and locally generate increased gasoline and diesel exhaust fumes. The small area of construction and the short duration of the work limit the impact to air quality. The activity constitutes repair of an existing facility, generating an increase in direct emissions of a criteria pollutant or its precursors that is clearly de minimis, and is therefore exempted by 40 CFR Section 93.153(c)(2)(iv) from the conformity determination requirements. Emissions generated by the construction activity are expected to be minor, short-term, and well below the de minimis threshold. Unquantifiable but insignificant exacerbation of effects of CO2 emissions on global climate change is anticipated.

<u>Noise</u>: Temporary increases in noise would occur as a result of the construction for the proposed action. The project area is largely surrounded by agricultural fields and developed areas of Lynden. Proposed work would occur from 7 AM to 7 PM to limit noise impacts. Wildlife in the area is likely habituated to human activity and noise due to the agricultural activities in maintaining fields and orchards. No long-term change in noise levels would occur as a result of the project.

<u>Traffic</u>: Construction-related traffic may cause temporary increases to, and disruption of, local traffic. However, the construction site is set back off roads and is accessed across an agricultural field and the levee top. Therefore, traffic would not be affected at the construction site. No long-term change in traffic would occur as a result of the project.

<u>Recreation</u>: Public access for recreation is not available in the project area. The flood control structure is not intended for public use involving water access or public recreation, such as walking or bicycle riding. The proposed repairs are not expected to change the impact to recreation.

Land Use: The project footprint at each site consists of the levee, a flood control structure. Properties adjacent to Site 1 are used for a variety of things including agriculture, natural areas, flood control structures, stormwater management, and various developments in Lynden. Additionally, Site 1 is adjacent to the Lynden WWTP. Land use near Site 2 includes agriculture. The proposed action restores the flood protection level provided by the levee prior to the damaging flood. No change to land use is expected from the implementation of the proposed action.

# COMPLIANCE WITH OTHER LAWS AND REGULATIONS

Endangered Species Act. The Corps will coordinate the proposed action with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) concerning effects of the proposed repair activities on threatened and endangered species and their critical habitat, pursuant to Sec. 7(a)(2) of the ESA. A Biological Assessment was prepared and provided to the USFWS and NMFS on December 23, 2020. The USFWS and NMFS have acknowledged receipt of the BA and the Corps received draft Terms and Conditions from NMFS on March 29, 2021. Consultation is ongoing.

<u>Clean Air Act.</u> The proposed project is exempted by 40 CFR Section 93.153(c)(2)(iv) from the conformity determination requirements under the Clean Air Act.

<u>National Historic Preservation Act.</u> The Corps is consulting with the Washington State Historic Preservation Office, Indian tribes, and other consulting parties about the project in accordance with Section 106 of the National Historic Preservation Act as implemented in the regulations at 36 CFR Part 800.

<u>Clean Water Act.</u> The project would involve a discharge of fill material into waters of the U.S. that will be evaluated for substantive compliance with guidelines promulgated by the Environmental Protection Agency under authority of Section 404(b)(1) of the Clean Water Act (CWA).

The Corps does not issue permits for its own Civil Works activities. Nevertheless, the Corps accepts responsibility for the compliance of its Civil Works project with Sections 401 and 404 of the Federal Water Pollution Control Act. An individual 401 certification is required. A memorandum detailing the Corps' analysis that the project would provide reasonable assurance of compliance with the Water Quality Standards of Washington State was provided to Ecology for their review on March 3, 2021. Coordination is ongoing. In conducting activities involving the discharge of dredged material into waters of the United States, the Corps will abide by the applicable conditions of the Water Quality Certification to ensure compliance with State water quality standards.

<u>Coastal Zone Management Act.</u> In evaluating compliance with Coastal Zone Management Act, the Corps has determined that the proposed work is consistent to the maximum extent practicable with the enforceable policies of the approved Washington Coastal Management Program. A determination of consistency was provided to Ecology for their review on March 3, 2021. Coordination is ongoing.

In preparation of the environmental documentation for this project, coordination has been conducted or is ongoing with the following public agencies:

- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- Washington Department of Fish and Wildlife
- Washington State Department of Ecology
- Washington State Historic Preservation Office
- Whatcom County and
- City of Lynden

The proposed project will be analyzed with respect to its effects on the treaty rights or rights reserved to tribes through executive order or another legal instrument. The proposed action area is within the area of interest for the following Tribes and coordination and consultation with them will occur prior to making a final decision:

- Lummi Nation
- Nooksack Tribes
- Samish Indian Nation
- Suquamish Tribe
- Swinomish Indian Tribal Community
- Tulalip Tribes

### PUBLIC INTEREST EVALUATION

The decision to proceed with this action involving the discharge of dredged or fill material would be preceded by a determination of whether the proposed activity would be in the public interest. All factors which may be relevant to the proposal's public interest would be considered (e.g. water quality, endangered species, economics, safety).

As a foundation for its public interest determination, the Corps would consider on an equal basis all alternatives that are both reasonable and practicable, i.e., available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. The Corps typically selects the alternative that represents the least costly alternative, constituting the discharge of dredged or fill material into waters of the U.S. in the least costly manner and at the least costly and most practicable location, that is consistent with sound engineering practices, and that meets the environmental standards established by the CWA Section 404(b)(1) evaluation process.

### **COMMENT AND REVIEW PERIOD**

The Corps invites submission of comments on the environmental impact of the proposed action from the public; Native American Nations or tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to

consider and evaluate the effects of this activity. To make this decision, comments are used to assess impacts on ESA listed species, historic properties, water quality, general environmental effects, as well as the other public interest factors listed above. Comments will also be considered in determining whether it would be in the public interest to proceed with the proposed project. The Corps will consider all submissions received before the expiration date of this notice. The nature or scope of the proposal may be changed upon consideration of the comments received. The Corps would initiate an Environmental Impact Statement and would afford all the appropriate public participation opportunities attendant to an EIS, if significant effects on the quality of the human environment are identified and cannot be mitigated.

## **PUBLIC HEARING**

Any person may request, in writing and within the comment period specified in this Notice, that a public hearing be held to consider this proposal. Requests for a public hearing must clearly set forth the following: the interest that may be affected, the manner in which the interest may be affected by this activity, and the particular reason for holding a public hearing regarding this activity.

## COMMENTS TO THE U.S. ARMY CORPS OF ENGINEERS

Submit comments to this office, Attn: Planning, Environmental, and Cultural Resources Branch, no later than 30 days after the posting of this notice to ensure consideration. In addition to sending comments via mail to the above address, comments may be emailed to Zachary.M.Wilson@usace.army.mil. This Notice of Preparation can be found online at the link below.

Project Name: Lynden Levee and Culvert Repair

http://www.nws.usace.army.mil/Missions/Environmental/Environmental-Documents/

Requests for additional information should be directed to Mr. Zachary Wilson at (206) 316-3896 or the above e-mail address.

Posting Date: April 1, 2021 End of Comment Period: May 1, 2021

Appendix A – Lynden Levee Repair Project Designs













