

OFFICIAL COORDINATION REQUEST FOR NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- 14BON08 BI Bridge overlay - updated
COORDINATION DATE- 30 April 2014 updated on 15 October 2014.
PROJECT- Bonneville Lock and Dam
RESPONSE DATE- 29 October 2014.

Description of the problem: The contract for this work has a start date of 3 November instead of 10 November. The Small Projects Team would like to amend the MOC to reflect the contract dates and requests FPOM concurrence. The work completed during this time would be concrete removal of the east approach to the bridge. The concrete removal is on the road before the bridge. There will be no over-water work. Concrete saws will be used to cut the road into large chunks, which will then be removed with an excavator to another location to be broken into smaller chunks. No hydro-blasting is expected until after the fishway has been dewatered.

The Bonneville Bradford Island Mainstem Fish Ladder Bridge is a cast in place concrete bridge constructed in 1937. The deck has undergone serious deterioration within the top 3-4 inches of concrete, which reduces the load capacity. Currently, a steel plate is over the area as a temporary solution. Several inspections have been conducted between 1992 and 2012, with the latest inspection and analysis showing a de-rating of the bridge. The current recommended load rating for the bridge is 24 tons for Type 3 (single axle), 33 tons for type 3S2 (double axle), 39 tons for type 3-3 (tandem axles) vehicles. This affects the following traffic:

1. Motor Coaches w/ luggage bays, 25 tons
2. All single unit trucks with 3 or more axles, special haul vehicles, tractor trailer rigs, 33 tons or more
3. All unlimited and limited permit loads (Includes several AT cranes)
4. All RT cranes over 19 tons GVW.

Repair of the bridge deck (980 sq.ft.), span of about 50 ft, and full depth patches (3) to the underside is necessary. This repair work will help to preserve the bridge, improved the driving surface and reduce maintenance-related lane closures, by removing 3-4 inches or more of the bridge deck and repave with a longer-lasting, rapid-set latex-modified concrete. This bridge is considered mission critical. It connects all tourist, construction and project personnel traffic from the south side of the project to the Bradford Island Visitor Center. There is no alternate means to reroute traffic at this site. If this repair work is not done, the deck will continue to deteriorate resulting in more load restrictions and higher repair costs. The deck will not be able to remain unposted. Repair of the deck will restore the bridge to a condition where no load restrictions will be required for normal traffic.

Type of outage required: Operations and visitors need at least 1 lane open during the day, so work will need to occur at night. The contractor will work at night with the whole bridge area blocked off and then plate one lane for daytime traffic. During the day, we will have flaggers controlling the one lane of traffic.

From 3 – 10 November, work will occur within 50’ of the Bradford Island ladder while it is still watered up and operating; as per 14BON21, the Bradford Island ladder will be dewatered for fish valve inspections from 10 - 23 November. The concrete removal from the roadway leading to the bridge will occur at night.

Impact on facility operation: The bridge repairs will occur at night. One lane of the bridge will need to be closed at a time during the day. This will affect traffic and will need constant flagging. This will allow for passage of personnel, the public, and security during daytime hours. Bridge work will occur between 1700 – 0700 and will require lighting due to the season of operation.

Flaggers will be provided by the Bonneville Project. Signage will be needed at night and will also be provided by the Bonneville Project.

Dates of impacts/repairs: 3 – 28 November 2014.

Length of time for repairs: Approximately 4 weeks.

Expected impacts on fish passage:

Downstream migrants: no expected impacts as this work is over the fish ladder and not near the downstream passage routes.

Upstream migrants: The impacts to fish passage are expected to be minimal as the work will take place while the Washington Shore ladder is still operational (prior to the in-water work period) and Powerhouse 2 is the priority powerhouse. Efforts will be made to reduce PH1 operation to the extent possible. It should be noted, however, that PH1 will likely operate as many as four units due to anticipated flows of 126kcf/s (based on the current 10-day forecast). There are six available units at PH2 (Unit 13 returns to service in mid-November and U11 returns to service at the end of December). Chum flows are anticipated to begin on 1 November.

There may be potential delay associated with operating PH1 and encouraging fish to use the BI ladder only to be spooked back out due to noise or vibration related to the concrete removal within 50' of the fishway. Since that work is occurring at night and fish numbers are relatively low, the risk of delay is considered minimal.

Equipment such as concrete saws, and excavators will be used to remove the concrete roadway to the east of the bridge. There may be noise or vibration impacts, however, the work will occur at night, when fish are less likely to be migrating through the ladders. The Bradford Island ladder will remain operational from 3 – 10 November. BI will be dewatered from 10 – 23 November. Table 1 below shows daily fish passage totals and averages for the past 10 years for the Bradford Island ladder during the proposed work window.

Bull Trout: This work will occur outside the periods when bull trout have been reported at BON. Impacts are expected to be minimal to non-existent.

Five distinct population segments (DPS) of bull trout are listed as threatened by the USFWS. The Columbia River DPS (listed in 1998) is the only one of the five that is likely to occur in the vicinity of the proposed project. Historically, bull trout of the Columbia River DPS likely ranged through much of the Columbia River Basin with spawning and rearing occurring in the coldest creeks, often at higher elevations. Presently, bull trout of the Columbia River DPS are distributed in a more fragmented pattern throughout the Columbia River Basin with fewer adult migratory fish and fewer, more compressed spawning reaches than historically occurred. WDFW and COE provided a list of anecdotal sightings/captures of bull trout in the mainstem Columbia River. From 2000 through 2012 there were eleven bull trout reported. Three were downstream of Bonneville Dam, with two at the mouth of Hamilton Creek (CRM 143) and one in 2005 at the Bonneville Dam Smolt Monitoring Facility (CRM 144). Upstream of the dam, one bull trout was found at Cascade Locks (CRM 149), two at Drano Lake (CRM 162), two at the mouth of the Klickitat River (CRM 180.5), one in 2002 at the John Day Dam Smolt Monitoring Facility (CRM 215), and one sighting at Dog Creek Falls by a reputable WDFW creel sampler who observed 18-

24" cuts or dollies working old redds below the splash pool over the course of two weeks. Fish passage data from the Bonneville Dam fish ladders (COE, unpublished) show three sightings of bull trout moving through the fish ladders for 2000 through 2012 during the fish counting season (April 1st through October 31st). This occurred from 5/30/09 through 6/2/09 and was reported as 12 inch bull trout moving upstream through count window on each occasion.

Lamprey: This work will occur after the bulk of the lamprey migration season. Impacts are expected to be minimal to non-existent.

Table 1. 10 year average fish passage at BON for November 2004-2013

Date	All Chinook	All Steelhead	All Coho	Sockeye	Chum	Pink
1-Nov	192	93	265	0	5	0
2-Nov	163	99	221	0	4	0
3-Nov	200	91	198	1	5	0
4-Nov	207	93	174	0	5	0
5-Nov	178	92	174	0	6	0
6-Nov	168	107	151	0	6	0
7-Nov	74	84	126	0	3	0
8-Nov	55	63	108	0	4	0
9-Nov	53	44	76	0	4	0
10-Nov	50	56	56	0	2	0
11-Nov	67	65	59	0	4	0
12-Nov	53	76	58	0	4	0
13-Nov	52	85	55	0	3	0
14-Nov	36	74	69	0	3	0
15-Nov	36	57	57	0	3	0
16-Nov	24	68	59	0	4	0
17-Nov	20	60	45	0	4	0
18-Nov	22	63	41	0	2	0
19-Nov	20	60	31	0	2	0
20-Nov	17	60	37	0	2	0
21-Nov	15	41	18	0	2	0
22-Nov	12	48	17	0	2	0
23-Nov	10	36	14	0	2	0
24-Nov	11	29	6	0	2	0
25-Nov	7	32	8	0	1	0
26-Nov	5	27	4	0	1	0
27-Nov	5	29	3	0	0	0
28-Nov	8	31	3	0	1	0
29-Nov	6	30	2	0	1	0
30-Nov	7	27	2	0	0	0

