



US Army Corps
of Engineers
Seattle District

Notice of Preparation

Planning Branch
P.O. Box 3755
Seattle, WA 98124-3755
ATTN: Andrea Cummins

Public Notice Date: 21 August 2008
Expiration Date: 1 September 2008
Reference: PL-08-17
Name: Deming Levee Repair Project

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 (EA) for a proposed levee repair at the Deming Levee, along the Nooksack River, at Deming, Whatcom County, Washington.

AUTHORITY

The proposed levee repairs are authorized by Public Law 84-99 (33 U.S. Code Section 701n). 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.

PROJECT LOCATION

Levee repairs are proposed for one site, the Deming levee, along the Nooksack River, at Deming, Whatcom County, Washington. The western portion of the levee is immediately adjacent to the Nooksack River, while eastern portion is adjacent to a high flow side channel. The levee is 3,130 feet in length and is located between river miles 35.5 and 36.5, Section 31, Township 39 North, Range 05 East, and Section 36, Township 39 North, Range 04 East.

BACKGROUND

Historically the Nooksack River has been prone to regular flooding and inundation of surrounding lands. The levee in existence today was originally constructed as a non-federal structure to protect the town of Deming and the Nooksack Tribe, including Mount Baker High School and other school district facilities including a bus barn, offices, and a sewage lagoon. The levee also protects private residences, potable water wells, utilities, commercial structures, Burlington Northern Railroad, State route 542/9, Nooksack Tribal Land, tribal trust land, and the Tribal casino's drain field.

Due to the dynamic process of rivers and heavy storm events, damage caused by erosion to levees and other structures is cumulative unless addressed through repair efforts. During high and prolonged flood events of the Nooksack River, such as that of the December 2007, flows could erode through weakened or damaged portions of the levees, making them susceptible to seepage and leading to a potential breach. This project is intended to repair the portions of the levees damaged by the December 2007 floods.

NEED AND PURPOSE

A heavy rainstorm during December 2007 created flooding in many river basins in western Washington causing damage to levees at a number of sites, including the Deming levee, which is addressed in this Notice.

The Deming levee is integral to protecting life, safety, and property, including Mount Baker High School and Tribal and Tribal trust land. The Corps has determined that if the Deming Levee is not repaired before the next flood event, it would present an imminent threat of loss of private and/or public property.

The flood season in the Nooksack River basin typically begins November 1 of each year. It is important to ensure that the levees meet their design standards before November, in order to minimize chances of increased levee damage and possible breaching, which could have consequences to life, health, safety, and property. Construction on the Deming levee is expected to begin on 2 September 2008.

The purpose of the project is to reconstruct the Deming levee, which was damaged in the December 2007 flood event.

DESCRIPTION OF DAMAGE

During the December 2007 flood event the rainfall and snowmelt resulted in a 1.5 year peak flooding event, which scoured the toe along the entire length of the 3,130 foot levee, and caused erosion within the levee embankment.

Emergency repairs, consisting of the placement of 650 tons of rip-rap above ordinary high water along the levee, were conducted by Whatcom County during the flood event. These emergency repairs prevented the levee from failing during the December 2007 flood, but the rip-rap placed during the emergency repair is currently contributing to further degradation of the structure by placing additional weight on the levee in areas without adequate toe protection. Without toe protection, the scouring along the toe of levee will continue, even during low flow events, until the levee breaches.

In its current condition the levee provides protection from approximately a 0 to 2-year flood. The toe of the levee and the levee face need to be repaired to prevent further damage and to re-establish protection from a 15-year flood event, for which the structure was originally designed.

PROPOSED ACTION

Multiple alternatives were considered, including the No-Action Alternative, the Non-Structural Alternative, Setback Alternative, and the Repair to Pre-Flood Condition Alternative. In order for any alternative to be acceptable for consideration, it must meet certain objectives. The alternative must afford flood protection similar to the rest of the levee segment, it must be economically justified, it should be environmentally acceptable, and it should minimize costs for both the public sponsor and the Federal government.

The **No-Action Alternative** must be fully considered under NEPA. It would leave the levees in their current damaged condition. This alternative was not selected because of the high potential for flood damages to the protected structures and lands behind the Deming Levee in the Nooksack River valley.

The **Non-Structural Alternative** would relocate all existing residences, Mount Baker High School and school district facilities, utilities, farmland, and Nooksack Tribe Tribal Trust properties. Relocation of infrastructure prior to the coming flood season is impractical, even if willing sellers were identified. Because the costs associated with flood-proofing or relocating the structures in the potential inundation area would significantly exceed the cost of repairing the levee, the non-structural alternative was not selected.

