

MEMORANDUM FOR THE RECORD**SUBJECT: 21 BON 104 Navigation Lock 1 (old navlock) Bridge Replacement**

Portland District has determined that continued serviceable use of the Bonneville Dam old Navigation Lock (Navlock 1) Bridge (Figure 1) is of concern for structural, geotechnical, and operational reasons. As a result, a replacement bridge will be constructed over the existing navigation lock with an alignment located immediately downstream of the existing bridge and will provide a minimum underclearance that is larger than is currently present under the existing bridge. The existing bridge will be removed once the new bridge is complete and available for use, though the piers/support structures will be left in place. Total construction duration is anticipated to be approximately 13 months from contract award to product completion. Construction dates have not been finalized yet, but construction is tentatively anticipated to start in CY2023

The new bridge will maintain vehicular and pedestrian access across the navigation channel however the replacement bridge will not replace the designed swing functionality of the existing bridge since Navlock 1 is no longer in an operable state. Existing utilities (water main, electrical power lines, and fiber optic communication lines) will be moved from the existing bridge to the new bridge. Due to potential for unforeseen future navigation purposes and potential future requirement to remove the new bridge, the replacement bridge will not impede on the waterway itself, meaning that no substructures will be placed within the navigation channel. However, it is anticipated that the new southern abutment for the new bridge will include some placement below the ordinary high-water line between Robin's Island and the existing Navlock 1 guide wall (i.e., outside the navigation channel) and will be constructed during the winter maintenance period (01 December to 28 February).

To tie-in to the existing roadway, at the south and north bridge approaches the roadway will be realigned from the existing bridge to the new bridge. At its northern terminus, the new bridge will fit entirely between the existing bridge and the Bonneville Power Administration transmission tower that is to the West or downstream. This will require minor drainage and parking lot modifications to accommodate the new alignment including improvements to the existing parking lot on Tower Island and providing associated sidewalks and curbs on the new bridge. Any unimproved areas disturbed during construction will be revegetated and/or restored with non-erodible surfaces (i.e. rock, shrubs with mulch). Runoff from new impervious areas will be routed to rain gardens or other appropriate facilities for treatment and infiltration, as feasible, to meet stormwater management requirements.

Construction access is available from I-84, as well as via barge into the old Navlock 1 navigation channel, albeit with some restrictions. Access via I-84 may limit delivery of

some larger construction materials due to the tight turning radius at the I-84 off ramps, as well as size restrictions to move large height elements under the Union Pacific Railroad overpass that connects from I-84 to the south project entrance. Access via barge may be seasonally restricted due to variable water elevations and the presence of sediment that has partially filled-in the old navigation channel to the south of the bridge.

Construction considerations include a variety of factors such as in-water work periods, water elevations for barge movements into the old navigation lock, the seasonality of high tourism rates, and need for continued access across the old navigation lock for continued project operations and maintenance activities. Due to operational considerations, including usage by USACE vehicles and mobile cranes, public vehicle and pedestrian access to the dam and visitor center, contractor requirements, and outgrant users, the closure of the existing bridge will be systematically minimized given the lack of alternate access points.

Impacts to fish are expected to be minimal. While overall onsite construction activities are anticipated to occur for longer than one year, activities will occur in accordance with the Fish Passage Plan and 2020 CRS BiOp's.

- For activities that occur below the ordinary high-water mark, they will be conducted during the respective winter maintenance and in-water work periods (December to March), in accordance with the Fish Passage Plan and 2020 CRS BiOp's (i.e., 01 December to 28 February per 2020 Fish Passage Plan).
- Construction activities anticipated to occur below the ordinary high-water mark will primarily consist of construction the south abutment for the new bridge. This new abutment will occur from the south shore between Robin's Island and the existing Navlock 1 guide wall.
- There are no fish passage facilities and no flow in this area below Navlock 1. All construction activities are anticipated to remain at least 100 ft from any active fishway.
- Outside of the in-water work window (i.e., 01 December to 28 February per 2020 Fish Passage Plan), activities will include over-water work including use of a barge mounted mobile crane positioned in the old navigation lock approach channel to place bridge components.
- Sea lion management efforts occurs towards the tail end of the old navigation lock (Figure 1). Construction activities will be coordinated with this group such that they do not negatively impact implementation of sea lion management efforts.
- The Bonneville Fish Hatchery receives its water from a well field, which pumps up to 25 mgd from the aquifer in the vicinity of Navlock 1, less than 1,000 feet from the new bridge site. Proximity to the well field will require that special provisions be made to ensure that the aquifer does not become contaminated by drilling equipment and construction methods. As an example, drill tools and casing may require steam cleaning prior to arrival on site. Provisions for the hatchery wells were included in the specifications used during construction of Navlock 2 and it is assumed these will also be implemented during construction of this new Navlock 1 bridge. Specific requirements for equipment cleaning, allowable drilling fluids,

and monitoring requirements will be explored further during the project's P&S phase.

- Water services to all facilities will be maintained during construction

A. Species – N/A

B. Origin – N/A

C. Length – N/A

D. Marks and tags – N/A

E. Marks and Injuries found on carcass – N/A

F. Cause and Time of Death – N/A

G. Future and Preventative Measures – This MFR is being provided for notification of future construction activities at Bonneville Dam. Construction activities will occur within the restrictions identified in the annual Fish Passage Plans and 2020 CRS BiOp's and are not anticipated to require any modifications to project operations that would require coordination. If construction activities are identified that require coordination from a CRS BiOp / FPP perspective, they will be brought to the appropriate forum for coordination (i.e., FPOM).



Figure 1 - General site layout for Bonneville Dam Navigation Lock 1 Swing Bridge Replacement. Area circled in red indicates where sea lion traps are operated by other entities.

Sincerely,

David Trachtenberg
Fish Biologist
Environmental Resources Branch
USACE Portland District
503-808-4709

230309 FPOM Update –

-----Original Message-----

From: Trachtenberg, David A CIV USARMY CENWP (USA) <David.A.Trachtenberg@usace.army.mil>

Sent: Monday, March 06, 2023 2:40 PM

Cc: Mackey, Tammy M CIV USARMY CENWP (USA) <Tammy.M.Mackey@usace.army.mil>

Subject: RE: BN NL bridge - Draft 30% PS Quality checks review

In looking through the 30% design for this project, my comments pertinent to this stage of design are minor and I will put them in Dr Checks (ensure seal lion haul out areas are avoided during construction and in final design; consider tailrace sea lion mgmt during construction; consider FPOM distance from adult ladder requirements (50/100ft) for construction activities).

Only question I have is do we have any fisheries concerns with over-water work outside the in-water work window as long as the 50/100ft adult ladder buffers are respected?

*The design is minimal from a fisheries perspective; net replacement of over-water structure, appears no new in-water structure (as nav channel must remain clear), and being in the old Nav channel area where there are no fish passage routes/structures, therefore overall fisheries concerns are minimal. Ben Hausmann's view was the same when this project was first kicked off a couple years ago.

*The 30% design indicates in-water work will be done during the in-water work window (December-February).

*Normal caveats are included for control/mgmt of runoff into the nav channel.

Tammy – I don't think this warrants an FPOM review, but we could mention at FPOM on Thursday that the Corps is currently reviewing the 30% design package and the above caveats, such that a FPOM/FFDRWG review isn't warranted from our perspective; but we will continue to keep FPOM apprised of developments IAW with the existing MOC (21BON001).

Thanks
David