

Supplement Analysis
for the
Columbia River Basin Tributary Habitat Restoration
Programmatic Environmental Assessment
(DOE/EA 2126/SA-49)

Lake Creek Planting and Stream Restoration Project
Bonneville project number 1990-044-00
Bonneville contract number 84053 rel 3

Bonneville Power Administration
Department of Energy



Introduction

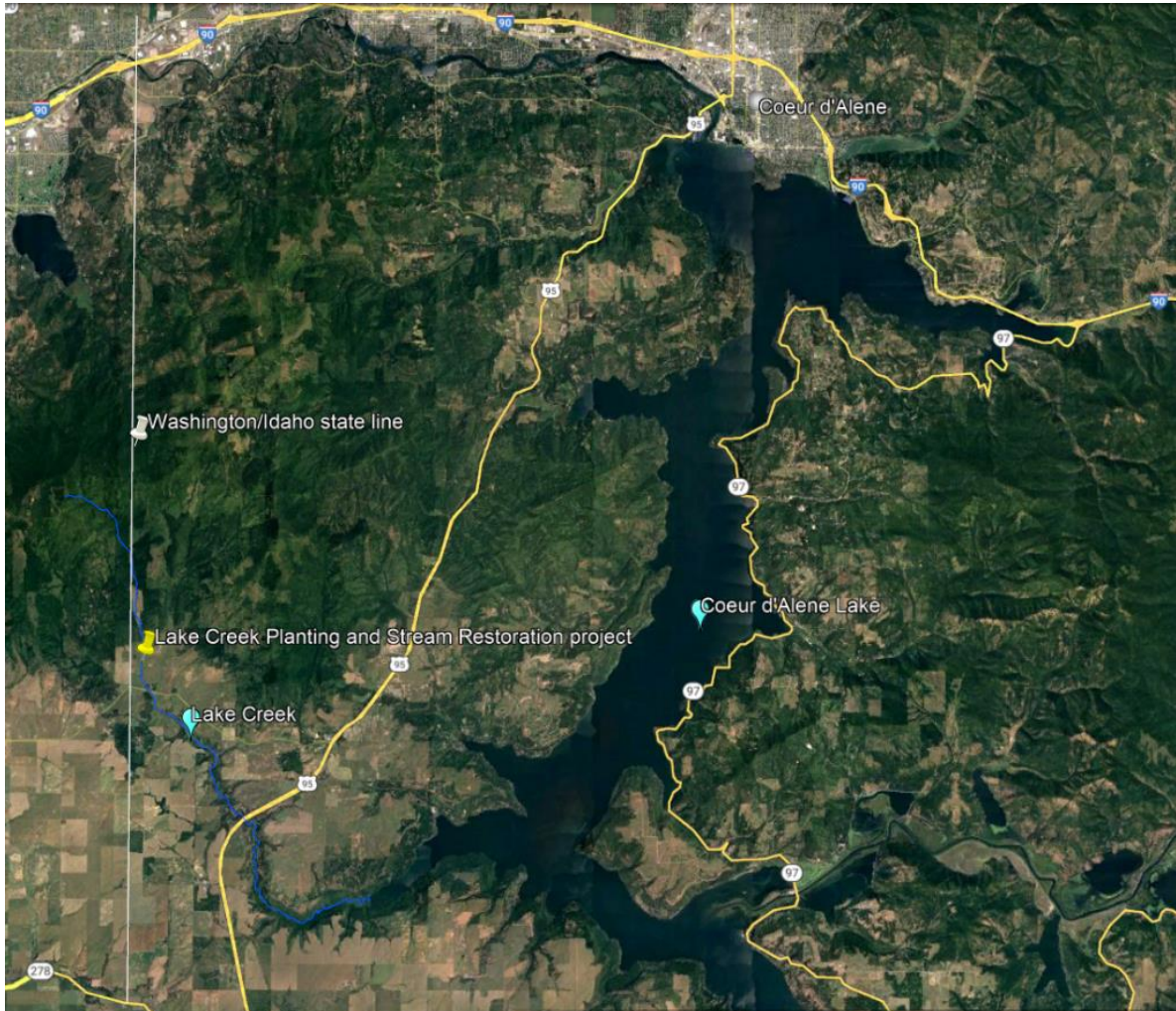
In December 2020, Bonneville Power Administration (Bonneville) and the Bureau of Reclamation completed the Columbia River Basin Tributary Habitat Restoration Programmatic Environmental Assessment (DOE/EA 2126) (Programmatic EA). The Programmatic EA analyzed the potential environmental impacts of implementing habitat restoration actions in the Columbia River Basin and its tributaries. In this Supplement Analysis (SA) (SA-49), Bonneville finds that installing wood structures, constructing instream pools, and revegetating streambanks and the adjacent riparian corridor and uplands in a particular Columbia River tributary, Lake Creek, would not represent a substantial change to the proposal evaluated in the Programmatic EA and would not present significant new circumstances or information relevant to environmental concerns that were not addressed by the Programmatic EA.