The **Setback Alternative** would move the levee landward and allow the river more conveyance through this reach. This alternative was not considered as it would require acquiring tribal trust property and relocating the Mount Baker School District's bus barn and sewage lagoons and the Nooksack Tribe's Casino drain field. Relocation of these facilities would likely be expensive due to the need to relocate and rebuild the sewage treatment facilities. Additionally this alternative could severely impact treaty rights for the tribe. This alternative was not selected.

The **Repair to Pre-Flood Condition Alternative** would rebuild the levee prism with a toe and re-establish the level of protection provided by the levee to a pre-flood condition for the full length of damaged levee. This is the recommended alternative for the Deming Levee.

This repair would re-establish a launchable toe for approximately 1,300 linear feet in Sections A and B. The riverward face of the levee will be regraded to a 2H:1V slope to provide continued stability. Lost armor rock on the riverward levee face would be replaced. Class V riprap would be placed along the riverward slope and 2 to 4 ton stone will be used in the toe along the downstream 1,300 feet. In Sections C and D, approximately 1800 linear feet, a weighted toe will be reestablished using Class V riprap and the riverward face of the levee will be graded to a 2H:1V slope. In Sections A, B and C, one willow lift will be installed above the ordinary high water elevation. The willows will be planted on 6-inch centers in one foot soil lifts which will extend into the existing soil at the back of the levee. Prior to construction Whatcom County will remove all the trees growing on the levee and leave them where they fall for the Corps to place in the high flow channel in a configuration so as to add cover for any fish species in the channel. The great majority of these trees/shrubs are small (1 - 3" DBH) willow, alder, and cottonwood. The proposed repairs will remain within the existing riverward footprint of the Deming Levee. In all sections the riverward levee face will be covered with 6 inches of topsoil and hydroseeded with native seeds.

Staging and stockpiling will occur within the levee footprint. Construction access to the levee will be required from the Christmas tree farm at the downstream end and through the Nooksack Workshop yard near the upstream end.

ANTICIPATED IMPACTS

The Corps' preliminary analyses of effects of the actions are summarized below. Both long and short term effects of the overall 2008 Deming levee rehabilitation project are expected to be insignificant.

Water Quality

The Nooksack River at the project site is not listed on the Washington Department of Ecology 303(d) list (Ecology 2008a). The WRIA 1 Planning Unit has conducted an in-depth review of the information regarding water quality in the Nooksack basin and did not identify any water quality problems in the project area (WRIA 1 Watershed Management Project 2008).

Repair construction work on the Deming Levee may cause short term impacts to local water quality as soils are disrupted by clearing, and by fill and other construction sediment entering the river via runoff. The soil overlay on the top of the levee will be hydroseeded to minimize any sediment mobility. Dissolved oxygen levels should not be impacted because the material is relatively clean. Materials for construction will be obtained from an established borrow pit and rock quarry. No contaminants are known or suspected to be present in the construction materials.

Wetlands and Aquatic Area

The project area does not include any jurisdictional wetlands, and no adverse impacts to wetlands are expected.

Vegetation

The riverward slopes of Section A and B of the Deming levee are sparsely vegetated with native shrubs (willow and dogwood). The vegetation becomes denser on the upstream end of Section B. Much of this vegetation was damaged by rock placement by the County during an emergency repair following the December 2007 flood event. Sections C and D, which are adjacent to a high flow side channel, have a dense covering of young (2-4 year) native trees and shrubs, primarily alder and willow. Across the channel from Sections C and D is a gravel bar that is also densely vegetated with sapling trees, primarily willow and cottonwood. All vegetation will be removed along the levee resulting in loss of bird and small animal habitat, organic input and shading to the river. Willow lifts will be planted on sections A, B, and C, and all riverward levee sections will be covered with 6 inches of topsoil and hydro-seeded with native seed mix. The planting of willow lifts on the levee prism at OHW will, in time and after establishment, provide shade, small animal habitat, and organic input to the river

Additionally, as part of the required levee maintenance for eligibility in the PL 84-99 program, the local sponsor (Whatcom County) must minimize the amount of vegetation on levees which are active in the program. This vegetation maintenance is not considered to be a Federal action and occurs as a separate action from this repair. The

effects of levee maintenance are addressed in the cumulative effects section of this document.

