



Technical Memorandum

Date: December 17, 2021

Project: Chehalis River Basin Flood Damage Reduction Project

To: Chehalis Basin Flood Control Zone District

From: HDR Engineering, Inc.

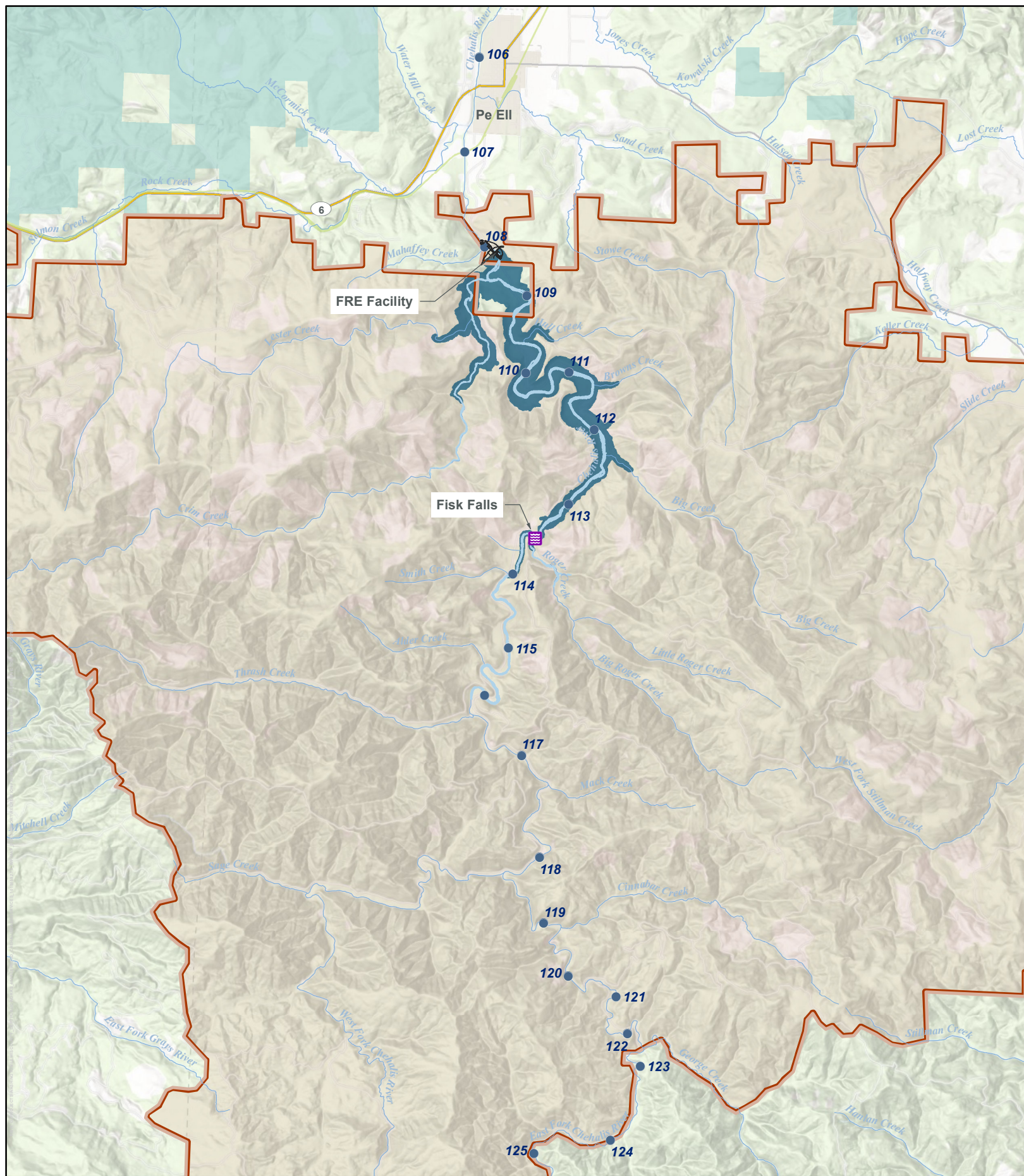
Subject: FRE Facility – Conceptual Level Recreational Improvement Options

1.0 Introduction and Purpose

As part of a strategy to reduce flood damage along the Chehalis River, the Chehalis River Basin Flood Control Zone District (District) proposes to construct a flood retention facility near the town of Pe Ell on the mainstem of the Chehalis River. The Draft Environmental Impact Statements (EISs) prepared by the Washington Department of Ecology (Ecology) (pursuant to the State Environmental Policy Act [SEPA]) and the United States Army Corps of Engineers (pursuant to the National Environmental Policy Act [NEPA]) evaluate anticipated impacts on resources associated with construction and operation of the proposed flood retention expandable (FRE) facility (i.e., the Chehalis River Basin Flood Damage Reduction Project [proposed project]). In addition to other resource areas of the natural and built environments, the draft SEPA EIS and NEPA EIS evaluated the potential impacts of the proposed project on recreational resources in the vicinity of the proposed project.

The SEPA EIS identified potential significant impacts on recreation due to the permanent loss of 13.8 miles of the upper Chehalis River for kayaking and 6.4 miles for recreational fishing from the construction and operation of the FRE facility. The NEPA EIS identified high direct impacts on recreation from the loss of 6 miles of access upstream of the proposed FRE facility for boating and fishing due to the construction and operations of the FRE facility. It is important to note that the draft EISs did not evaluate the feasibility of mitigation for the loss of recreation access to the river.

The purpose of this Technical Memorandum (TM) is to review the existing recreation resources in the vicinity of the proposed FRE facility and to identify conceptual recreation improvement alternatives that will provide access to the area upstream of the FRE facility. This TM provides a preliminary screening of feasible options for recreation improvements that the District will consider for development of a recreation management plan during subsequent phases of project development.



Source: Landcover, FRE Facility - HDR; Streams - DNR; Basemap - ESRI Online; Hillshade - DNR LIDAR Portal

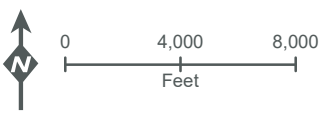
- | | |
|--------------------------|--------------------------------|
| City and County | Falls |
| DNR Uplands | USGS River Mile |
| State Parks | Main Channel OHWM |
| Weyerhaeuser Permit Area | 100 Year Flood Simulated Event |

FIGURE 1: VICINITY LAND OWNERSHIP

Chehalis River Basin Flood Damage Reduction Project

Source: HDR Engineering, Inc. (HDR) 2021

Date: 12/9/2021



2.0 General Description of Project Area

The proposed FRE facility will be located on property currently owned by the Weyerhaeuser Company and the Panesko Tree Farm, south of State Route (SR) 6 in Lewis County, on the mainstem Chehalis River approximately 1 mile south (upstream) of the town of Pe Ell at approximately river mile (RM) 108 (Figure 1). The District will acquire property that is currently under private ownership for construction and operation of the FRE structure and temporary inundation area. Acquired land will cease being managed as commercial forest and will not be managed for commercial harvest and associated disturbance from harvest and transport. A proposed vegetation management plan will be implemented that maintains, to the extent practicable, vegetation within the project area and maintains the current environmental character of the area. Implementation of the vegetation management plan will minimize the extent of vegetation clearing and removal and replace non-flood-tolerant species with more flood-tolerant species in areas of the FRE facility and temporary inundation reservoir.

The FRE structure will provide approximately 65,000 acre-feet of flood water retention at full pool. During a 100-year flood event, the FRE facility will retain floodwaters in a temporary inundation reservoir extending up to 6.1 miles upstream of the FRE facility. During lesser flood events (e.g., 10-year floods, 20-year floods) that trigger FRE facility operations, a smaller inundation area will form, and the inundation period will be slightly shorter than during a 100-year flood event.

2.1 Project Area Recreational Resources

2.1.1 Existing Recreational Access and Opportunities

Overall, in the Chehalis Basin in the region of the project area, recreational activities occur on the Chehalis River and its tributaries, within forested lands and recreational sites, and within state and local parks adjacent to the Chehalis River or its tributaries (Ecology 2020). Residents and visitors from throughout the state use these areas for fishing, kayaking, whitewater rafting, hiking, hunting, birdwatching, camping, and other recreational activities (Ecology 2020).

The land where the FRE facility and temporary inundation reservoir will be located is all privately owned, and access for recreational uses is subsequently privately controlled. As such, public access and recreational uses are very limited, and few publicly accessible developed recreation facilities and opportunities exist in the project area. Specifically, the proposed project is on land owned by Panesko Tree Farm (small parcel near the proposed FRE structure) and Weyerhaeuser in the Pe Ell South Permit Area (remainder of the project area), which is one of eight Weyerhaeuser permit areas found throughout Washington State. The proposed project encompasses less than 1 percent (approximately 847 acres) of the total Pe Ell South Permit Area (95,840 acres). Weyerhaeuser manages the lands in the project area as an active commercial forest with harvest operations and transport throughout. In addition, Weyerhaeuser allows, but controls through a purchased permit system, recreational access to the Pe Ell South Permit Area through recreational access fee permits for a variety of general recreational uses. These include hunting, fishing, hiking, biking, horseback riding, and camping on Weyerhaeuser lands. The most recent data from Weyerhaeuser indicates that 550 permits were purchased for the Pe Ell South Permit Area for 2015–2016 (Ecology 2020); Weyerhaeuser also sold all the

permits available (motorized and non-motorized) for sale in the Pe Ell South Permit Area for the 2021–2022 recreation year from August 2021 through July 2022 (Weyerhaeuser 2021).

As described in Ecology’s 2020 SEPA document, the non-motorized permit allows private use and travel by hiking, biking, and horseback riding for day use opportunities and provides access for mushroom, berry, stream fishing, and elk, deer, and grouse hunting opportunities (Weyerhaeuser 2021). However, the non-motorized permits provide access to the Ryderwood and Willapa Hills Game Management Units on the western side of the Pe Ell South Permit Area, which are not in the vicinity of the proposed project. Thus, motorized permit access and uses are the only recreational uses permitted by Weyerhaeuser in the proposed project area. The motorized permit allows private access with a licensed vehicle and provides the same recreational opportunities as a non-motorized permit, plus firewood gathering and overnight camping opportunities (Weyerhaeuser 2021). The precise level of recreational use that occurs in the project area is unknown. However, given the limited Weyerhaeuser recreational access permits and the broad area available for use within the Pe Ell South Permit Area (95,840 acres) compared to the proposed project area (847 acres; 1 percent of total permit area), the existing recreational uses specific to the project area are likely nominal. Further, the Pe Ell South Permit Area also provides many similar alternative forested areas, rivers, and creeks across the remaining nearly 95,000-acre permit area for similar recreational uses. There is no publicly available recreation information specific to the project area that indicates that the project area is an area of high recreational opportunity or demand.

Whitewater boating is also a recognized use in the project area on the Chehalis River, including along the temporary inundation reservoir (approximately 6.4 miles). The 13.8-mile West Fork to Pe Ell reach includes the Chehalis River and the proposed project along the Chehalis River. American Whitewater (AW) describes the reach as an “off the beaten path,” Class III-IV reach with six sections marked by bridge crossings (AW 2021). The put-in location is upstream of the proposed project at the confluence with the East and West Fork Chehalis River (RM 118), and the takeout is in Pe Ell along Highway 6 (between RM 106 and 107) (Figure 1). Notably, the vast majority of the shuttle ride along forest road (FR) 1000 (i.e., approximately 16 of the 18 miles) to the put-in from Pe Ell occurs on private land (i.e., Weyerhaeuser-owned land) abutting the reach. As such, the official description on the AW website and boaters commenting on the AW website have indicated that access through private Weyerhaeuser land to the put-in is often gated, and access is restricted to the public (AW 2021), which is a notable limiting factor for the whitewater use and demand. Theoretically, whitewater boaters may purchase motorized permits through Weyerhaeuser to gain private access to the put-in to run this reach, but no data exists or is publicly available to confirm how common this scenario may be. Thus, given the known public access difficulties and restrictions to the put-in combined with the out-of-the-way reach, it is probable that the existing use of and demand for this reach are limited.

2.1.2 Future Recreational Access and Opportunities (Post-Project Construction)

The District is committed to pursuing the development of public recreational access and sites that will support recreational uses largely consistent with those currently provided in the project area. These uses include day uses such as fishing, hiking, biking, whitewater boating, and horseback riding. The District is interested in also potentially providing developed recreation

uses such as picnicking, scenic overlooks, interpretive and educational, trail, and developed camping opportunities, where appropriate, which do not currently exist in the project area. These proposed recreational uses are well-suited to the lands in the immediate vicinity of the FRE facility, the temporary inundation reservoir, and the Chehalis River, including for providing supporting developments and infrastructure. In addition, the proposed recreational uses are consistent with recreational uses developed and managed by the Lewis County Parks and Recreation Department.

The District will need to acquire lands in the vicinity of the proposed project to construct and then operate and maintain the proposed project facilities. As part of this process, the District is committed to pursuing public recreational access to the project area, which does not currently exist or is currently severely limited by the landowner. Further, the District is interested in public access to the project area for year-round recreational use, though the District anticipates that the project area will be closed to public recreational access when the FRE facility is operating during a potential flood event or when public safety concerns or conditions necessitate public closures. The District anticipates that recreational access, and any associated recreational improvements or sites, will be managed by the Lewis County Parks and Recreation Department as public county recreational assets.

To further enhance the recreational opportunities for County and regional residents, the District seeks to provide more developed recreation opportunities in the project area with facilities and visitor amenities to support the noted recreational uses. The District does not anticipate providing resource-extractive opportunities such as hunting or berry and firewood gathering, as these uses are not compatible with county-managed recreation uses and areas. The expansive surrounding Weyerhaeuser lands will continue to provide ample opportunities for these activities through their permit system.

At a minimum, the District is committed to providing enhanced recreational access and sites that will be located on lands owned by the District or Lewis County in the immediate vicinity of the project area as part of the property acquisition process. This TM assumes that roads within the temporary inundation reservoir will remain open for public access to any of the recreation improvements discussed in Section 3.0. Further, following flood events when the temporary inundation reservoir is utilized, the access roads that were inundated will be evaluated and maintenance may be required before public use of the roads is permitted and safe. The inundated roads will remain open to public access as long as they are safe and have not been damaged by operation of the FRE facility during a flood event. Roads in the temporary inundation reservoir will be unavailable only during FRE operations, which will be for a short duration in the winter or spring in limited years.

3.0 Recreational Improvement Alternatives

The following section represents conceptual level alternatives to provide enhanced recreational access, uses, and developed sites—all available to the public once the proposed project is implemented. Figure 2 identifies general locations where these potential recreational improvements could be located. The areas and alternatives represented in Figure 2 and

described below are preliminary and conceptual alternatives for consideration. Final recreational improvements will be determined during future phases of the Recreation Plan development.

There are four general areas with potential for recreational improvements or developments, including the FRE facility, Crim Creek, Murphys Point, and the Fisk Falls areas. These areas were considered based on the following criteria: (1) existing road access to the area, (2) proximity to the FRE facility and temporary inundation reservoir, and (3) availability of suitable land for potential development.

This section provides a description of the general location, access routes, potential recreation improvements, and potential constraints for each of these areas. Notably, all the site development features described below will be located above the inundation area, except for the recreational trail development alternatives, which will include partial or full alignment within the inundation area. No new access roads are proposed to provide access to the areas of site development, though it is possible that circulation roads within the proposed recreation facilities will be developed, as appropriate.

3.1 FRE Facility Area

3.1.1 General Location and Access

The FRE facility area is located approximately 1 mile south (upstream) of the town of Pe Ell at approximately RM 108 (Figure 2). The area for potential recreation site development is on the eastern side of the proposed FRE facility along the existing FR 1000 and 1010. This area is currently proposed as a staging area (approximately 26 acres) for the construction of the FRE facility and will be disturbed and graded to some degree to provide construction support facilities and staging areas. As such, this disturbed and graded area will provide a practical location for future recreation site development with ample space (i.e., 26 acres) for a variety of improvements, including dispersed or separate areas of development. In addition, the western-most portions of the area will provide potential views of the Chehalis River as well as the FRE facility, whereas the eastern portion of this area is set back from the river and facility and will provide a more secluded or screened setting for site development. In addition, areas outside but adjacent to the proposed staging area will also provide opportunities for recreation site development in a less-industrial setting (i.e., out of view of the proposed FRE facility). Notably, this area is the closest proposed area (approximately 1 mile) from existing public roadways in Pe Ell (i.e., Muller and Wells roads).

3.1.2 Potential Recreation Improvements












The FRE facility area has the potential to provide a variety of recreation site development options including day-use and overnight camping facilities in both an industrial setting and a more forested setting. Each of the potential development options is discussed below.

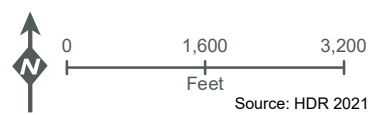
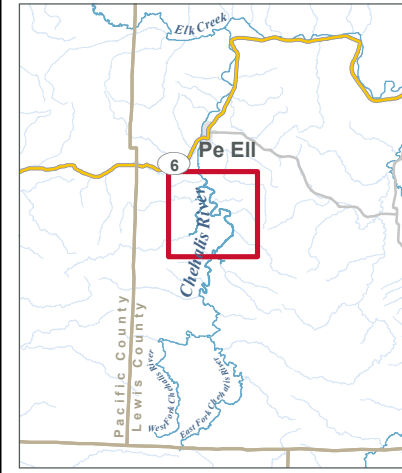
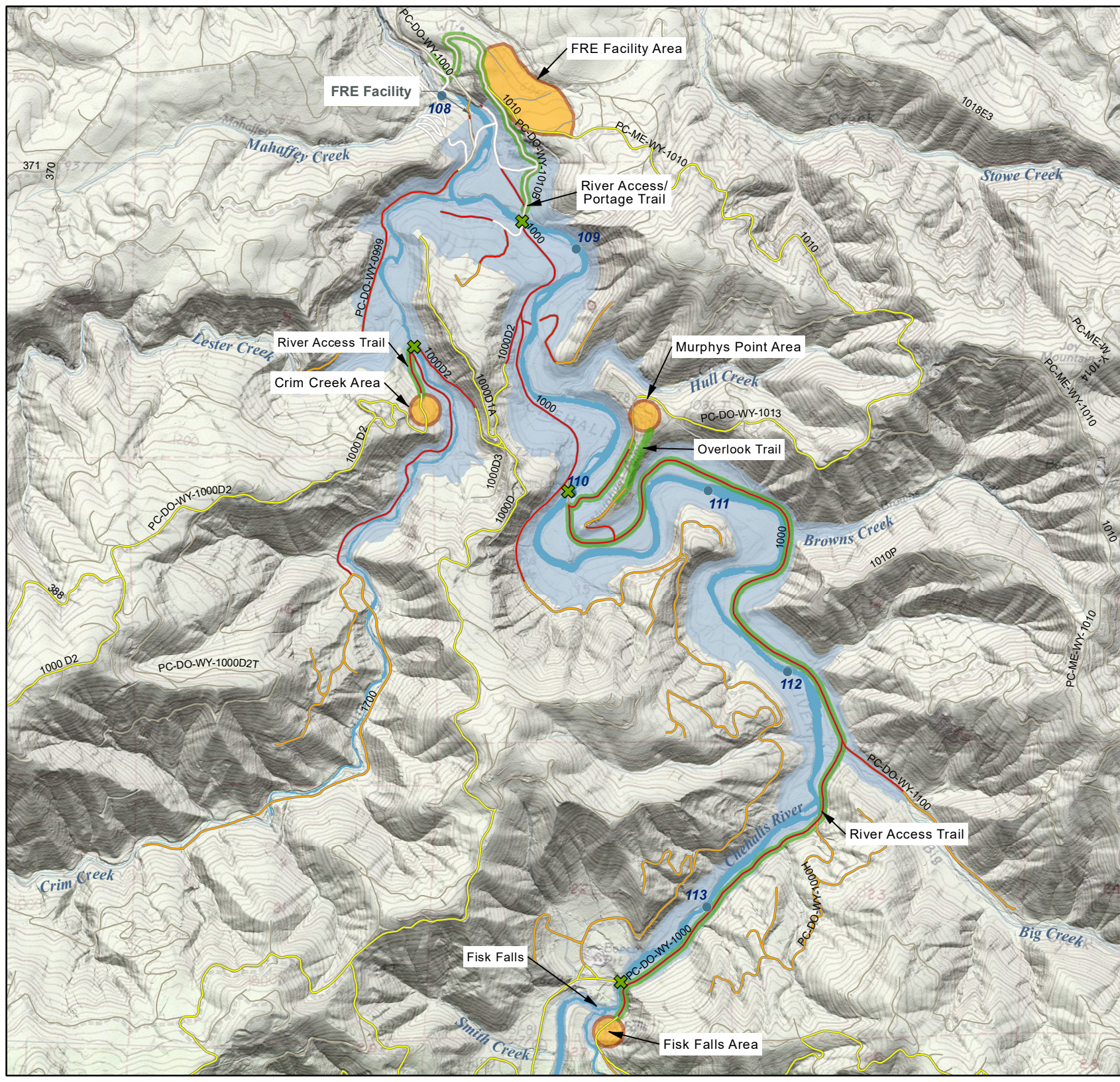
3.1.2.1 Day-use Facility

As the area nearest to Pe Ell and current public access, and along the existing FR 1000, this area will provide an initial visitor engagement point that serves as a visitor gateway or entrance station to the general project area. The site will be designed to include an elevated setting with views of the FRE facility and the Chehalis River. The site could provide overall information

about the area and public recreation sites and opportunities. Further, its proximal location to the proposed FRE facility, while industrial in design, will allow for a unique educational opportunity to inform the public of the FRE facility's purpose and history as well as other relevant natural, cultural, biological, and historical resources of importance to the site and overall area. Potential site amenities include parking areas, viewing areas, educational and interpretive displays, picnic facilities, and restroom facilities. The site will be developed outside the temporary inundation reservoir area.

FIGURE 2: POTENTIAL RECREATION SITE DEVELOPMENT OPTIONS

-  Existing Water Crossing
-  Existing Access Road
-  Temporary Construction Access Road
-  Orphaned Access Road
-  Potentially Inundated Road
-  Alternative
-  Rural / Forest Service Road
-  Main Channel OHWM
-  Inundation Area
-  Potential Recreational Trail
-  Potential Areas for Recreation Site Development



3.1.2.2 Developed Campground

Given the area's proximity to public access and Pe Ell, and with the potential for access to nearby utilities (i.e., potable water and electricity), this area will provide unique opportunities for developing overnight camping facilities. Campground site development typically occurs in more secluded or forested settings to provide shade, screening from other campers, and separation from other nearby facilities and conflicting uses (i.e., day use). As such, this development will occur on the periphery of the proposed staging area or in lands adjacent to the staging area to separate from any day-use facilities and provide a forested setting. This area outside the proposed staging area has experienced private commercial tree harvesting operations and is in the process of being reforested, but these operations have used and/or develop existing primary and secondary roads in this area that will assist in providing vehicle access/roads to a potential campground. Given the lack of existing Lewis County and other campground facilities in the project area, this development will meet unmet demand for such an opportunity and provide a developed public overnight recreation opportunity that has not existed in the project area to date. The site will be developed outside the temporary inundation reservoir area.

Potential camping site amenities include vehicle campsites for a variety of camping types (i.e., tent, trailer, and recreational vehicle) with a water system and restroom facilities. As noted above, this area has the best potential for providing enhanced amenities including water, sewer, and electric utilities given its proximity to these services north of the proposed FRE facility. Because of these nearby services and potential for development of these amenities on-site, the ability to manage fire concerns (prevention and response) associated with overnight camping is enhanced in this area, particularly when compared to the other potential areas for site development discussed below that are substantially more remote and distant from these types of fire prevention/response services.

3.1.2.3 River Access and Portage Trail

To provide access to the Chehalis River from potential day-use and/or camping facilities in this area, a potential river access trail will be developed and located mostly within the temporary inundation reservoir. Where practical, the trail alignment will utilize temporary construction access roads in this area following construction of the FRE facility. FR 1000 will provide vehicle access to the Chehalis River in the inundation area on the upstream side of the proposed FRE facility, where a trail will also be developed to provide non-motorized access to the river. From this location, there is connectivity to the upstream areas of proposed recreational site developments outside/above the inundation area. On the downstream side of the proposed FRE facility, recreational trail development alongside the existing road (FR 1000) and then temporary construction roads will potentially provide access to the Chehalis River, assuming that the temporary construction roads will no longer be needed post-construction. Where practical, the trail alignment will utilize any orphaned roads (existing roads and/or temporary construction roads) within the inundation area and downstream of the FRE facility, as they already provide graded and compacted surfacing. In areas where existing roads will remain open to vehicle use, portions of the trail will need to be constructed outside the existing roads to provide suitable pedestrian access to the riverside from the roads. Notably, the riverside trail will utilize two existing bridges near RM 109 and 110. Further, the trail could connect to the potential riverside trail in the Murphys Point area discussed in Section 3.3.

Overall, these potential trail developments upstream and downstream of the proposed FRE facility will provide access for river-based recreation opportunities (e.g., fishing, whitewater boating, water play) for visitors at the potential recreation facilities developed outside the inundation area, while also providing a potential portage trail around the proposed FRE facility for whitewater boaters coming from upstream of the facility on the Chehalis River. FR 1000 will provide vehicle access to the river's edge for whitewater boaters who use this area as a put-in or takeout for their river trip.

3.1.3 Potential Constraints

This area does not have any notable constraints.

3.2 Crim Creek Area

3.2.1 General Location and Access

The Crim Creek area is located on the western side of the project area along Crim Creek approximately 0.75 mile upstream from the confluence with the Chehalis River and is the only area proposed on the western side of the project area overall. A ridgetop overlooks the Crim Creek and Lester Creek drainages above the temporary inundation reservoir. The site is accessed via FR 1000D2, a road within Weyerhaeuser's Pe Ell South Permit Area. Road access will occur by travelling from the FRE facility area on FR 1000 and local forest roads for approximately 1.5 miles. The potential recreation site development area is situated off FR 1000D2 on a ridge with generally steep terrain surrounding the road.

3.2.2 Potential Recreation Improvements

3.2.2.1 Day-use Facility and River Access Trail

The Crim Creek area has the potential to support a small-scale day-use facility along the ridgetop and immediately off FR 1000D2. The area could potentially provide a small parking area immediately off FR 1000D2, an information kiosk, and a river access trail to Crim Creek. The day-use facility will be developed outside the temporary inundation reservoir area. The trail will be developed within the temporary inundation reservoir down to Crim Creek where an existing bridge is located. The remote setting and steep terrain are not suitable for larger-scale development. Overall, this site will provide access to river-based activities such as fishing, swimming, and possibly whitewater boating, as well as hiking and biking opportunities within the temporary inundation reservoir area.

3.2.3 Potential Constraints

The primary constraints related to potential recreation site development in this area are (1) private land ownership limiting public access, and (2) steep terrain at the potential site development area.

3.3 Murphys Point Area

3.3.1 General Location and Access

The Murphys Point area is located on the eastern side of the project area, the Chehalis River, and the temporary inundation reservoir (Figure 2). Vehicle access to the area will occur via FR

1010 and 1013 for approximately 3.5 miles from the proposed FRE facility area at the junction with FR 1000. The area is located on a ridge adjacent to the Chehalis River between Hull Creek and Browns Creek, which will provide expansive views of the Chehalis River drainage and the surrounding rolling hills. Notably, this area has an existing road (FR 1013) that connects to FR 1000 within the temporary inundation reservoir along the Chehalis River.

3.3.2 Potential Recreation Improvements

3.3.2.1 Day-use and Trailhead Facility

The Murphys Point area has the potential to support a day-use facility along the ridgetop adjacent to FR 1013. The day-use facility could provide parking, picnic, and restroom amenities. The site will also act as a trailhead for the proposed river and ridgetop access trails discussed in Section 3.3.2.2. The road access stems from the FRE facility area for approximately 3.5 miles, but the access roads (FR 1010 and 1013) are located above the temporary inundation reservoir and thus will remain usable with the implementation of the proposed project. The facility will be developed entirely outside the temporary inundation reservoir.

3.3.2.2 Recreational Trails

The Murphys Point area also provides multiple potential opportunities to provide recreational trail developments offering different trail experiences.

First, to provide pedestrian access to the Chehalis River from the day-use facility off FR 1013, a river access trail will be developed adjacent to the existing road alignments within the temporary inundation reservoir. The initial trail segment (approximately 0.5 mile long) will potentially parallel the FR 1013 road alignment and provide access to the Chehalis River following construction of the FRE facility.

Second, from the river access trail segment, a riverside trail could potentially be developed along the Chehalis River to the south, mirroring the FR 1000 road alignment—entirely within the temporary inundation reservoir. This trail segment has the potential to provide a longer trail experience (approximately 3 miles one way to the Fisk Falls area), roughly following a portion of a former trail that used to exist along the Chehalis River in 1891 (U.S. Surveyor General 1891). As discussed in the SEPA EIS, this longer trail continued upstream to Fisk Falls, passing the mouth of Browns Creek, and in the early 1900s, a small number of homesteads existed at the mouths of the creeks along this trail (Ecology 2020). The potential 3-mile-long riverside trail segment will follow the FR 1000 road alignment along the eastern edge of the Chehalis River, crossing Browns Creek and Big Creek before terminating at the confluence with Roger Creek in the Fisk Falls area. Given the history of this trail, there is potential to provide interpretive and educational displays at the day-use/trailhead facility. It is not recommended to provide any interpretive displays along the trail within the temporary inundation reservoir due to the high potential for damage during flood events.

Third, to provide a less-demanding trail opportunity from the proposed day-use facility in this area, a potential shorter ridgetop trail (approximately 0.4 mile long) could be developed from the day-use facility southwest along a ridge on Murphys Point to a potential overlook outside the temporary inundation reservoir. The narrow ridgetop and potential overlook along or at the end of the trail will possibly provide expansive views upstream and downstream of the Chehalis

River and the surrounding rolling hills. At a potential overlook, there is further potential to provide interpretive and educational displays detailing the history, cultural, and natural resources of the Chehalis River watershed.

Overall, these potential trail developments could provide a variety of trail-based opportunities, including access for river-based recreation opportunities (e.g., fishing, water play) as well as a longer hiking experience along the riverside trail segment and a shorter interpretive trail experience along the ridgetop. The potential day-use facility and river access trail will potentially also serve as a publicly accessible whitewater boating put-in or takeout location for boaters who utilize the Chehalis River reach described in Section 2.1.1, which does not currently exist.

3.3.3 Potential Constraints

The primary constraints related to potential recreation site development in this area are (1) private land ownership at the site and the access roads to the site and (2) related to potential creek crossings along the riverside trail. Gaining public access to the site via existing roads and land acquisition at the site development area will be necessary for this site/area to be viable. In addition, it is not clear at this time if the potential riverside trail alignment will have limitations at the creek crossings at Browns and Big Creeks, which will be located within the temporary inundation reservoir. If substantial improvements are needed at the creek crossings, trail development may be infeasible since constructed features within the inundation area are not recommended due to the high potential for damage during a flood event. At this time, it is not known what the existing creek crossing conditions are and whether any infrastructure will be needed. This will require further investigation during future phases of project development.

3.4 Fisk Falls Area

3.4.1 General Location and Access

The Fisk Falls area is located on the southern end of the project area along Roger Creek at the confluence with the mainstem Chehalis River between RM 113 and 114 in the vicinity of Fisk Falls (Figure 1 and Figure 2). Vehicle access to the area is provided by FR 1000 and 100 within the temporary inundation reservoir approximately 5 miles from the FRE facility. This area is notable for Fisk Falls, an approximately 15-foot bedrock waterfall, located near the confluence of Roger Creek and the mainstem Chehalis River. The Chehalis River and Fisk Falls are culturally important areas to Native American Tribes as a tribal fishing location (HDR 2021).

3.4.2 Potential Recreation Improvements

The potential site development options at Fisk Falls area will be aligned with its cultural importance. Potential improvements will include a small-scale day-use facility with parking, picnic, interpretive displays, and restroom facilities, with possible small-scale trail developments providing a connection to the potential riverside trail originating at the Murphys Point area and a Fisk Falls access trail. Interpretive opportunities will be reasonable at any or all of the main recreational features at this site, including in the parking area, along the trails, and potentially at an overlook feature at Fisk Falls. Depending on discussions with the affected Native American Tribes, the potential site development will include facilities and amenities that support their uses and the importance of the area. The day-use facility will be developed outside the temporary

inundation reservoir, whereas the trail developments will be located mostly inside the temporary inundation reservoir. Overall, this site will provide access to interpretive/educational opportunities, hiking, and biking as well as river-based activities such as fishing, swimming, and whitewater boating.

3.4.3 Potential Constraints

Several constraints exist at the Fisk Falls area, namely (1) the cultural importance of the site/area to Native American Tribes and (2) its location on private land. It is expected that any site development at this location will require consultation with affected Native American Tribes because of the area's cultural importance. Further, as with all the other potential recreation development sites, land acquisition will be necessary at the site development area.

4.0 Operation and Maintenance

Any potential recreation site development as part of the proposed project will be owned by Lewis County and operated and maintained as public recreation assets within the Lewis County Parks and Recreation Department purview. The level and type of operation and maintenance (O&M) activities at any potential recreation site developments is dependent upon the final alternatives determined during subsequent phases of project development. It is anticipated that a comprehensive O&M plan for the proposed project and all associated facilities (not just recreation facilities) will be developed during future phases of project development.

5.0 Conclusions

The project area has several preliminary and conceptual but feasible options to potentially provide recreation site developments as part of the proposed project. All the site development areas discussed in Section 3.0 of this TM have constraints to potential recreation site development, but to varying degrees.

The current private ownership of the lands within and adjacent to the project area and subsequent privately controlled road access is a universal constraint among all four areas. The FRE facility area is affected the least by this constraint, given its proximity to Pe Ell (the nearest public access portal) and the likelihood that land acquisition and public access to this area will be necessary for the construction, operation, and maintenance of the adjacent proposed FRE facility. The Murphys Point area also has similar access and proximity advantages compared to the other two areas, as access to the Murphys Point area occurs from the proposed FRE facility area and is only approximately 3 miles farther along an existing private forest road on the eastern edge of the project area on Weyerhaeuser-owned land. The private access roads to both of these areas also will occur on roads that will not be impacted when the temporary inundation reservoir is flooded. The other two site development areas (i.e., Crim Creek and Fisk Falls areas) will require road access to the sites through the temporary inundation reservoir. The remoteness the Fisk Falls area has the potential to increase O&M requirements due to vandalism and the distance to access the site.

The remaining constraints or disadvantages are generally specific to each of the potential site development areas, including (1) steep terrain limiting development options (Crim Creek area), (2) the cultural importance and potential lack of vehicle access (Fisk Falls area), and (3) the industrial/disturbed setting (FRE Facility area).

Overall, the FRE Facility and Murphys Point areas generally have fewer constraints or disadvantages to potential recreation site development compared to the Crim Creek and Fisk Falls areas. Further assessments of road access, cultural resource impacts, and other factors and the manner in which potential property acquisition unfolds will impact the feasibility of the areas discussed in this TM. Ultimately, further development of a comprehensive plan will be pursued during future phases of project development.

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7.0 Abbreviations List

AW	American Whitewater
District	Chehalis River Basin Flood Control Zone District
Ecology	Washington Department of Ecology
EIS	environmental impact statement
FR	forest road
FRE	flood retention expandable
HDR	HDR Engineering, Inc.

NEPA	National Environmental Policy Act
O&M	operation and maintenance
proposed project	Chehalis River Basin Flood Damage Reduction Project
RM	River Mile
SEPA	State Environmental Policy Act
SR	State Route
TM	technical memorandum