

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment
(DOE/EA 2126/SA-57)

Henry Reach Project Phase 2

Bonneville project number 2010-072-00
Bonneville contract number 84063 rel. 3

Bonneville Power Administration
Department of Energy



Introduction

In June 2020, BPA analyzed the effects of the Narrows Reach Project (referred to elsewhere as the Henry Reach Restoration Project¹), in the Lemhi Valley River and Floodplain Restoration Projects EA (DOE/EA-2133) (Lemhi EA), which analyzed the effects of river and floodplain habitat restoration actions from a number of projects in the mainstem and tributaries of the Lemhi River in eastern Idaho. In December 2020, Bonneville Power Administration (BPA) and the Bureau of Reclamation completed the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126) (Programmatic EA). The Programmatic EA analyzed the potential environmental impacts of implementing habitat restoration actions in the Columbia River Basin and its tributaries. The effects analysis in the Programmatic EA is similar in its assessment of the effects of the actions described in the Lemhi EA, but more comprehensive in that it covers more restoration actions. Subsequent projects in the Lemhi Valley have therefore been assessed within the effects analysis of the Programmatic EA rather than the Lemhi EA.

This SA analyzes the effects of the Henry Reach Project Phase 2 which BPA is proposing to fund. BPA would provide funds to the Idaho Department of Fish and Game (IDFG) to implement specific restoration actions in the Lemhi River Valley in Lemhi County, Idaho, consistent with those assessed in the Programmatic EA. The project would modify some river restoration features constructed in the Narrows Reach Project in 2020 and construct additional instream features to improve habitats for spawning and overwintering juvenile Snake River Spring Chinook salmon and Snake River steelhead.

This SA analyzes the site-specific impacts of the Henry Reach Project Phase 2 to determine if it is within the scope of the Programmatic EA's analysis. It also evaluates whether the project presents significant new circumstances or information relevant to environmental concerns that were not addressed by the EA. The findings of this SA determine whether additional National Environmental Policy Act (NEPA) analysis is needed pursuant to 40 Code of Federal Regulations (C.F.R.) § 1502.9(d) and 10 C.F.R. § 1021 *et seq.*

¹ Other 2020 planning and analysis documents identified the “Narrows Reach Project” as the “Henry Reach Restoration Project”, though the name “Narrows Reach Project” was used in the 2020 EA. They are one and the same. This project uses the name “Henry Reach Restoration Project Phase 2” rather than “Narrows Reach Project Phase 2” for consistency with titles and references to this project in other planning and analysis documents supporting this current action.

Proposed Action

The Henry Reach Project Phase 2 is located approximately 30 miles southeast of the town of Salmon, Idaho. The project would occur along 2,700 feet of the Lemhi River, encompassing about 18 acres, and require about 1,500 feet of excavation for the channels, alcoves, and ponds discussed below (see Appendix A). Approximately 1,700 feet of new temporary access roads would be constructed with a similar length of existing unimproved roads used for access. One existing bridge and one temporary crossing of the main stem river would be used. Staging areas for construction needs would require about 0.5 acre.

The project would construct two side channels (450 and 250 feet long) with a pond in each channel (each about 10 feet deep with a surface area of about 4,500 square feet [about 0.1 acre]) for rearing habitat.

Three large log-jam structures (composed of about twelve 16-inch-diameter trees each) would be installed to create hydraulic complexity and hydraulic diversity in the mainstem of the Lemhi River. About 50 individual trees (greater than 16 inches in diameter) would be placed in the side channels for habitat diversity.

Two alcoves would be constructed in the mainstem river, each about three feet deep and 40 feet long with two logs (with rootwads attached) in each.

An engineered riffle would be constructed on the mainstem river near the inlets of two existing side channels to elevate flows sufficient to activate these channels and provide floodplain connection onto a 4-acre well-vegetated riparian area. A temporary coffer dam would be erected in the main stem river to divert flows around the riffle construction site into one of the newly constructed side channels to allow for construction “in the dry” and minimize sediment input into the river.

Three beaver dam analogues in existing side channels would be constructed to re-create the historic condition of a relatively wide and active floodplain interlaced with slow water habitats.