Consistent with the Programmatic EA, this SA analyzes the effects of the Lake Creek Planting and Stream Restoration Project, for which Bonneville is proposing to provide funds to the Coeur d'Alene Tribe, who would implement many of the specific restoration actions assessed in the Programmatic EA in Lake Creek, a tributary to west central Coeur d'Alene Lake in Kootenai County, Idaho. The objective of the proposed project is to increase aquatic habitat diversity, reduce water temperatures, and improve riparian and floodplain vegetative diversity for the benefit of salmonids. This SA analyzes the site-specific impacts of the Lake Creek Planting and Stream Restoration Project to determine if the project is within the scope of the analysis considered in the Programmatic EA. It also evaluates whether the proposed 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 (CFR) § 1502.9(d) and 10 CFR § 1021 *et seq.*

Proposed Actions

The Lake Creek Planting and Stream Restoration Project would be located in and along Lake Creek approximately four miles upstream of Highway 95 in northern Idaho, which is approximately 0.25 miles from the Washington State border and about 16.25 air miles southwest of Coeur d'Alene, Idaho.

Figure 1 Location of Lake Creek Planting and Stream Restoration Project



Lake Creek is a small stream that has been heavily impacted by agricultural practices and is now incised and lacking in riparian vegetation (such as willows and cottonwoods) and in-stream habitat features (such as logs, beaver dams, and overhanging vegetation or undercut vegetatively-stabilized banks).

The project would use small excavators to construct 10 instream pools along 787 feet of Lake Creek and install up to 25 large and small wood structures using logs measuring 16' in length and 10-15" in diameter. Larger wood structures would be placed at the head of each pool for depth maintenance, while small wood structures would be placed along the banks for fish habitat (thermal and hiding cover for adult fish and improved rearing habitat for juveniles). Each feature would occupy less than 500 square feet and would generally be separated from other similar features by up to 30 feet. Temporary roads would not be needed, and construction equipment would be staged at a nearby farmstead.

Twenty acres of riparian habitats along and adjacent to the creek would be planted with willows and cottonwoods. Plantings would consist primarily of cottonwood and aspen, which are adapted to high water tables and would spread by suckering once established. A variety of willow species would also be planted in select locations where improving stream bank stability or maintaining undercut banks is desirable for fisheries. Individual planting sites would be treated with an aquatics-approved herbicide in the spring, planted using large (5 gallon) containerized stock, and then fenced to protect plants from animal browse. These plantings would be clustered along the outer margins of the floodplain. Willow plantings would utilize dormant live cuttings and whole plants, placed in narrow trenches (12" wide x 4' deep) dug with a mini excavator where access permits. The stream buffer, where woody vegetation is generally lacking, would be planted over several years.

The uplands surrounding the riparian areas are heavily matted with dead grass amid scattered young Ponderosa pine trees. These areas would be treated with a prescribed burn and planted with approximately 4,700 Ponderosa pine seedlings.

Environmental Effects

Project implementation would require the use of a small excavator for constructing pools, installing wood structures, and creating trenches for willow cuttings. These restoration actions would disturb and displace soil in and along the stream, damage vegetation, generate noise and vehicle emissions, and temporarily increase vehicle traffic and human activity in the project area. The typical effects associated with the environmental disturbances created by this project are described in Chapter 3 of the Programmatic EA and summarized in this document.

The prescribed burn would be of limited intensity in the fall or spring, as conditions permit, and would aim to remove dry herbaceous material only to the extent needed to expose planting sites for Ponderosa pine seedlings. The burn, when conducted according to the intended burn plan, would be of sufficiently low intensity to protect the few existing trees and woody plants currently on the site.

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

1. Fish and Aquatic Species

The effects of using small equipment and manually working in and along Lake Creek 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 when considering moderate short-term adverse effects and highly beneficial long-term effects.

No state or federally listed species of concern are present in the project area. The project is designed to benefit native alluvial cutthroat trout, a species of value to the Tribe and classified as a game fish by the State of Idaho.

