



Erik P. Martin, P.E., District Administrator

*351 NW North St
Chehalis, WA 98532-1900*

August 30, 2021

Attention: Rich Doenges
Washington State Department of Ecology
PO Box 47600
Olympia, WA 98504

Attention: Brandon Clinton
U.S. Army Corps of Engineers
Regulatory Branch
PO Box 3755
Seattle, WA 98124-3164

RE: Initial Submittal of Project Description Revisions and Clarifications and Additional Information Regarding Committed Avoidance, Minimization and Mitigation Measures for the Flood Damage Reduction Projects Proposed by the Chehalis River Basin Flood Control Zone District.

Recent correspondence from the Department of Ecology (Ecology), (May 7, 2021) and the United States Army Corps of Engineers (USACE) (April 26, 2021 and April 29, 2021), requested clarification of certain project description information for the Flood Control Zone Districts (District) proposed flood damage reduction facilities near Pe Ell and at the Chehalis-Centralia Airport. Ecology and the USACE have also invited further clarification and commitments by the District regarding measures to avoid, minimize or mitigate potential impacts from construction and operation of these facilities. The purpose of providing this information at this time is to assist Ecology and the USACE in the preparation of the NEPA and SEPA Final Environmental Impact Statements they are currently preparing for the projects.

Based on our discussions with both agencies regarding the request for clarification and the work schedule the agencies have set for preparation of the Final EISs the clarifications and commitments are required to be submitted in late summer of this year to allow the agencies to give it consideration in their work. By mutual agreement, the specific clarifications and commitments are being submitted at this time with the understanding that further work substantiating the bases for the clarifications and commitments in some areas is underway by the Districts consulting team and will be made available when it is completed.

The clarifications and commitments that the District requests be considered are described below in two sections; Project Description Clarifications and Avoidance, Minimization and Mitigation Measures. While from the District's perspective, all of the project description clarifications and avoidance, minimization and mitigation commitments are important the Districts commitments in three areas address one of the most critical potential impacts of the proposed project – impacts to aquatic resources. As described below the District commits to no net loss of aquatic habitat and function as a result of the

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project. The District has undertaken considerable work to assess the potential for mitigation of aquatic impacts and believes that the no net loss commitment can be achieved. Secondly, the District commits to a plan for management of potential inundation impacts to vegetation through vegetation replacement in certain areas and an adaptive management program to ensure long term survival of vegetation to minimize water temperature impacts related to vegetation cover and shading. The vegetation planting plan requested by Ecology to substantiate the feasibility of this commitment is included in this submittal. Finally, the District will make a commitment to prioritize the use of Large Woody Material that results from construction and operation of the FRE project to use in aquatic habitat restoration and maintenance and not commercial use.

Project Description Clarifications

- **Temporary Construction Fish Passage** – The District submits the attached Technical Memorandum *Description of Construction - Phase Fish Passage Facility* prepared by HDR that describes the likely use of a velocity barrier weir in the future design of the construction fish passage facility. The District wishes to clarify that the final design for the Temporary Fish Passage will incorporate a velocity barrier, rather than a picket barrier, to prevent aquatic species from passing upstream of the trap and transport facility. The Draft EISs assumed a picket barrier for use in the EDT modeling to estimate passage survival. The velocity barrier is anticipated to prevent upstream movement of aquatic species with better effectiveness and less potential for harm than a picket barrier weir. The initial basis for this assumption is described in the attached Technical Memorandum.
- **Vegetation Planting Plan Memo** – The District submits the attached Technical Memorandum *Vegetation Planting Plan (Planting Plan Memo)* to provide the agencies with a plan for replacing vegetation within the temporary reservoir expected to be affected by inundation, particularly in the riparian zone along the water courses within the temporary reservoir. This information further substantiates the results of the water quality analysis¹ the District undertook that showed reduced water temperature increases during low flow periods due solely to the project. The impact to water temperature was one of the primary impacts found in both the Draft EIS's. The information demonstrates the efficacy of the impact minimization measures the District commits to employ to minimize water temperature impacts. The District will also commit to development and implementation of an adaptive management approach in its Vegetation Management Plan, a key principle required by the agencies that is expected to be included in the permitting process.
- **Quarry Operations** – The District submits the attached Technical Memorandum *Quarry Operations (Quarry Memo)* prepared by HDR that clarifies the viability of the two proposed quarry sites, North and South Quarry for supplying aggregate for the construction of the proposed FRE

¹ HDR and PSU 2021. *Water Temperature Model Sensitivity Analysis. Chehalis River Basin Flood Damage Reduction Project*. Prepared for the Lewis County Flood Control District. Prepared by HDR and Portland State University.

facility. Attachment A of the Quarry Memo includes figures depicting the quarry locations and the specific site plans for both quarries. Attachment 2 includes the quarry boring logs from previous site investigations.

- **Access Roads** - The District submits the attached Technical Memorandum *Access Road Update and Best Management Practices* (Access Roads Memo) prepared by HDR that describes the use of existing roads and the planned development of new roads for construction and operation of the FRE facility. The location of these roads is shown on figures included in Attachment A of the Access Roads Memo.

