Report on Continued Analysis of Avoidance, Minimization, and Mitigation for the Flood Damage Reduction Project

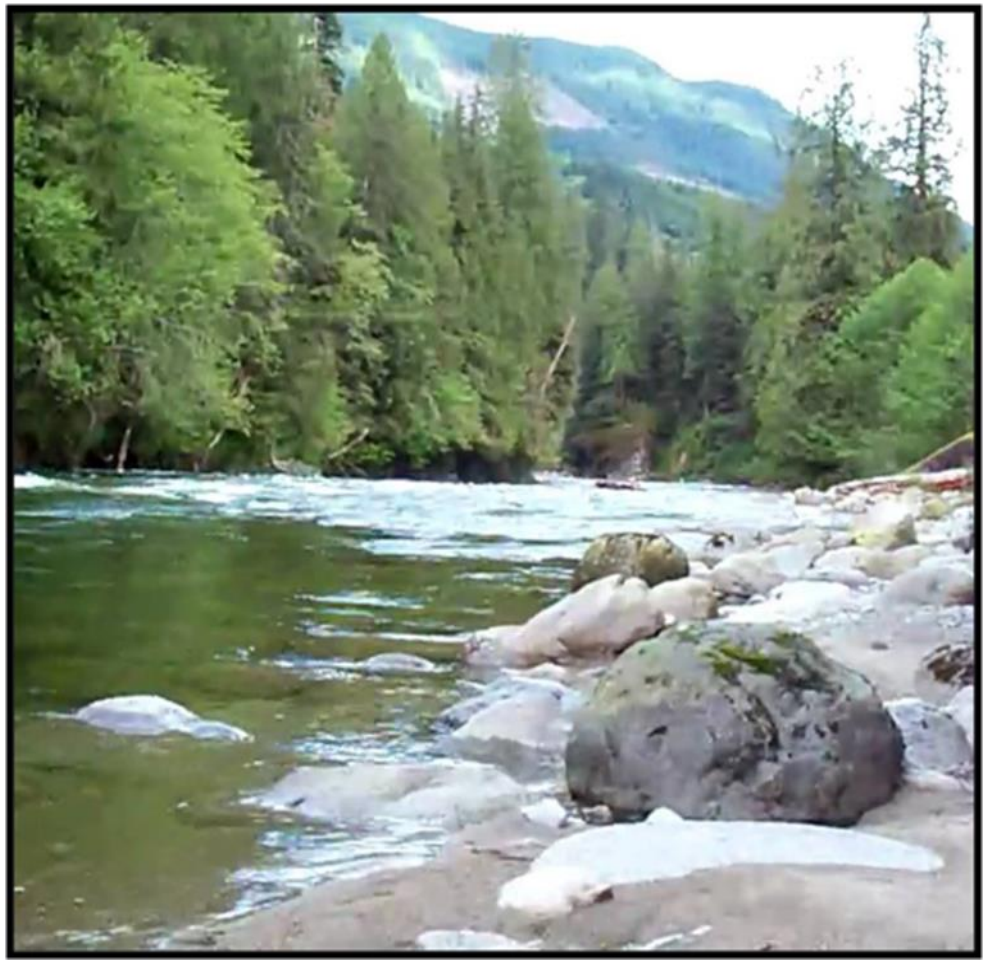
Chehalis River Basin Flood Control Zone District

December 3, 2020

AVOIDANCE, MINIMIZATION AND MITIGATION REPORT

Project Sponsor Mission

"Address the continuing flooding problem associated with the Chehalis River. The objectives of the District include, but are not limited to: reducing the risk associated with flooding; preserving life, preventing damage to property; and protecting, preserving and conserving natural resources within the District".



HOW DID WE GET HERE?

- Chehalis Basin Flooding History
- Programmatic EIS
- Project Sponsor-FCZD
- Current Configuration
  - FRE
  - Airport Levee
- SEPA-DEIS
- NEPA-DEIS

MOVING FORWARD

In order to make a decision to move forward the Districts Supervisors will consider three factors:

1. *Benefits of Flood Damage Reduction*
2. *Net Environmental Impacts*
3. *Project Costs*

Avoidance, Minimization and Mitigation (AMM) as well as additional understanding of economic impacts are key to these three factors

REVIEW OF SEPA AND NEPA EISs

SEPA

- *Impacts-Project vs Climate Change*
- *Anticipated Mitigation*
- *Impact Prioritization*

NEPA

- *Corps Submittals Prior to DEIS*
- *2020 AMM*
  - *Air Emissions*
  - *Levee "Bump-Out" Removal*
  - *Construction BMP's*

AVOIDANCE, MINIMIZATION AND MITIGATION

Aquatic Habitat

- *Understanding Stakeholder Positions*
- *Survival Abundance and Health of Aquatic Species*
- *Cultural Significance*
- *Future Flood Flows*
- *Water Quality*
- *Geomorphology*
- *Species Life Cycles*

AVOIDANCE, MINIMIZATION AND MITIGATION

Aquatic Habitat

- ***EIS Impact Findings***
  - *Crim Creek to Rainbow Falls and above Crim Creek*
  - *Water Temperature Increase*
  - *Dissolved Oxygen Content*
  - *Turbidity*

- ***AMM Work to Date***
  - *Mitigation Opportunities Report*
  - *Wetland Opportunities Report*
  - *Adaptive Vegetation Management Plan*

QUESTIONS ADDRESSED BY THE DISTRICT

What portion of the overall effects to aquatic species and habitats are attributable to the Project and what will otherwise occur as a result of climate change?

QUESTIONS ADDRESSED BY THE DISTRICT

Are feasible measures available to avoid, minimize and mitigate these effects to acceptable levels?

QUESTIONS ADDRESSED BY THE DISTRICT

How will the identified avoidance, minimization and mitigation measures affect specific aquatic habitats and species?

QUESTIONS ADDRESSED BY THE DISTRICT

What effect will management of vegetative cover related to shading in the temporary inundation reservoir have on water temperature and upland terrestrial habitat?

QUESTIONS ADDRESSED BY THE DISTRICT

Are potential losses to fish populations in the project area (above and below the FRE site) mitigatable with respect to identified species, and how do these impacts and mitigations fit within the context of the Chehalis Basin strategy?

QUESTIONS ADDRESSED BY THE DISTRICT

What will be the impact on jurisdictional wetlands and how will this effect be mitigated?

QUESTIONS ADDRESSED BY THE DISTRICT

What is the most effective design concept for fish passage during construction?

QUESTIONS ADDRESSED BY THE DISTRICT

What other questions / concerns does the board have that the District can attempt to answer before March?

CONCLUSIONS

- *The information developed in answer to these questions will describe what the most likely expected impact of the project will be on aquatic species and habitats*
- *A number of other impacts were identified in the Ecology and Corps EISs that call for avoidance, minimization measures to reduce those impacts to acceptable levels*
- *The District fully accepts responsibility to address all of the impacts that have been identified*
- *In most if not all these cases the impacts are integral to the issuance of a permit that the project must obtain to ultimately construct*
- *During the permitting process the District expects that acceptable specific means of addressing these impacts can and will be found*
- *Until that time, we will continue to provide strong technical information supporting the feasibility of avoidance, minimization and mitigation of these impacts*

Questions?