Fish and Wildlife

There would be minor and temporary disturbances to fish in the project area due to in-water construction, with possible impacts from noise, vibration and turbidity. Vegetation removal on the levee also has the potential for adverse effects to fish resulting from loss of shade and cooling, input of organic matter and nutrients, and input of terrestrial organisms that provide food for fish. Riparian vegetation also provides shelter, nesting habitat, and movement corridors for small birds and mammals, and its removal would result in impacts to terrestrial wildlife. All impacts related to removal of vegetation are likely to persist for at least 3-10 years until new vegetation becomes established, assuming vegetation is allowed to grow to a size that provides functional habitat. In addition, terrestrial wildlife species may be temporarily disturbed by noise and mechanized activity during construction.

There will be a permanent loss of spawning gravels and/or critical habitat for Pacific salmonids as the levee face is repaired. This impact is discussed further in the section below.

The Corps believes that this action would have no effect on bald eagles (protected under the Bald and Golden Eagle Protection Act), as the closest eagle nest is 1.4 miles away from the project site. The projects should not have any negative effects to eagle habitat or forage.

Threatened and Endangered Species

Coordination has been initiated with the USFWS and NMFS. The Biological Assessment is expected to be submitted to the Services in September. Consultation with USFWS and NMFS will be completed after construction due to the emergency nature of the action. The proposed action is within designated Puget Sound Chinook salmon and bull trout critical habitat.

Assuming the proposed project is built according to current design, which includes removal of all vegetation and hardening of the riverbanks with large riprap along both the main channel and in the side channel, it is expected that the project is **likely to adversely affect** listed species and is **likely to adversely affect** critical habitat.

The project is scheduled during the in-water construction period (15 August – 15 September) to avoid periods of greatest resident fish vulnerability and highest expected use. However, juvenile and adult fish (Chinook and Steelhead) are known to be present in this reach of the Nooksack almost year round. Adult fish are expected to avoid the construction area, and still be able to access upstream spawning areas, but juveniles and any steelhead redds in the gravel during construction are likely to be impacted. The placement of large rock along the bank and the removal of vegetation for the length of the repair, roughly 3100 feet, will result in hardened banks which will likely increase water temperature in the area due to thermal heating and lack of shade producing

vegetation. Higher water temperatures may impact fish habitat within the reach and possibly downstream. The removal of vegetation from the site will lead to a temporal loss (it is expected to take 3-7 years for plant regrowth) of organic and nutrient input, including prey species for juvenile salmonids, into the river in this area. This will be offset in part, and over time, by the addition of willow lifts in Sections A, B and C; however these plants will be subject to Corps PL84-99 levee maintenance requirements and not allowed to reach maturity.

Though consultation is not complete, the Corps has reached an agency determination, based on the best factual and technical information available at the time of decision, and following preliminary coordination with the Services, that the impacts are *likely to adversely affect* ESA-listed species. The Corps believes that this work *is not likely to jeopardize* the continued existence of the listed species, by reducing appreciably the likelihood of either the survival or recovery of the listed species; nor does the work constitute an adverse modification of critical habitat.

Species	Effect Determination	Critical Habitat Determination
Puget Sound Chinook salmon	Likely to adversely affect	Likely to adversely affect
Puget Sound steelhead	Likely to adversely affect	Critical habitat is not yet determined
Bull Trout	Likely to adversely affect	Likely to adversely affect

Essential Fish Habitat (EFH)

Assuming the proposed project is built according to current design which includes removal of all vegetation and hardening of the riverbanks with large riprap along both the main channel and in the side channel, it is expected that the project is expected to adversely affect EFH for Pacific salmon. Consultation with NMFS will be completed after construction due to the emergency nature of the action.

Cultural Resources

To comply with Section 106 of the National Historic Preservation Act (NHPA), a Corps archaeologist conducted a cultural resources reconnaissance survey of the proposed project Areas of Potential Effect with negative results. Cultural resources studies conducted for the project included a search of the Washington Department of Archaeology and Historic Preservation (DAHP) Electronic Historic Sites Inventory Database, and other background and archival research. The Corps has also initiated consultation with the Nooksack Tribe by soliciting knowledge of historic properties and traditional cultural properties (TCPs), or concerns for the project via letter on March 8, 2008. A Corps archeologist surveyed the damaged areas at low water with negative results.

No archaeological monitoring will be recommended, but if the project design is significantly changed after the Section 106 report is submitted, a Corps archaeologist will review the changes to determine if additional Section 106 studies are necessary. A copy of the report will also be sent to the Nooksack Tribe for their review.

Recreation

There appears to be an informal trail atop the levee, which is assumed to be used primarily by local residents. Short-term access, but not long-term access will be impacted by construction activities.