Within the construction area, all roads shown on this figure will be developed or maintained to a standard width for Forest Service roads, with a crushed rock/gravel, be maintained to industry standard Best Management Practices (BMPs) for road design and maintenance and incorporate run-off and sediment capture facilities to meet expected NPDES permit water quality requirements. Materials for road construction and maintenance will be produced at the on-site quarry developed for the project.

- **Temporary Construction Facilities** – The District submits the attached Technical Memorandum *Temporary Construction Facilities* (Construction Facilities Memo) prepared by HDR that clarifies assumptions about the general layout of construction facilities. The Construction Facilities Memo includes a figure (Figure 1) detailing the location of construction facilities and describes anticipated best management practices including:
 - temporary erosion and sediment control,
 - fuel storage and containment areas,
 - process aggregate for Roller-compacted concrete cofferdam construction,
 - roller-compacted concrete dam construction,
 - aggregate material production location,
 - water use during construction,
 - water rights for construction,
 - material processing equipment installation,
 - contingency protocols for overtopping cofferdams,
 - dewatering needs,
 - potential Mahaffey Creek diversion, and
 - diversion tunnel location.

These temporary facility location assumptions will inform the agencies impact analysis of disturbed areas. As the proposed project advances to subsequent design and permitting phases, further site-specific refinements to the layout of construction facilities are expected. Specific



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details (e.g., locations, quantities) will be determined as part of the selected contractor's means and methods within the specified permit requirements. BMPs will be designed to meet permit requirements. The District commits to avoiding, minimizing, or mitigating all impacts related to the proposed project.

- **Sluice Conduits and Trash Rack Design** – The District wishes to clarify that the proposed design of the FRE facility will include five sluice conduits that pass up to 12,500 cfs without backwatering the natural channel above the facility instead of the three sluice conduits of lesser capacity which were used in the analysis of sediment transport, geomorphology and water quality in the DEISs. The FRE facility would include a trash rack that would pass LWM up to 24 inches in diameter through the main conduit during non-operating conditions (i.e., non-flood retention periods). With the increased capacity to pass flow, sediment, and woody material, the subsequent impacts to sediment and geomorphology are likely less than what was described and determined in the Draft EISs. Attachment A of the *Sediment Transport and Geomorphology Review of the SEPA and NEPA Documents* provides a figure depicting the configuration of the five sluice conduits. Furthermore, Figures A-1, A-2, A-3 of Attachment A of the *Large Woody Material Downstream Passage and Placement Configuration* provides clarification to the trash rack configuration of the FRE facility.
- **Sedimentation** – The District submits the attached Technical Memorandum *Sediment Transport and Geomorphology Review of the SEPA and NEPA Documents* provided by HDR, to provide a review of the assumptions and conclusions of the project's impacts on sediment transport as documented in the Draft EISs. This information includes the clarification that there will be five outlet conduits not three as assumed in the Draft EISs and that making this correction in the FRE configuration will change the conclusions regarding retention of sediment in the temporary reservoir and the effect on the downstream reach of the river.
- **Power Supply** – The District submits the attached Technical Memorandum *FRE Site Temporary and Permanent Power* (Power Memo) prepared by HDR, to provide additional information regarding the projects electrical power requirements during construction and operation and the options for upgrading interconnection facilities at Pe Ell. An assumed power line location is proposed to aid in the agencies estimate of disturbed areas and associated environmental impact. As detailed in the Power Memo, the District proposes to advance "Option 2" as the preferred option for further coordination and development discussions with Lewis County Public Utility District (LCPUD), as this is likely the most cost-effective for the electric utility. The District therefore requests that Option 2 be assumed for further analysis in the development of the Final EISs by Ecology and USACE. Ultimately, the local distribution utility will be responsible for decisions regarding power line location and interconnection facilities.

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- **Airport Levee Construction** – The District submits the attached Technical Memorandum *Airport Levee Wetland Avoidance* (Airport Levee Memo) to clarify the current conceptual design for the Airport Levee which requires construction to occur immediately adjacent to an identified jurisdictional wetland. With careful design, construction management including best management practices to protect the wetland, a concept can be developed that would avoid impacts to jurisdictional wetlands. The District commits to implementing a design and construction method that will avoid any impact to the wetland.