The project's short-term adverse effects would include exposed, displaced, reconfigured, or compacted earth resulting from mechanized equipment use along Lake Creek for instream pool construction,

wood structure installation, and trenching for willow planting. This would likely cause brief discharges of small amounts of sediment. The amount of sediment discharged would likely be moderate because each project action would be small in scope and separated from other actions. The sediment inputs would be typical of the amounts that fish and other aquatic species might naturally encounter in their environment, would be consistent with the moderate to high amounts evaluated in the Programmatic EA at Section 3.3.1.2.1, and would have minimal potential for triggering the behavioral and physiological effects on fish from turbidity-induced elevated water temperatures as described therein.

The project area has limited vegetation that would screen human presence and work activities within and along the creek. Thus, the movement, sounds, and vibrations of human and mechanical activity during construction would disturb fish and other aquatic organisms and likely displace them temporarily from their preferred habitat for as long as that movement, sound, and vibration are present. The anticipated amount of activity and the level of aquatic species disturbance is consistent with the analysis in Section 3.3.1.2.1 of the Programmatic EA.

The prescribed burning would be limited to upland areas and would not harm riparian habitats or fish species. Burning would also be limited to times and conditions during which fire intensities would be insufficient to harm existing woody plants and would leave site productivity intact, even when straying into riparian habitats.

The project's long-term beneficial effects include complex habitats through the addition of wood structures, pools, and woody streamside vegetation (where none currently exist); reduction of long-term sediment inputs by streamside stabilization and streamside plantings (where only grasses and sedges now dominate); and enhancement of in-stream habitat complexity over time by providing overhanging vegetation and undercut streambanks enabled by in-channel root systems (where none now exist). These beneficial effects are consistent with the analysis in Section 3.3.1.2.2 of the Programmatic EA.

2. Water Resources

The effects of using small equipment and manually working in and along Lake Creek are consistent with the analysis in Section 3.3.2 of the Programmatic EA in ("*Water Resources*"). Section 3.3.2.3 of the Programmatic EA describes overall low impacts to water quality considering moderate short-term adverse effects and highly beneficial long-term effects. There would be no effect to water quantity, as this project would make no water withdrawals. There would, however, be the potential for increased recharge of groundwater since the connection between surface flows and the floodplain would be increased over both space and time.

Overall, this restoration project would produce short-term, localized sediment discharges from mechanized equipment operation along the creek in the process of installing wood structures, creating pools, and streamside trenching for willow plantings. Restoration actions would disturb the stream or river bank to a lesser extent than that analyzed in the Programmatic EA (which evaluated actions that would disturb many hundreds of feet of river bank contiguously); and the sediment produced from these restoration actions is not anticipated to be greater than what occurs naturally during annual high-flow events. The prescribed burning would be limited to upland areas and would not cause discharges of sediment to the stream.

As in the Programmatic EA, these are short-term effects which would be lessened by the application of mitigation measures such as protection of existing vegetation, minimization of areas to be impacted, burning according to a burn plan, and revegetation when project is complete. The long-term effects of this project would include decreased potential for unnatural sediment inputs; increased potential of the floodplain to effectively manage its sediment loads; and reduced stream temperatures from an increased number of deeper pools, improved 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 small equipment and manually working in and along Lake Creek 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 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 this project area.

This project is anticipated to produce impacts consistent with, or less than, those described in the Programmatic EA. There would be no large-scale earthmoving, with its associated vegetative loss, but there are constructed features (log structures, pools, and willow trenches) that would damage vegetation in multiple places. Each of these project features would impact less than 500 square feet and would generally be separated from other similar features by up to 30 feet, which is less than what Section 3.3.3.2 of Programmatic EA assessed in ("*Environmental Consequences for Vegetation*"). Impacts to vegetation would be limited to some damage or elimination of herbaceous vegetation by construction equipment operations, human foot traffic (from which the vegetation would be anticipated to recover quickly), and by the transplanting of entire willow clumps.

Vegetation would also be impacted by the low-intensity prescribed burning for site-preparation prior to tree planting. If implemented as intended, this burning would effectively remove heavily matted dead vegetative matter from the uplands around Lake Creek without killing trees or woody vegetation and leaving soil productivity intact. This is consistent with the actions assessed in Section 2.1.3.5 of the Programmatic ("*Prescribed Burning for Managing Vegetative Composition*") and the effects described in Section 3.2.3.4 ("*Effects of Prescribed Burning*"), where the loss of ground cover is anticipated but site productivity would remain intact, and vegetation would be expected to return quickly.

