Puntledge Water Use Plan

Physical Works Terms of Reference Addendum 1

PUNWORKS-1: Gravel Replacement in the Puntledge River – Definition/Implementation

September 23, 2020

PUNWORKS-1: Gravel Replacement in the Puntledge River Physical Works Terms of Reference

A1.0 Addendum to PUNWORKS-1: Gravel Placement in the Puntledge River – Physical Works Terms of Reference

A1.1 Addendum Rationale

This Terms of Reference (TOR) is for the PUNWORKS-1 Gravel Placement in the Puntledge River (PUNWORKS-1) physical works implementation phase. This TOR is submitted in response to the Order (Files No. 0265017 and 1001701) issued by the Comptroller of Water Rights (CWR) on January 19, 2005. Clause 4 and Schedule C, Section 1(a) (b) and (c) of the Order required BC Hydro to submit a TOR:

> "…for the placement and periodic maintenance of approximately 2000 square metres of spawning gravel in the Puntledge River." Section 1(a)

While implementing the TOR dated October 5, 2018, BC Hydro has determined that the original project site is not feasible. This site needed to be accessed through private property. BC Hydro and the private landowner continued to negotiate an access agreement via the private property on Forbidden Plateau Road, but no mutual agreement was able to be finalized. The project team reviewed other possible access options to the original project site, but no feasible access options were available.

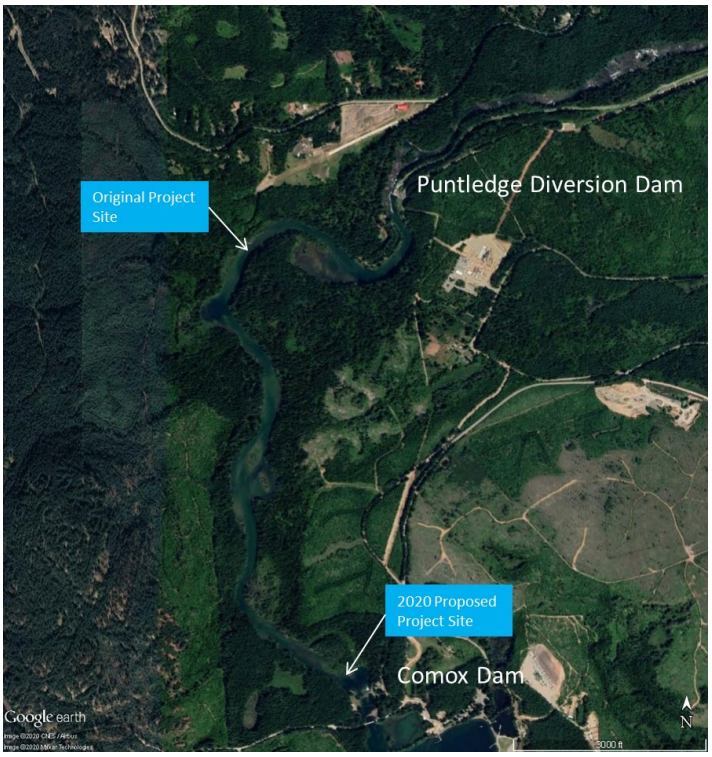
As no other access options to the project site were feasible the project team pursued reviewing other possible sites located in Reach B that would benefit from the installation of 2000 square metres of spawning gravel.

A2.0 Project Location and Sites Considered in Reach B

The proposed project site is located on the Puntledge River just below Comox Lake dam. The original project site was located approximately 1 km upstream of the Puntledge diversion dam, downstream of the confluence of a small tributary (Coltsfoot Creek) on the north side of the river and adjacent to the spawning gravel enhancement project completed by the DFO in 2005.