Floodplain roughness features (willow baffles and large woody debris) would be placed over 1.2 acres of floodplain surface to add complexity and diversify habitat where such natural roughness features are lacking.

Fifty-six boulders (about 18 inches in diameter each) would be placed by an excavator (operating from shore) throughout the main stem river. Several would be placed near the constructed alcoves to provide nearby resting habitat. Some would be placed in three-boulder clusters with pools excavated behind them. Rocks have been sized appropriately to prevent movement and would be installed with slight embedment to minimize downstream movement.

A 10-foot-long, 12-inch-diameter culvert in the private landowner’s access road would be replaced with an 18-inch-diameter culvert to improve its capacity for passing fish and transporting natural sediment loads downstream.

Seeding and planting of willow cuttings on disturbed areas (about 1.5 acres total) would be applied in areas where such vegetation is lacking to accelerate the recovery of the riparian area. If survival of these plantings drops below 60% within the next five years then the affected areas would be replanted.

The top six inches of organic topsoil would be salvaged from new side channel excavation areas and stockpiled for use in final contouring and restoration of the project site. All staging areas and temporary access routes as well as compacted areas within the project area would be de-compacted by ripping to a depth of eight inches with a tractor-mounted toothed ripper to loosen and aerate the soil but leave organic matter on the surface.

The Henry Reach Project Phase 2 would take place in the late summer and fall of 2024.

Funding the Henry Reach Project Phase 2 would benefit Snake River spring/summer Chinook salmon, Snake River Basin steelhead, and bull trout and thereby fulfill commitments under the 2020 National Marine Fisheries Service Columbia River System Biological Opinion (2020 NMFS CRS BiOp) and support commitments specified in the 2020 U.S. Fish and Wildlife Service Columbia River System Biological Opinion (2020 FWS CRS BiOp), while also supporting ongoing efforts to mitigate for effects of the Federal Columbia River Power System (FRCPS) on

fish and wildlife in the mainstem Columbia River and its tributaries pursuant to the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act), 16 U.S.C. 839 *et seq.* These actions also support BPA's commitments to the State of Idaho in the Columbia River Fish Accord, as amended.

Environmental Effects

The implementation of the Henry Reach Project Phase 2 requires the use of a bulldozer, an off-road dump truck, and a small and medium-sized track-hoe for constructing side channels and riffles, excavating pools and alcoves, placing logs and boulders, constructing log jams, and moving soil and gravel. All of these actions would disturb and displace soil in and along the river, damage vegetation, create noise, produce vehicle emissions, and temporarily increase vehicle traffic and human activity in the project area. The typical effects associated with the environmental disturbances created by the Henry Reach Project Phase 2 are described in Chapter 3 of the Programmatic EA and summarized in this document.

Below is a description of the potential site-specific effects of the Henry Reach Project Phase 2 and an assessment of whether these effects are consistent with those described in the Programmatic EA. Because the project is designed to improve both aquatic and riparian habitats for the long term, the adverse effects from soil and vegetation disturbance and human and mechanical activity, as detailed below, would be short-term only.

1. Fish and Aquatic Species

The effects of using construction equipment in and along the Lemhi River are consistent with the analysis in Section 3.3.1 of the Programmatic EA ("*Fish and Aquatic Species*"). Section 3.3.1.3 of the Programmatic EA describes overall low impacts to fish and aquatic species after considering moderate short-term adverse effects and highly beneficial long-term effects.

Three species listed under the Endangered Species Act (ESA) are present in the project area: Snake River spring/summer Chinook salmon (part of the Upper Salmon Major Population Group), Snake River steelhead (part of the Salmon River Major Population Group), and bull trout. The State of Idaho lists these species, respectively, as "critically imperiled," "imperiled," and "not rare and apparently secure."² No other state or federally listed species are present. BPA completed ESA consultation on the effects of these Habitat Improvement Program (HIP) projects on these species, which found that the projects would likely adversely affect these species and their designated critical habitat in the short term, but would likely not result in jeopardy to the species or result in destruction or adverse modification of their designated critical habitat.

The short-term adverse effects of the project would include exposing, displacing, reconfiguring, or compacting earth with mechanized equipment along the Lemhi River, likely causing moderate, temporary sediment discharges, primarily from the introduction of first-time flows into newly-constructed channels and riffles. These impacts would be minimized because new excavations would be accomplished "in the dry" with no exposure to stream flows wherever possible while applying conservation measures from BPA's HIP ESA consultation. The amount of sediment discharged would be elevated, but the durations of such exposure would be typical of that which they would encounter in their natural environment, as evaluated in Section 3.3.1.2.1 of the Programmatic EA. As described therein, these durations would have a low potential for triggering the behavioral and physiological effects from elevated water temperatures induced by high suspended sediment concentrations absorbing and transferring solar energy into the water.

Movement, sounds, and vibrations from construction-related human and mechanical activity would likely temporarily disturb and displace fish and aquatic organisms from their preferred habitats for the duration of the disturbance. This sound and vibratory disturbance would be minimized as new channels would be constructed in the dry in upland areas outside of existing stream channels, but some work in existing channels would require

² State of Idaho "Species Conservation Status" website at:
<https://idfg.idaho.gov/species/taxa/list?category=5&usesa%5B%5D=Endangered&srnk=2&grnk=All&sgcn=All>

worksite isolation. Worksite isolation involves damming off an area within a stream so that water flows around the work area while still remaining in the channel. Worksite isolation could also be the damming of the entire channel and redirecting flows temporarily into another channel to allow work across the entire isolated channel. Both types would be applied in this action.

Fully dewatered channels would require fish capture and relocation (“fish salvage”) to free-flowing portions of the river prior to complete dewatering. Fish salvage involves electro-shocking, capture, and handling to relocate the fish. This is stressful for individual fish, but less so than stranding the fish without water. Fully dewatering a stream would also likely kill aquatic organisms (e.g., invertebrates) not able to be salvaged or themselves unable to survive the temporary dewatering. The anticipated amount of this activity and aquatic species disturbance is consistent with the analysis in Section 3.3.1.2.1 of the Programmatic EA which describes such dewatering and the associated effects.

The Henry Reach Project Phase 2’s long-term beneficial effects would include creation of more rearing and over-wintering habitats by maintaining and adding new side channels, riffles, and pools in and along the river, and enhancement of in-stream habitat complexity over time by providing lower-velocity side channels. The effect on fish and other aquatic species from the Henry Reach Project Phase 2 would be low considering both the action’s short-term adverse effects and long-term beneficial effects. This is consistent with the analysis in Section 3.3.1.2.2 of the Programmatic EA.

2. Water Resources

The effects of using construction equipment in and along the Lemhi River are consistent with the analysis in Section 3.3.2 of the Programmatic EA (“*Water Resources*”). Section 3.3.2.3 of the Programmatic EA describes overall low water quality impacts after considering short-term adverse effects and beneficial long-term effects. There would be no effect on water quantity, as this project would make no water withdrawals, but there could be increased groundwater recharge since the connection between surface flows and the floodplain would be increased over both space and time.

Overall, the Henry Reach Project Phase 2 would cause temporary sediment discharges by introducing flows across exposed soils in areas with the newly constructed channels and riffle. Restoration actions would disturb lengths of stream or riverbank consistent with the type and scale of activities assessed in the Programmatic EA, and the sediment produced from these restoration actions is not anticipated to be greater than what occurs naturally during annual high-flow events. As in the Programmatic EA, these are short-term effects which would be mitigated with various measures, including high-pressure washing of fine material into the newly constructed riffle, gradual introduction of flows into new channels, and protection of existing vegetation and revegetation when the Henry Reach Project Phase 2 is complete. The long-term effects of the Henry Reach Project Phase 2, however, would include increased capability for the river and floodplain to effectively manage its sediment loads during high-flow and flood events, and reduced stream temperatures as a result of improved stream form, instream habitat structure, and increased riparian vegetative cover. These long-term beneficial effects are consistent with those described in the Programmatic EA.

3. Vegetation

The effects of using construction equipment in and along the Lemhi River are consistent with the analysis in Section 3.3.3 of the Programmatic EA (“*Vegetation*”). Section 3.3.3.3 of the Programmatic EA describes overall moderate impacts to vegetation after considering moderate short-term adverse effects and highly beneficial long-term effects. No plant species listed by the State or Federal governments as endangered, threatened, or of concern are present within the Henry Reach Project Phase 2 area.

The Henry Reach Project Phase 2 would produce impacts consistent with those described in the Programmatic EA for large-scale earthmoving during the creation of new channels, alcoves, ponds, and the constructed riffle. Earth-moving actions required to construct these features would impact approximately 0.5 of an acre and would entirely eliminate woody and herbaceous vegetation in those locations. The scale of these actions would be less than that assessed in Section 3.3.3.2 of the Programmatic EA in ("*Environmental Consequences for Vegetation*"). All impacted areas would become either waterways or would be revegetated by seeding and planting of native species. As described in the Programmatic EA, the short-term adverse effects would be temporary and low, but the long-term impacts would be beneficial. Taken together, the overall level of effect would be low.

4. Wetlands and Floodplains

The effects of using construction equipment in and along the Lemhi River are consistent with the analysis in Section 3.3.4 of the Programmatic EA ("*Wetlands and Floodplains*"). Section 3.3.4.3 of the Programmatic EA describes overall low impacts to wetlands and floodplains after considering high short-term adverse effects and beneficial long-term effects.

By design, all of the proposed construction activities would occur in riparian wetlands and floodplains. All work would thus require, and IDFG would obtain, permits issued by the US Army Corps of Engineers under Section 404 of the Clean Water Act before ground-disturbing actions could begin.

The project would maintain wetland and floodplain habitats and functions, albeit in a different configuration than previously. There would be highly adverse short-term impacts in the immediate area of construction activity where the ponds and the riffle would be constructed. This impact would be on less than two percent of the project area (which is entirely wetland and floodplain of some type) and would be affected for only a few days at each site before conversion and restoration to a different type of wetland feature. Wetland conditions and floodplain function would be maintained throughout the project area following project completion.

Consistent with the Programmatic EA, there would be long-term beneficial effects on floodplains from implementation of the Henry Reach Project Phase 2. There would be increased connectivity among the existing and new channels and their adjacent floodplains from constructed alcoves, beaver dam analogues, and the riffle. These would slow water velocities and elevate water levels and thereby facilitate more effective connection between the Lemhi River and its floodplain. Adding floodplain roughness (willow baffles and large woody debris) would slow the flow of water across 1.2 acres of floodplain and improve sediment capture and its desired deposition. This level of effect would be low, as stated in the Programmatic EA.

5. Wildlife

The effects of using construction equipment in and along the Lemhi River are consistent with the analysis in Section 3.3.5 of the Programmatic EA ("*Wildlife*"). Section 3.3.5.3 of the Programmatic EA describes overall low impacts to wildlife after considering short-term adverse effects and beneficial long-term effects. No wildlife species listed under the ESA or by the State of Idaho are present within the Henry Reach Project Phase 2 area.

The proposed restoration actions would have short-term impacts on vegetated wildlife habitats as described in Section 3 ("*Vegetation*") above. In the short term, habitat for nesting birds and hiding cover for big game would be eliminated in the areas to be excavated, as evaluated in the Programmatic EA. The number of acres affected, however, is small in proportion to the abundance of identical habitats in the Lemhi floodplain above and below this project area. Individual animals may be affected by this short-term loss of vegetation, but the scale of disruption, given the available habitat across the landscape, is too small to adversely affect local populations. And in the long term, the affected area would support more river frontage and riparian, wetland, and aquatic habitats. Considering both long- and short-term effects, the overall effect on wildlife would be low, as stated in the Programmatic EA.

7. *Geology and Soils*

The effects of using construction equipment in and along the Lemhi River are consistent with the analysis in Section 3.3.6 of the Programmatic EA ("*Geology and Soils*"). Section 3.3.6.3 of the Programmatic EA describes moderate impacts to geology and soils.