Air Quality and Climate

Use of heavy equipment during construction as well as automobile and truck transportation would result in minor, short-term, insignificant increases in emissions of carbon dioxide and other exhaust components of diesel fuel and gasoline combustion. Effects on climate change are considered negligible and insignificant. Emissions generated by the construction activity are expected to be below the *de minimus* threshold.

Cumulative Effects

This levee has been subject to previous levee rehab/repair projects, including the emergency repair actions undertaken by the Whatcom County last year. Additional levee repairs/upgrades are likely in the future. The baseline condition of the Nooksack River, a series of braided meandering channels will not be altered due to the proposed action.

In-water construction to rehab the toe of the levee could have an adverse effect on fish and wildlife habitat and riparian values (see Fish and Wildlife paragraph above). These effects would be exacerbated if the County removes vegetation on a regular schedule as is required by PL 84-99 standards. As part of the required levee maintenance for eligibility in the PL 84-99 program, the local sponsor (Whatcom County) must minimize the amount of vegetation on levees which are active in the program. This maintenance requirement is nationally addressed in ER 500-1-1. The Seattle District, has established a variance for this standard. Currently the variance allows for woody vegetation less than 4" in diameter at breast height (dbh) to remain on levees of standard design. This vegetation maintenance by the local government occurs as a separate non Federal action from the repairs addressed in this Notice and is expected to be ongoing. This maintenance is required on all levees to remain in the program and includes levees outside of the actions proposed in this document. This will result in continued negative impacts on the riparian habitat, shade and temperature in the river. The Corps does not anticipate that the incremental contribution of vegetation removal along the levee would amount to a significant contribution to these cumulative vegetation removal effects.

In addition, the presence of the levee itself creates negative impacts to riparian and aquatic habitat, as well as to floodplain function, that have extended over several decades, and which this proposed work would perpetuate.

COMPLIANCE WITH OTHER LAWS AND REGULATIONS

The Corps will coordinate the proposed action with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service concerning anticipated effects on threatened and endangered species and their critical habitat, pursuant to Sec. 7(a)(2) of the Endangered Species Act. As necessary based on anticipated adverse effects at Deming, formal consultation will be initiated with a biological assessment.

The Corps has reviewed the work for substantive compliance with the Clean Water Act. The work proposed is exempt per Section 404(f)(1)(B) of the Clean Water Act, which allows for emergency reconstruction of recently damaged parts of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Therefore, no analysis is required under Sec. 404(b) (1) of the CWA and a Section 401 WQC is not required.

Since the planned work site is greater than 1 acre, an NPDES permit will be required. Application for the NPDES has been submitted to EPA.

Pursuant to the Coastal Zone Management Act, a Coastal Zone consistency determination has been conducted. The Deming project has been determined to be consistent with the Whatcom County Shoreline Management Program.

A National Historic Preservation Act Section 106 compliance report was submitted to SHPO requesting concurrence with the Corps' determination of No Historic Properties Affected. A concurrence letter was received on 6 August 2008.

In preparation of the environmental documentation for this project, coordination has been conducted or is ongoing with the following public agencies: Whatcom County, the Nooksack Tribe, National Marine Fisheries Service (NMFS), US Fish & Wildlife Service (USFWS), and Washington Department of Fish and Wildlife (WDFW).

EVALUATION - CORPS

The decision whether to conduct the project will be based on an evaluation of the probable impact. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered; among these are: conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people.

The Corps has made a preliminary determination that the environmental impacts of the proposal can be adequately evaluated under the National Environmental Policy Act

through preparation of an environmental assessment (EA). Preparation of an EA addressing potential environmental impacts associated with the levee rehabilitation project is currently underway.

The Corps invites submission of comment on the environmental impact of the proposal. Comments will also be considered in determining whether it would be in the best public interest to proceed with the proposed project. The Corps will consider all submissions received by the expiration date of this notice. Additional comments received after the expiration of this notice will be considered as practicable. The nature or scope of the proposal may be changed upon consideration of the comments received. The Corps will initiate an Environmental Impact Statement (EIS), and afford all appropriate public participation opportunities attendant to an EIS, if significant effects on the quality of the human environment are identified and cannot be mitigated.

COMMENT AND REVIEW PERIOD

Submit comments to this office, Attn: Environmental Resources Section no later than the expiration date of this public notice. Requests for information concerning the project should be directed to Ms. Andrea K. Cummins, (206) 764-3641, andrea.k.cummins@usace.army.mil.

Michael R. Scuderi for

Deborah J. Johnston
Chief, Environmental Resources Section

Site location:

