Project Review Comments

PROJECT: 21-1104 R, Mitchell Creek Floodplain Reconnection

Sponsor: Cowlitz Indian Tribe Program: SALMON ST PROJ Status: Application Resubmitted

MEETING: Initial Review

Shared: 4/2/2021

Review Status: Needs more information

Considerations: Other

Topics	Comments
Review Panel Comments - Initial	
Improvements to Make Project Technically Sound (response required)	
	Based on the channel width noted in the Design Report (25 to 35 feet), and the modeled depths of 2 to 3 feet, it seems the technique used could be more LWD replenishment versus placement. LWD replenishment may have a higher level of certainty as wood is moved during floods and is allowed to form naturally. This takes a lot of the guess work out of the engineered design approach. This technique also fits well with your plans for riparian forest restoration.
	Reply: This project is primarily a LWD replenishment project and the ELJ structures are placed to ensure the majority of placed wood stays within the project reach. Per Mitchell Creek Preliminary Design Report, page 10 “The proposed designs are intended for structures to deform during flooding events, with placed logs shifting position within the same structure or potentially becoming dislodged and recruited onto the next downstream ELJ. ELJs have been designed to remain stable in the channel for flows up to and including the 2-yr recurrence interval discharge. Loose trees placed in the channel are anticipated to mobilize and become entangled in downstream ELJs over time.”

PROJECT: 21-1104 R, Mitchell Creek Floodplain Reconnection

Sponsor: Cowlitz Indian Tribe Program: SALMON ST PROJ Status: Application Resubmitted

MEETING: LE Review

Shared: 4/16/2021

Topics	Comments
Lead Entity Comments	
Questions For Applicant	
	If you allow natural processes to move and sort large wood and sediment, you typically have better habitat responses than when you install engineered structures. Given this, have you considered a less engineered approach (i.e. large wood placement with helicopters) that relies on channel dynamics to naturally occur and create more habitat? The channel widths in the targeted stream reach would support this approach.
	Reply: We have considered helicopter-only wood placement through this project reach, however the ease of excavator access, cost, and increased certainty of success with the construction of log jams has led to the selection of a mixed helicopter/excavator approach. This project will utilize a helicopter to transport wood to designated stockpile locations within the project reach. Excavators will access the project site on old spur roads and build log jams while dispersing the stockpiled logs throughout the project reach. The use of excavators allows for keying in placed wood within the riparian area, filling porous logjam voids with slash, more precise wood placement, burying logs ends, and the creation of a higher quality restoration product. The majority of wood placed within this project reach is loose, un-anchored and may shift during annual high-water events. The size, length, diameter, rootwad attached pieces and sheer quantity of loose wood proposed will interact and lock together if movement occurs during large flood events. If any wood pieces manage to float longer distances, the designed ELJ's structures will collect mobile wood. The mixed approach of the placement of ELJ structures and hundreds of loose logs/whole trees embraces the natural formation of logjams while also increasing the level of certainty mobile logs will be trapped within the project reach, before they could float downstream and possibly impact the landowner's bridge crossing.
	Is there a long-term stewardship plan in place for alder restoration? If this is a future need in the watershed, how might this work be funded? Consider reaching out to the Mason County Conservation District about their work along the Skokomish River: they have a riparian stewardship program in place that might be worth adapting for the Grays.
	Reply: A long-term stewardship plan has yet to be developed for the alder-thinning/conifer release portion of this project. The Tribe will speak with Mason County Conservation District to determine if their stewardship program is applicable for this upper Grays River watershed. The development of a stewardship program would be well received if proposed during the next Washington Coastal Conservation Resilience and Restoration Initiative (WCRRI) grant round.
	Ensure that flow past large wood structures support sediment and flow processes, and associated habitat formation, downstream. Modeling how structure placement supports the formation of habitat features is key to restoration work. This could provide efficiencies in terms of how much wood is placed in a system, versus how much habitat is gained.

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	Reply: The proposed ELJ's and loose logs does not exceed the key piece criteria and quantities per recommendations by Fox and Bolton (2007). The formation of habitat and restoration of sediment and flow processes will be further evaluated comparing existing and proposed 2D hydraulic model results, depicting areas with slower velocities, newly inundated floodplains, greater hydraulic complexity (fast, slow, deep, shallow water in close proximity) and reduced sediment transport capacity. The results of this modeling will be used to optimize the number and locations of proposed ELJs and placed wood in the reach.
	Smaller, single channel spanning logs can work well in a system this size.
	Reply: We are planning to place an abundance of single channel spanning logs at this project site and if they become mobile they will interlock with the next piece located just downstream or rack into an ELJ.