Figure 1: Proposed 2020 Project Location

Figure 2: Original Project Site in proximity to the 2020 Proposed Project Site

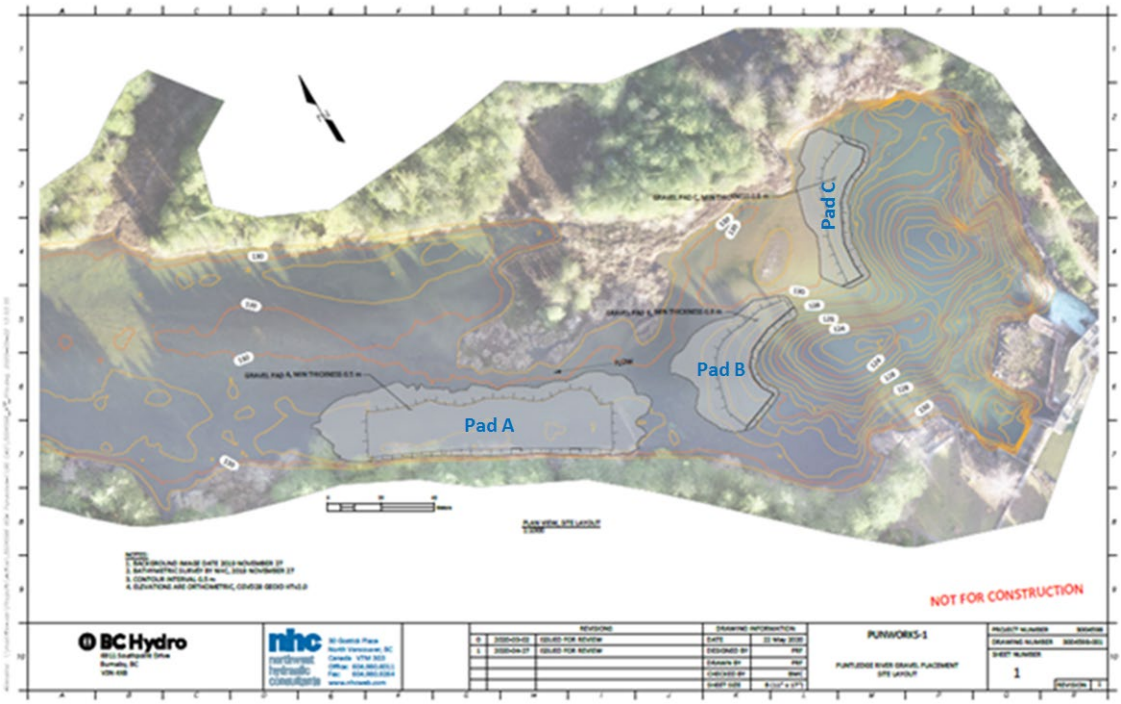


When choosing the new project location, three sites (Pad A, B and C) were identified that would benefit from the installation of 2000 square metres of spawning gravel. Pad A is located downstream of the dam tailwater and in a single channel along the west bank of the river. Pad B and C are located directly below the dam in the central part of the pool with no adjacent access and would need to be accessed via the east bank or helicopter.

The project team reviewed the three proposed sites and determined that Pad A meets the terms of the Order for installing approximately 2000 square metres of spawning gravel and is easily accessed via the west bank. Additionally, Pad A is similar in nature to the original Supply Creek site.

Pad A, has a surface area of 3,167 m^2 and provides 1,874 m^2 of suitable habitat at a flow of 30 m^3/s. The required spawning gravel volume is approximately 1,353 m^3 (1,827 MT). Based on Guimond (2006), the constructed spawning habitat would have the capacity for a minimum of 180 pairs of Chinook salmon.

Figure 3: Three Sites Considered



A3.0 Schedule

The anticipated project schedule has been revised. Should permits not be received in time, the construction window would need to be shifted to 2022 or to another DFO-approved work window.

Milestone/Tasks	**Date**
Project initiation and planning	August 2020 – October 2020
Archaeology and communications	November 2020 – March 2020
Planning & Permitting	September 2020 – August 2021
Construction Phase	September 2021
Completion Phase	October 2021 – December 2021

A4.0 Budget

The budget estimate in this TOR includes the construction cost estimate described in Section 6.4 of the 2020 NHC design report using the 100% Unit Rate Factoring. A 30% contingency has been included to account for project uncertainties such as number of weeks of construction.

BC Hydro is requesting approval for the PUNWORKS-1 implementation cost from 2020 to 2022 of $558,435.

A5.0 References

Summer Chinook Spawning Habitat Restoration in the Puntledge River Headpond 2004 – 2005 (E. Guimond).

Connors, BM and E Parkinson. 2015. Puntledge River fish entrainment strategy Action Plan. Prepared by ESSA Technologies Ltd for BC Hydro, Vancouver, BC. 37pp.

Puntledge Water Use Plan Gravel Placement Project Definition Report Prepared by: E. Guimond and NHC March 31, 2013.

PUNWORKS-1 Puntledge River Gravel Placement Design Report, July 7, 2020 (NHC).