Avoidance, Minimization and Mitigation Measures

- **No Net Loss of Aquatic Habitat Function** - The District is making a formal commitment to achieve no-net-loss of aquatic and habitat function resulting from the construction and operation of the proposed Flood Retention Expandable (FRE) facility in the upper Chehalis River Basin. The commitment would apply to impacts attributable to the construction and operation of the proposed FRE, temporary reservoir, and levee improvements. The commitment will be fulfilled through a combination of impact avoidance, minimization, and compensatory mitigation. The District has retained qualified technical experts to conduct a preliminary assessment of impacts to aquatic and terrestrial habitat, and estimate mitigation needs and available mitigation opportunities within the upper Chehalis Basin. Mitigation needs were conservatively estimated based on the impact quantities published in the Draft SEPA EIS (Ecology, 2020). Preliminary mitigation costs were also estimated as part of assessing the feasibility and practicability of mitigation for unavoidable impacts to aquatic and terrestrial habitats and species. Based on that preliminary assessment, the District believes that mitigation is technically feasible and economically practicable, and that sufficient opportunities are available to mitigate for the anticipated project impacts to aquatic and terrestrial habitats and species. Mitigation would employ the same kind of habitat restoration and enhancement techniques as the Aquatic Species Restoration Plan (ASRP) and other regional salmon recovery efforts. It would not interfere with implementation of the ASRP and would be funded and implemented separately from the ASRP. No part of the ASRP would be construed as mitigation for project impacts.
- **Priority Use of Large Woody Material (LWM) For Habitat Enhancement** – As part of its Large Woody Material Management Plan the District will prioritize the use of vegetation cleared during construction as part of the planting plan in the temporary reservoir for use for aquatic habitat improvement and maintenance. The material will be moved, sorted and stored at the designated staging area shown on Attachment A-4 of the *Large Woody Material Downstream Passage and Placement Clarification* (LWM Memo) and made available to governmental agencies and their contractors engaged in aquatic habitat development and maintenance. Material not claimed for



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that use may then be offered to the public for similar use. Large woody material recovered following and FRE operation will be similarly prioritized. Further information regarding this topic is included in the LWM Memo.

- **No Disruption of Water Supply Service to Pe Ell from Lester Creek Supply** – One element of the town of Pe Ells water supply occurs within the project area. A water supply pipeline and access road from an inlet on Lester Creek is routed across a portion of the proposed inundation reservoir and crosses an existing bridge over the Chehalis River at the proposed site of the FRE. The inlet structure on Lester Creek is just outside the temporary reservoir. To expand on the commitment made in the SEPA DEIS Comments submitted May 27, 2020, the District will contract with a qualified water supply engineer to assess the condition of the existing facility and determine upgrades or relocation of the existing pipeline will be required to prevent and disruption to the water supply during construction and operation. The contracted engineer will collaborate with the FRE design engineer to determine means and methods for incorporation of the water supply pipeline into the FRE structure to cross the Chehalis River and interconnect with the existing water supply system. The District will incorporate any recommended pipeline and access road modifications into the overall planned mitigation program for the project.
- **Air Quality** – The SEPA DEIS had assumed that existing vegetation would be removed from the entire temporary inundation area and that the resulting material would be burned, leading to significant air emissions and quality impacts. As described in the Conceptual Vegetation Management Plan submitted with the District’s comments to the NEPA DEIS, and previously detailed in the District’s comments to the SEPA DEIS (dated May 27, 2020), the District commits to using best management practices to avoid burning of trees and other cleared vegetation at the FRE facility site, along routes of new roads, and within the FRE temporary inundation area. To the extent practical, harvested trees would be used in the construction of aquatic mitigation measures or released downstream to resupply woody material to maintain natural aquatic habitats. Any surplus material would be sold as merchantable timber. This is expected to reduce impacts of the proposed project on air quality and emissions, particularly greenhouse gas emissions significantly.
- **Slope Stabilization Mitigation** – The District previously submitted (June 4, 2021) the *Slope Stabilization Mitigation Technical Memorandum* summarizing the available information on the location of known potentially unstable slopes in the area of FRE construction and within the area subject to temporary inundation. The District is committed to an ongoing monitoring program for these known areas to avoid, minimize, or mitigate any impacts related to slope stabilization of the construction and operation of the FRE facility.
- **Construction BMPs** – The District previously submitted (June 4, 2021) an excel catalog of all of the avoidance, minimization and mitigation measure commitments that have be cited in the various documents submitted by the District. Included in the excel catalog are commitments to

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implementing construction Best Management Practices (BMPs) to avoid and or minimize impacts of construction of the FRE facility on various resources that are considered in the DEISs.

- **Initial FRE Site Selection** – The District submits the attached Technical Memorandum *FRE Site Selection* prepared by HDR, which reviews previous studies that led to the selection of the FRE site at RM 108. This review was undertaken to assess if a robust site selection process was undertaken to identify an appropriate site to meet the criteria set for flood damage reduction. This is in response to a question from Ecology regarding the potential availability of another site that would meet the flood damage reduction criteria, and a question from the USACE regarding the previous location of the FRE facility approximately 1,500 feet upstream of the current location. The previous studies indicate that moving the planned FRE facility significantly upstream or downstream of the currently planned location, or to an alternative location within the basin would reduce flood control effectiveness and would not meet the goals and objectives of the facility.

* * * * *

The District acknowledges and appreciates the complexity of the proposed project and the environmental systems you are analyzing to determine the potential consequences of its construction and operation as you prepare the Final EISs under SEPA and NEPA. If as you review this information, you have any questions or require further clarification, please contact myself or Betsy Dillin our Project Manager immediately. We view incorporation of this information as critical to the development of Final EISs that provide the best information to the decision makers, including the District that must determine under what circumstances this project can be carried forward.

Submitted By,

Erik Martin,

Chehalis Basin FCZD Administrator

CC with Attachments

Diane Butorac – Department of Ecology

Andrea McNamara Doyle – Office of the Chehalis Basin

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