Comments from agencies

8 May 2014 FPOM meeting - 14BON08 BI bridge overlay. Fredricks suggested halting bay 18 attraction flow and delaying work until after daylight (starting after sunrise) to allow fish to pass or not work weekends (this gives fish time to move through the ladder unimpeded by construction

noise/activity). PH2 will be the priority powerhouse. Fredricks also noted he would like to see the fish numbers broken out by species. ***Pending. Need to know if the proposed changes can be adopted.***

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

From: Popescu, Corina NWP

Sent: Wednesday, October 15, 2014 11:09 AM

To: Mackey, Tammy M NWP

Cc: Perletti, Kevin P NWP; Magee, Michael S NWP; Wilcox, Scott M NWP

Subject: 14BON08 BI Bridge Overlay - Schedule (UNCLASSIFIED)

Hi Tammy,

Per our phone conversation earlier and your discussion with Kevin the other day, we wanted to be transparent in our work on the BI bridge overlay. Referencing FPOM MOC 14BON08, the dates of impact show 10-28 November. Our contract has work starting 03 November. The nature of the work is still the same as in the original MOC. The work is still to be performed at night from 1800-0500. The equipment used is still the same as in the original MOC: "Equipment such as jack hammers will be used to remove concrete. There may be noise or vibration impacts, however, the work will occur at night, when fish are less likely to be migrating through the ladders." This still applies. We have a contractual requirement to contain debris and ensure that no debris go into the fish ladder. We would like to request starting work on 03 November.

Please let me know if I can help answer any further questions.

Thanks,

Corina Popescu

Civil Engineer, Small Projects Team

Portland District, USACE

Office: 503.808.4429

Mobile: 360.600.4165

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

From: Gary Fredricks - NOAA Federal [mailto:gary.fredricks@noaa.gov]

Sent: Thursday, October 30, 2014 7:23 AM

To: Mackey, Tammy M NWP

Cc: Paul Wagner

Subject: [EXTERNAL] BON Outages

Tammy, I did some searching of the records and now have a better picture of the coordination history of these issues. When dealt with individually, the outages seemed to make some sense but I think adding the all of the activities together with the extension of the bridge work changes the nature of the impact on fish, even with night work periods. Fish passage is much higher in the first week of November, particularly when you look at the past year with similar high fall Chinook counts. I remember recently discussing this in context of not running the first powerhouse. I think that is important, however given the flow forecasts (~130 kcfs), I'm not sure that can be done with the unit outages at P2. It looks like at least two units will be down over there (unless you can up the return of Unit 11 by a month:-). Given the sea lions in the tailrace and the consequences of spawning delay for adult Chinook in November, I would recommend the project do everything it can to keep the first powerhouse off line, at least during that first week of November (3 - 9) to minimize any attraction of fish to the Bradford Is. ladder and any subsequent delay that might be caused by the activities over there. I also recommend moving the south

attraction spill to the north to facilitate CI ladder attraction. I realize there may be some effect on Chum operation, so that will need to be worked out as well. Thanks, Gary

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Gary Fredricks
Columbia Hydropower Branch
Interior Columbia Basin Office
NOAA Fisheries, West Coast Region

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

From: Popescu, Corina NWP
Sent: Thursday, October 30, 2014 10:01 AM
To: Mackey, Tammy M NWP; Hausmann, Ben J NWP; Perletti, Kevin P NWP
Subject: RE: [EXTERNAL] BON Outages (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Hi Tammy,

A little further clarification, per our phone discussion a few minutes ago: the work that would be occurring during the 3 Nov - 10 Nov is NOT the hydro demolition on the bridge deck. The work would occur on the east approach, and it is within 50 feet of the bridge deck itself - that is something to consider. The work would be concrete cutting (impacts include noise and vibration) of the existing slab into pieces for removal by an excavator (claw type equipment). No debris like the slurry from the hydro demo is expected. The bigger pieces of concrete would be broken up with a hand-held pneumatic hammer (impacts include noise and vibration. Comparable to the concrete saw cutting.) Containment of dust and concrete will be ensured and is in the contractor's plan. Again, the work is not on the bridge deck itself during this period, but on the east approach.

Thanks,

Corina Popescu
Civil Engineer, Small Projects Team
Portland District, USACE
Office: 503.808.4429
Mobile: 360.600.4165

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

From: Gary Fredricks - NOAA Federal [mailto:gary.fredricks@noaa.gov]
Sent: Thursday, October 30, 2014 3:12 PM
To: Mackey, Tammy M NWP
Cc: Lorz, Tom; Hausmann, Ben J NWP
Subject: [EXTERNAL] Re: FPOM: Official Coordination - MOC 14BON08 updated

Tammy, Thanks for updating the MOC. The only thing left that I can see is to define day and night. I propose that the project use the daytime hours defined in Table BON-5 of the 2014 Fish Passage Plan. I would also still like to see the south spill moved to the north side (Bays 1 and 2) and of course, Powerhouse 1 use should be minimized to the extent possible. Thanks for coordinating. Gary

Final results- FPOM concurred with the original MOC at the 12 June 2014 meeting. This updated MOC was finalized on 31 October. The following teletype was sent on the same day.
SUBJECT: MODIFIED ATTRACTION SPILL AND POWERHOUSE 2 OPERATIONS REQUEST

1. EFFECTIVE MONDAY, NOVEMBER 3, AT 0600 HOURS, UNTIL BRADFORD ISLAND FISH LADDER OPERATES AT ORIFICE FLOW (ESTIMATED DATE OF NOVEMBER 9) PASS ADULT ATTRACTION SPILL VIA SPILLBAYS 1 AND 2. SPILL VIA SPILLBAY 2 WILL TERMINATE WHEN BRADFORD ISLAND FISHLADDER GOES TO ORIFICE FLOW. THE GOAL OF THIS OPERATION IS TO ATTRACT ADULTS TO THE CASCADES ISLAND FISH LADDER DURING BRADFORD ISLAND FISH LADDER BRIDGE REPAIRS. ADDITIONAL INFORMATION REGARDING THE REPAIRS MAY BE FOUND IN MOC 14BON08 ON THE FOLLOWING WEBSITE: <http://www.nwd-wc.usace.army.mil/tmt/documents/FPOM/2010/>

2. EFFECTIVE MONDAY, NOVEMBER 3, AT 0600 HOURS, UNTIL BRADFORD ISLAND FISH LADDER RETURNS TO SERVICE (ESTIMATED DATE OF NOVEMBER 28) OPERATE POWERHOUSE 2 OUTFLOW TO THE MAXIMUM EXTENT ALLOWABLE IN THE 2014 FISH PASSAGE PLAN (FPP). THE GOAL OF THIS OPERATION IS TO ATTRACT ADULTS TO THE CASCADE ISLAND FISH LADDER WHILE THE BRADFORD ISLAND FISH LADDER IS OUT OF SERVICE.

3. THE FPP MAY BE FOUND ON THE FOLLOWING WEBSITE: <http://www.nwd-wc.usace.army.mil/tmt/documents/fpp/2014/index.html>

4. THIS OPERATION WAS REQUESTED BY TAMMY MACKEY (COE) AND COORDINATED WITH SCOTT BETTIN (BPA), DAVE SMITH (COE), AND WITH THE FPOM VIA EMAIL COORDINATION ON OCTOBER 30, 2014, VIA MOC 14BON08

Please email or call with questions or concerns.

Thank you,
Tammy

Tammy Mackey
NWP Operations Division Fishery Section
Columbia River Coordination Biologist
503-961-5733
Tammy.m.mackey@usace.army.mil



Map
Traffic

Dragonfly Island



100 m
33 ft