This level of effect would be low to moderate.

4. Wetlands and Floodplains

The effects of using small equipment and manually working in and along Lake Creek 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 against highly beneficial long-term effects.

Although a formal inventory of wetlands was not conducted for this project, nearly all instream and streamside features would be constructed or installed in a wetland of some sort, either instream or

along the creek bank. None of the actions, however, would eliminate wetlands, but rather augment them with riparian woody species plantings and restoring riparian vegetative communities that had been removed by historical agricultural activities. This project is anticipated to have less impact than what is described in the Programmatic EA—and specifically less short-term adverse effects to floodplains and wetlands—because there would be less earth-moving and the use of construction equipment would be limited to log structure installation, willow trenching, and pool excavations from the banks. This would involve only discrete disturbances rather than a wholesale reshaping of floodplains and river channels spanning many acres, as described in the EA, which evaluated more extensive impacts to wetlands from the actions of larger and heavier construction equipment and complete dewatering and rerouting of rivers and streams.

Prescribed burning would be limited to the uplands and would not be applied in wetlands or riparian areas. There would be no effect to wetlands from prescribed burning.

Consistent with the Programmatic EA, there would be long-term beneficial effects for wetlands from implementation of this project as there would be increased connectivity between Lake Creek and its floodplain from re-activated channels. This level of effect would be low, as stated in the Programmatic EA.

5. Wildlife

The effects of prescribed burning, construction equipment use, and manually working in and along Lake Creek 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 high short-term adverse effects against highly beneficial long-term effects. No wildlife species listed under the Endangered Species Act or by the State of Idaho are present within this project area.

This project in Lake Creek would have less short-term effects than those analyzed in the Programmatic EA because there would be less impact on soils and vegetation, and thus, to wildlife habitat. Although there would be some short-term, small-scale habitat destruction and modification, there would be no large-scale, high-intensity earthmoving with its associated vegetative loss and extensive impacts to small and medium-size animals. Impacts would stem primarily from small-scale habitat modifications using construction equipment in the riparian habitats and wildlife disturbance caused by temporary human presence and activity. This could destroy the habitats of a few small animals such as lizards, frogs, mice, shrews, and songbirds, but would only displace medium-size or larger animals from their preferred habitats during construction (a few days within any one area) and would likely re-occupy the site once human activity has moved or ceased. Construction activities would occur in mid- to late summer and would thus, avoid disturbance to migratory bird nesting. Plantings would occur in spring, but would not be impacting existing nesting habitat, but rather planting hardwoods that would provide for future nesting habitats.

The prescribed burning of dry matted vegetative matter could harm or kill small animals not sheltering underground in burrows. Populations of such animals in these areas would be temporarily reduced, but would likely rebound quickly as vegetation reestablishes.

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

6. Geology and Soils

The effects of using small equipment and manually working in and along Lake Creek 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.

In the short-term, this project would have far less impact on soils than the actions analyzed in the Programmatic EA because there would be no large-scale earthmoving and thus no widespread mixing of soil horizons or severe compacting of soils. A small excavator would be used—resulting in some localized soil disturbance and compaction as the machine travels across the area and maneuvers at each construction site—but this impact would be much less than that of larger and heavier excavators and dump trucks, as considered in the Programmatic EA.

Prescribed burning would be of low intensity and thus would not consume all organic matter and microorganisms in the soils such that site productivity would be lost.

Measures to mitigate adverse effects would be applied, such as minimizing the area of impacts, applying erosion control measures, and applying a prescribed burn plan. The level of effect on geology and soils from these actions would be low to moderate.

7. Transportation

The effects of this project in and along Lake Creek 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 most significant effect of the proposed restoration actions on transportation would be to cause vehicles transporting workers and equipment to project sites to share local roads with other traffic. No roads would be closed, temporarily blocked, or relocated. This level of impact would be low, as stated in the Programmatic EA.

8. Land Use and Recreation

The proposed project would have no effect on land use or recreation. The project would be located on tribal lands that have been acquired from private owners in the recent past and are now being restored to native habitats. Land uses would not change, nor would any public recreational opportunities be affected since this tribal land is already closed to public use. 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 project sites would not be changed for most projects.

