Table 4.3-2 Inventory of Water Resources by Link for Idaho

Link	No. of Stream or Water Crossings	No. Hydric Soil Crossings (all & partial)	No. Wetland Crossings NWI/Interpreted*	No. FEMA Floodplain Crossings
28	Perennial – 0 Intermittent – 0 Canal, ditch – 1 Total – 1	Hydric – 0 Not hydric – 10 No data – 0	1/0 Palustrine – 1 (PUB – 1) Riverine – 0 Total – 1	Zone A – 0 Zone X – 0 No data – 10
29	Perennial – 0 Intermittent – 25 (Big Lost River) Canal, ditch – 0 Total – 25	Hydric – 0 Not hydric – 122 No data – 0	0/0	Zone A – 0 Zone X – 35 No data – 87
30	Perennial – 0 Intermittent – 5 Canal, ditch – 0 Total – 5	Hydric – 0 Not hydric – 35 No data – 0	0/0	Zone A – 0 Zone X – 33 No data – 2
31	0	Hydric – 0 Not hydric – 26 No data 0	0/0	Zone A – 0 Zone X – 21 No data – 5

*In addition to NWI data, hydric soils and land use cover (marsh, mud flat, riparian shrubs and trees) information was used to identify wetlands. For this document, wetlands identified through this process are called "Interpreted Wetlands".

TOWNSEND SUBSTATION

The proposed Townsend Substation site is located on the east side of the Missouri River, which is approximately 3,500 feet (0.75 mile) away. US 287 runs between the proposed substation and the Missouri River and it is approximately 1,375 feet (0.25 mile) from the substation, blocking surface flow between the site and the river. The proposed site is outside the areas identified as containing potential wetlands *and outside the Missouri River Floodplain*.

MILL CREEK SUBSTATION

The existing Mill Creek Substation site is located in an arid landscape. There are partially hydric soils and a small drainage system west of the site; otherwise, there are no major water resources, *including wetlands and floodplains,* associated with this site.

MIDPOINT SUBSTATION MODIFICATION

The existing Midpoint Substation is located between irrigated agriculture lands and native sagebrush steppe habitat. The soil survey map shows partically hydric soils on and surrounding the site. The site is located between two low rolling hills, but the desert habitat and lack of streams or drainages indicates there are no major water resources on or surrounding this site.

the alternative route links cross the Butte municipal watersheds or intake locations. Refer to the Butte Silverbow Water Department spill response and watershed map in Appendix D.

SURFACE SUPPLIES OF POTABLE WATER

There are six known locations where surface water is eventually used for drinking water within the study corridors (MDEQ n.d.). Four surface water locations for Butte were described under the Municipal Watersheds section. The alternative route links do not cross any of these surface water sources.

This surface water sources for the other two locations are technically not potable because the water is treated before it is considered suitable for human consumption.

The first source of surface water is located at the beginning of Link 7-2. Golden Sunlight Mines, Inc. draws water from the Jefferson Slough of the left fork of the Jefferson River north of Whitehall, between the Burlington Northern Railroad tracks and Interstate 90 in southern Jefferson County. Golden Sunlight Mines, Inc. constructed a new package treatment plant, operational in 2000, to treat the raw source water before making it available as drinking water.

The second source of surface water is located in Link 16-1 where Interstate 15 and the proposed transmission line cross the Beaverhead River. Armstead Campground is located approximately 17 miles south of Dillon on Highway 91 and just east of Interstate 15. The campground obtains water from an intake located along the Beaverhead River where it enters a cistern for filtration and disinfection and is then available for human consumption.

WATER USE

Water users in the project study area include residential, commercial, industrial, agricultural, and public facilities such as buildings and parks. There will be no impact to water users in the project study area since the only water use for the project will be the minimum amount necessary for dust control during construction activities.

4.3.4.2 Idaho

As shown in Table A-2 (Appendix A) in Idaho, the leading existing causes of aquatic life impairment are flow alterations, other habitat alterations, nutrients, siltation, and thermal modifications. The source of impairments was not available. Information on fisheries resource values of major rivers, municipal water sheds and surface supplies of potable water is not available for Idaho.

CLASS I AND II STREAMS

This classification system does not exist in Idaho.

MUNICIPAL WATERSHEDS

There are no designated municipal watersheds in Idaho.

SURFACE SUPPLIES OF POTABLE WATER

There are no known surface supplies of potable water in the study area (IDEQ 2008).

WATER USE

Water users in the project study area include residential, commercial, industrial, agricultural, and public facilities such as buildings and parks. There will be no impact to water users in the project study area since the only water use for the project will be the minimum amount necessary for dust control during construction activities.