The Henry Reach Project Phase 2 would produce impacts consistent with those described in the Programmatic EA for large-scale earthmoving during creation of new side channels and the constructed riffle. The scale of these actions (about 0.5 acre) would be less than the dozens of acres some projects may affect as assessed in the Programmatic EA and the impacts to soil would be mitigated by minimizing the area of impact during operations, salvaging and re-spreading topsoil, ripping compacted soils, and applying erosion control measures. The level of effect from heavy equipment operation within the project area would be moderate to high in the immediate areas affected by earth moving in the short term, but in the long term, the project would maintain connectivity between the Lemhi River and its floodplain. This would provide for sediment capture, vegetation diversity, and improved groundwater infiltration, all of which would restore and improve the soil conditions disrupted during construction. Considering both short-term and long-term effects, the overall effect would be moderate as described in the Programmatic EA.

8. *Transportation*

The effects of the Henry Reach Project Phase 2 in and along the Lemhi River are consistent with the analysis in Section 3.3.7 of the Programmatic EA, ("*Transportation*"). Section 3.3.7.3 of the Programmatic EA describes low impacts to transportation.

The greatest effect of the proposed restoration actions on transportation would be increased congestion of local roads by vehicles transporting workers and equipment to the project site. The Henry Reach Project Phase 2 would be adjacent to State Highway 28, but no project activities would be conducted from this roadway. No roads would be closed, temporarily blocked, or relocated. This level of impact would be low, as stated in the Programmatic EA.

9. *Land Use and Recreation*

The Henry Reach Project Phase 2 would not affect land use or recreation. Current private recreational land uses would not change; and public recreational opportunities on this private land (of which there are none because the lands are not open to public use) would not change. This level of effect is consistent with that described in Section 3.3.8.3 of the Programmatic EA, which states that land use practices underlying most project sites would not change.

10. *Visual Resources*

The Henry Reach Project Phase 2's effects in and along the Lemhi River are consistent with the analysis in Section 3.3.9 of the Programmatic EA ("*Visual Resources*"). Section 3.3.9.3 of the Programmatic EA describes low impacts to visual resources.

The Henry Reach Project Phase 2 would implement restoration actions adjacent to Idaho State Highway 28, but it would be at the same elevation as the highway with project area views obstructed by willow and cottonwoods along the highway and the Lemhi River. Construction actions would temporarily result in bare soils that, if visible from the highway, would likely detract from the otherwise pastoral scenery along this road, looking much like a plowed or mowed field until the newly planted grasses, forbs, and shrubs begin to visually restore the setting. Overall, this level of impact would be low and temporary, as stated in the Programmatic EA.

11. *Air Quality, Noise, and Public Health and Safety*

The effects of the Henry Reach Project Phase 2 in and along the Lemhi River are consistent with the analysis in Section 3.3.10 of the Programmatic EA ("*Air Quality, Noise, and Public Health and Safety*"). Section 3.3.10.3 of the Programmatic EA describes low impacts to air quality, noise, and public health and safety.

The Henry Reach Project Phase 2 would be located approximately 0.4 mile from the nearest neighboring resident – a distance too great for noise, dust, or exhaust from construction activities to migrate and affect the residents during the few weeks of construction activities. No long-term source of emissions or noise would be created either. Safety impacts may result from workers sharing the roads when travelling to and from work sites, but would be minor as it would be a small number of additional vehicles relative to road capacity and all travelers would adhere to Idaho’s traffic safety laws. The Henry Reach Project Phase 2 would have no potential to impact public safety infrastructure (e.g., roads and telecommunications) or to burden emergency services (e.g., police, fire, or ambulance).

This level of impact would be low, as stated in the Programmatic EA.

12. Cultural Resources

The effects of these restoration actions in and along the Lemhi River are consistent with the analysis in Section 3.3.11 of the Programmatic EA (“*Cultural Resources*”). Section 3.3.11.3 of the Programmatic EA describes low impacts to cultural resources because Henry Reach Project Phase 2 construction would avoid cultural resources and the National Historic Preservation Act Section 106 consultation process would appropriately resolve any effects.

The Henry Reach Project Phase 2 is located entirely within the Area of Potential Effect (APE) identified for the first Henry Reach Restoration Project and includes the same types of actions. On September 18, 2019, BPA consulted with the Idaho State Historic Preservation Office (SHPO) and four affected Tribes (the Shoshone Bannock Tribes of the Fort Hall Reservation, the Northwestern Band of the Shoshone Nation, the Nez Perce Tribe of Idaho, and the Confederated Salish and Kootenai Tribes) on the effects of that first Henry Reach Restoration Project based on an intensive cultural resource survey and exploratory subsurface shovel probing of the APE.

The inventory report identified three historic properties within the APE: two irrigation ditches and one corral and determined that project actions would not affect these historic properties. On October 17, 2019, Idaho SHPO concurred with BPA’s determination that the Henry Reach Restoration Project would have no effect to historic properties (SHPO Rev. No.: 2020-167). No responses were received from the tribes.

Consistent with the Programmatic EA, the results of the 2019 consultation was that the actions in the Henry Reach Restoration Project would not affect historic properties. Since the Henry Reach Project Phase 2 is located entirely within the APE identified for the Henry Reach Restoration Project and includes the same types of actions, that same determination and consultation is applied. In the unlikely event that cultural material is inadvertently encountered during the implementation of this project, BPA would require that work be halted in the vicinity of the finds until they can be inspected and assessed by BPA, and in consultation with the appropriate consulting parties.

13. Socioeconomics and Environmental Justice

The effects of the Henry Reach Project Phase 2 in and along the Lemhi River are consistent with the analysis in Section 3.3.12 of the Programmatic EA (“*Socioeconomics and Environmental Justice*”). Section 3.3.12.3 of the Programmatic EA describes low impacts to socioeconomics and environmental justice.

As described in the Programmatic EA, the Henry Reach Project Phase 2 would not result in requirements for additional permanent employees or for individuals to leave the local area or relocate within it. This project would not affect housing availability for local populations, displace people, or eliminate residential suitability of lands being restored or near them. The project would generate short-term employment for those implementing the restoration actions and would provide small, short-term cash inputs to local businesses for fuel, equipment, and meals. This degree of effect would be low.

There are no environmental justice populations present that could be affected, as this project and their impacts are limited to the private lands on which they are located, and no offsite effects are anticipated that could impact environmental justice populations elsewhere.

14. Climate Change

The effects of the Henry Reach Project Phase 2 in and along the Lemhi River are consistent with the analysis in Section 3.3.13 of the Programmatic EA ("*Climate Change*"). Section 3.3.13.3 of the Programmatic EA describes low impacts to climate change.

Due to the short duration of construction activities and the relatively small number of vehicles involved, project-related greenhouse gas emissions are anticipated to be low. The Henry Reach Project Phase 2 would have a low level of effect on climate change from short-term emissions from motorized equipment operations during implementation of the restoration actions. Further, these emissions would be offset to some degree by the ameliorating effects of restored floodplain function, such as increased water table inputs, increased carbon sequestration in expanded and improved riparian wetlands, and decreased water temperatures from improved instream and riparian habitat conditions. The overall contribution to climate change and greenhouse gas production would be low, which is consistent with the Programmatic EA.

Findings

The types of restoration actions and the potential impacts related to the proposed Henry Reach Project Phase 2 are similar to those analyzed in the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126) and Finding of No Significant Impact. There are no substantial changes in the Programmatic EA's Proposed Action and no substantial new circumstances or information about the significance of the adverse effects that bear on the analysis in the Programmatic EA's Proposed Action or its impacts within the meaning of 10 CFR § 1021.314 and 40 CFR § 1502.9. Therefore, no further NEPA analysis or documentation is required.

Robert W. Shull
Contract Environmental Protection Specialist
CorSource Technology Group