9. Visual Resources

The proposed project’s effects in and along Lake Creek 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 proposed restoration actions are not near nor visible from any public roadway or other viewpoint. Also, as discussed above under “*Vegetation*,” there would be no large-scale soil or vegetation disturbance (as was assessed for some projects in the Programmatic EA), and changes to the visual landscape would thus be minor. Smoke produced from the prescribed burning would be visible for

miles around, but the project area is high in the drainage and the agricultural areas being modified here are surrounded by active commercial forest lands in which pile burning is a common practice and such smoke is familiar to those in the area.

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

10. Air Quality, Noise, and Public Health and Safety

The proposed project's effects in and along Lake Creek 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 proposed restoration actions are far from any major population center or public use area and thus would not directly impact the public, other than when workers traveling to and from project work sites share the roads. Air and noise emissions would result from operation of construction equipment during placement of wood structures and or excavation of pools and willow trenches, but the duration of these effects would be brief, and they would be too far from any population area to be perceived. No long-term source of emissions or noise would be created.

Smoke produced from the prescribed burning could adversely impact air quality up to .25-mile radius of the project area during the burn period, but Idaho State has an effective smoke management program that allows for prescribed fire to occur while meeting the National Ambient Air Quality Standards (NAAQS). These air quality protections would be reflected in the applied burn plan, ensuring the smoke produced would not create health or safety problems.

None of the proposed restoration actions would impact public safety infrastructure (e.g., roads, telecommunications) or burden emergency services (e.g., police, fire, ambulance). This level of impact would be low, as stated in the Programmatic EA.

11. Cultural Resources

The effects of these restoration actions in and along Lake Creek 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 cultural resources would be largely avoided by project design and effects would be appropriately resolved through the National Historic Preservation Act Section 106 consultation process.

The project area was surveyed for cultural resources, and on April 11-12, 2023, Bonneville consulted with the Coeur D'Alene Tribe Tribal Historic Preservation Office and the Idaho SHPO on the effects of the Lake Creek Planting and Stream Restoration Project. The inventory identified one new historic site (a pumping station, historic debris, and a small foot bridge) and two historic isolates (a single fragment of brown bottle glass and a single clear flat window glass). Upon analysis, Bonneville determined that neither the site nor isolates would be eligible for inclusion in the National Register of Historic Places, and thus made the formal determination that no historic properties would be affected. SHPO concurred and concluded that the proposed project actions would result in no historic properties affected (36 CFR 800.4(d)) (SHPO Rev. No.: 2024-191). No response was received from the Coeur d'Alene Tribe Tribal Historic Preservation Office.

As described in the Programmatic EA, the results of these consultations were that the project would not affect historic properties or would not adversely affect such properties if present. In the unlikely event that cultural material is inadvertently encountered during the implementation of this project, Bonneville would require that work be halted in the vicinity of the finds until they can be inspected and assessed by Bonneville, and in consultation with the appropriate consulting parties.

12. Socioeconomics and Environmental Justice

The effects of this restoration project in and along Lake Creek are consistent with the analysis in Section 3.3.10 of the Programmatic EA ("*Socioeconomics and Environmental Justice*"). Section 3.3.10.3 of the Programmatic EA describes low impacts to socioeconomics and environmental justice.

As described in the Programmatic EA, none of the restoration actions would generate a requirement for additional permanent employees and the actions would not result in a requirement for individuals to leave the local area or relocate within it. There would be no effect on housing available for local populations. This project would not displace people or eliminate residential suitability from lands being restored, or from lands near restoration project sites. The project would generate short-term employment for tribal members directly 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.

The only environmental justice population present is the Coeur d'Alene Tribe which is the sponsor of this project, and which seeks to benefit from its implementation. This project and its impacts are limited to the tribal lands on which they are located, and no offsite effects are anticipated that could impact environmental justice populations elsewhere.

13. Climate Change

The effects of this project in and along Lake Creek are consistent with the analysis in Section 3.3.10 of the Programmatic EA ("*Climate Change*"). Section 3.3.10.3 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. Smoke from the prescribed burn would also contribute greenhouse gasses, but the vegetation being burned would not produce large, long-lasting, columns of smoke high into the atmosphere where such impacts would linger.

The project would have a low level of effect on climate change from short-term emissions from motorized equipment operations and the production of smoke during implementation of the restoration actions, but these 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 effects on climate change would be low.

Findings

The types of restoration actions and the potential impacts related to the proposed Lake Creek Planting and Stream Restoration Project is 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 EA's Proposed Action and no significant new circumstances or information relevant to environmental concerns bearing on the EA's Proposed Action or associated impacts within the meaning of 10 CFR § 1021.314 and 40 CFR § 1502.9(d). Therefore, no further NEPA analysis or documentation is required.

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