- Disturbed areas around structures, at pulling and tensioning sites, and on the edges of roadways will be rehabilitated following construction (as specified by the Agencies and the Authorized Officer).
- Structures located within river floodplains would be designed to minimize the catching of flood debris to prevent flow obstructions and scouring during flood flows.

5.2.4.3 Specifically Recommended Mitigation Measures

1. In areas of sensitive features to avoid disturbance, access roads will not be constructed. Rather, construction and maintenance traffic will use existing roads or cross-country access routes (including the right of way). To minimize ground disturbance, construction traffic routes must be clearly marked with temporary markers such as easily visible flagging. An authorized officer must approve the construction routes or other means of avoidance in advance of use.

2. To minimize ground disturbance and/or reduce scarring (visual contrast) of the landscape, the alignment of any new access roads or cross-country route will follow the landform contours in designated areas where practicable, providing that such alignment does not impact resource values additionally.

3. To limit new or improved accessibility into the area, all new access undesired or not required for maintenance will be closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner or land manager.

4. To minimize ground disturbance, operational conflicts and/or visual contrast, the tower design will be modified or an alternative tower type will be used.

5. To minimize sensitive feature disturbance in designated areas structures will be placed so as to avoid sensitive features such as, but not limited to, riparian areas, water courses and cultural sites and/or to allow conductors to clearly span the features, within limits of standard tower design.

6. Existing landscape features would be utilized to span the conductor over riparian scrub-shrub wetlands to avoid cutting woody vegetation.

7. Minimize damage from transmission line structure location in flood plains by placing structures on a high point. If this is not possible, two approaches can be employed depending on the site and situation. The concrete foundations which support the structure can have additional reveal. This is a practical approach to secure protection from about five feet of water depth. If the flows are higher than this, particularly from ice flows, an earth embankment can be built to support the structure at the higher elevation. The slopes of this embankment are protected by rip-rap to prevent erosion of the embankment and potential settlement of the structure. Damage to the facilities with these practices is expected to be minimal and normally does not occur.

The criteria for assessing the initial ground disturbance impacts to water resources, the specifically recommended mitigation measures, and residual impacts are summarized in Table 5.2-1.

6.1.1.5 Alteration of Floodplains

As required by final engineering design, transmission line structures could be placed within the 100-year floodplains and other drainages. These structures would potentially impede or redirect flood flows or raise the flood elevation. Any structures placed in a floodplain would be *placed on a high point* so it does not impede or redirect flood flows or raise the flood elevation. *Damage to structures with these practices is expected to be minimal and normally does not occur.*

NWE would comply with regional and federal regulations and implement the following environmental protection measures to minimize impacts to less than significant levels.

- Structures located within river floodplains would be designed to minimize the catching of flood debris to prevent flow obstructions and scouring during flood flows.
- *Structures would be located on a high point in the floodplain. If this is not possible, two approaches can be employed depending on the site and situation. The concrete foundations which support the structure can have additional reveal. This is a practical approach to secure protection from about five feet of water depth. If the flows are higher than this, particularly from ice flows, an earth embankment can be built to support the structure at the higher elevation. The slopes of this embankment are protected by rip-rap to prevent erosion of the embankment and potential settlement of the structure.*

MONTANA
The following counties require permits for work within the floodplain: Beaverhead, Madison, Silver Bow, Jefferson, Broadwater, and Gallatin. NWE would submit the appropriate permit application and fee.

IDAHO
The following counties require permits for work within the floodplain: Bonneville and Blaine. NWE would submit the appropriate permit application and fee.

6.1.2 OPERATION AND MAINTENANCE RELATED IMPACTS

6.1.2.1 Degradation and Loss of Waters of the U.S. (including wetlands)

Direct, permanent impacts to PSS wetlands could result from maintenance of the transmission line right-of-way. Clearing of woody vegetation may be required to create adequate electrical clearance between the conductor and tops of vegetation. Conversion of a PSS wetland to a PEM wetland is considered a permanent impact to wetland functions and values.

In compliance with the federal CWA, NWE would obtain a 404 permit from the USACE for any permanent loss of waters of the U.S. as a result of the proposed project. As part of the permitting, NWE would be required to conduct a jurisdictional wetlands delineation of the affected project area and submit to either the USACE Helena field office or Boise field office (depending on the wetland location) for verification and approval. The delineation would provide surveyed locations of jurisdictional wetlands and waters of the U.S. for identifying the exact locations and areas of impact.

In addition to compliance with federal regulations, site specific mitigation measure 10 would minimize impacts to less than significant levels.