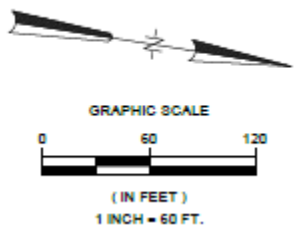
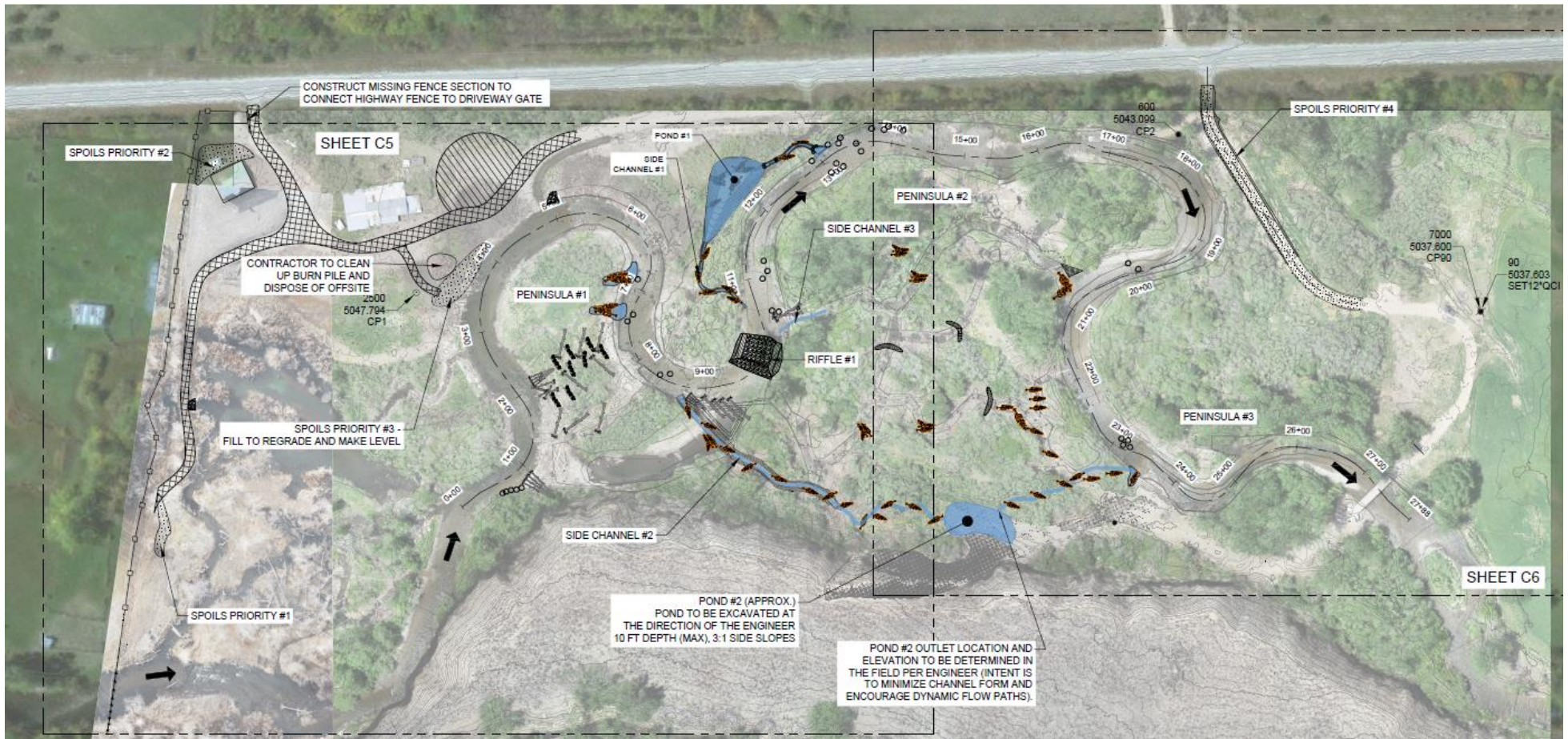
Reviewed by:

Carolyn Sharp
Supervisory Environmental Protection Specialist

Concur:

Katey Grange
NEPA Compliance Officer

Appendix A: Proposed conditions: Henry Reach Project Phase 2



LEGEND - PROPOSED

| | | | |
|--|------------------------------------|--|--------------------------|
| | SIDE CHANNEL | | FLOW ARROW |
| | POND | | BOULDER |
| | RIFRAP | | HABITAT LOG |
| | BEAVER DAM ANALOGUE (BDA) | | STAGING AREA |
| | LARGE WOOD STRUCTURE | | ROOTWAD |
| | WILLOWS | | PROPOSED WOOD JACK FENCE |
| | EXCAVATE EXISTING CHANNEL ENTRANCE | | STREAM FENCE |
| | RIFLE | | PROPOSED SPOILS LOCATION |