APPENDIX E

Pacific Connector's Proposed Modifications to FERC's Plan and Procedures

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Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
Modifications Requested for Temporary Extra Work Areas (TEWAs) Located within or within 50 feet of Wetlands or Waterbodies and Areas Where the Construction Right-of-Way is Greater than 75 feet Wide					
0.00	Alt_Wetl_N H (West) Alt_Wetl_N E Alt_Wetl_N A	E2EM/E2USN PABH/PUBH PFOC	TEWA 0.10 TEWA 0.01	1	TEWA 0.10 is located within these wetlands because it is required to facilitate the Coos Bay Estuary HDD, which has been incorporated to avoid effects to the estuary. TEWA 0.10 is required to fabricate and stage the HDD pipe string and cannot be shortened or realigned to avoid these wetlands based on engineering requirements and constraints. PCGP will operate equipment off of mats to minimize potential rutting or compaction impacts as specified in FERC's Wetland and Waterbody Procedures. Appropriate BMPs will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. Impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
0.14	Wetland J	PEMA	TEWA 0.01	1	**Previously Disturbed Area – Industrial Site** TEWA 0.01 encroaches into Wetland J, near MP 0.14 at the exit point of the HDD. The TEWA is required to stage the Coos Bay Estuary HDD and cannot be modified to avoid or be set back 50 feet from this wetland. Appropriate BMPs will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. Impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
1.16	APC-C2	PSS1R	TEWA 1.09 TEWA 1.17-N TEWA 1.17-W Construction ROW > 75 feet	2	**Previously Disturbed Area – Industrial Site** TEWA 1.09, TEWA 1.17-N, and TEWA 1.17-W are required to stage the HDD for the Coos Bay Estuary. Although within 50 feet of the wetland, the TEWAs are located within a previously disturbed industrial site and would not affect native or woody riparian vegetation. The construction right-of-way through Wetland APC-C2 is greater than 75-feet in width and is required for ingress/egress to support the Coos Bay Estuary HDD. The wetland will be matted to minimize potential compaction and construction related impacts. Appropriate BMPs and restoration measures will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts to the wetland.
1.20 1.41	EE-WW-9902	PSSC/PEM1A	TEWA 1.17-N TEWA 1.17-W Construction ROW > 75 feet	2	**Previously Disturbed Area – Industrial Site** This wetland is an interpreted wetland from NWI sources and was incorporated because surveys have not been completed in this area. The wetland is located in a previously disturbed industrial site and is not expected to be present and will be verified during future survey efforts. The TEWAs and full 95-foot wide construction right-of-way are required to stage construction activities on North Point. Once wetland surveys have confirmed the presence/absence or extent of the wetlands in this area, appropriate BMPs will be implemented, as specified in the ECRP, to minimize potential sedimentation impacts. Potential impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
1.20 1.41	EE-WW-9902	PCCS/PEM1A	TEWA 1.36-N TEWA 1.36-W Construction ROW > 75 feet	2	**Previously Disturbed Area – Industrial Site** This wetland is an interpreted wetland from NWI sources and was incorporated because surveys have not been completed in this area. The wetland is located in a previously disturbed industrial site and will be verified during future survey efforts. The TEWAs and full 95-foot wide construction right-of-way are required to stage the Coos Bay Estuary HDD. The TEWAs and the construction right-of-way cannot be modified to avoid this interpreted wetland because of the engineering and construction constraints required for the HDD. Once wetland surveys have confirmed the presence/absence or extent of the wetlands in this area, appropriate BMPs will be implemented, as specified in the ECRP, to minimize potential sedimentation impacts. Potential impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
3.25	Ken-A1 (NW-117/EE-6A)	PEM1Ad	TEWA 3.07N TEWA 3.07W TEWA 3.09 TEWA 3.55 Construction ROW > 75 feet	4	**Previously Disturbed Area – Disturbed Emergent Pasture** These TEWAs and full construction right-of-way width are required to stage the Coos Bay Estuary HDD. The TEWAs are necessary to complete the HDD, conventionally lay the pipeline, and fabricate the HDD pipe string. In this area the pipeline is within the JCLNG Kentuck Golf Course Mitigation Site and will be buried to a depth to ensure the pipeline does not encumber mitigation activities. The right-of-way width cannot be narrowed and the TEWAs cannot be eliminated within these wetland pastures because the trench width may become excessively wide due to the high groundwater table and the unconsolidated and saturated soils. The trench will also be wider in the wetland due to concrete coating of the pipeline. The pipeline will be coated with several inches of concrete to compensate for pipeline buoyancy which increases the overall pipe diameter. It will be difficult to contain/confine saturated trench spoil materials within the wetland because these materials typically lack sufficient strength for stacking or piling. TEWAs 3.09 and 3.55 are required to fabricate and stage the HDD pipe string and cannot be shortened or realigned to avoid the wetlands based on HDD engineering requirements and constraints and site conditions. PCGP will utilize appropriate low-ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts as specified in FERC's Wetland and Waterbody Procedures. Appropriate BMPs will be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. The affected wetlands are disturbed emergent pasture wetlands and impacts are expected to be temporary and short-term with implementation of the restoration measures outlined in the ECRP.
8.27R & 8.33R	S1-04 (EE-7) W1-04	R2 PEM	TEWA 8.35-W TEWA 8.27-N Construction ROW >75 feet	6	**Previously Disturbed Area – Agricultural Pasture** TEWA 8.27-N is required for topsoil salvage within the upland pasture and for the county road crossing. The landowner (Sweet) allowed survey access to the property to accommodate his requested alignment change, which identified wetland W1-04 and allowed survey of the Willanch Slough channel. TEWA 8.27-N would extend up to Willanch Slough (EE-7) without affecting riparian vegetation. The 95-foot construction right-of-way was maintained and TEWA 8.27-N placed through disturbed emergent pasture wetland (W1-04) so that additional TEWA was not necessary to accommodate the crossing of Willanch Slough and to salvage topsoil within Wetland W1-04. The EI would also ensure that appropriate erosion control, temporary construction mats, and restoration measures are utilized, as outlined in the ECRP, to ensure potential effects to Wetland W1-04 are minimized.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
8.46R	S-T01-002 Ditch GDX-30	R4	TEWA 8.46-N TEWA 8.44-W	6	The alignment in this area traverses an upland pasture entering a powerline corridor along a side hill on the ridgeline opposite the pasture. TEWA 8.44-N is within 50 feet of ditch GDX030, but would not affect any woody vegetation adjacent to the ditch. TEWA 8.46-W is within 50 feet of GDX030 and is designed to accommodate the additional spoil storage associated with side hill construction requirements and the PI at MP 8.45. Appropriate erosion control and restoration measures, as outlined in the ECRP, would be utilized to minimize potential sedimentation to the ditched tributary (GDX-30).
11.01R	WW-100-001	PEMA	TEWA 10.96W TEWA 10.71W Construction ROW >75 feet	8	**Agricultural Wetland - Disturbed Emergent Pasture** The construction right-of-way is greater than 75 feet and TEWAs 10.96W and 10.71W are required within this disturbed, emergent wetland pasture/hayfield interpreted from (NWI) to complete the Coos River HDD installation. Additionally they are required for conventional pipeline installation to ascend/descend the slope to the west. The 2009 FEIS Route was realigned to the Proposed Route in this area to incorporate the Brunschmid WRP2 Avoidance alternative.
11.26R – 11.74BR	WW-222-002 WW-222-002 WW-500-001 SS-100-005 (BR-S-02) BR-W-03	PEM PEMd PEMA R2UBHx PEMA	TEWA 11.27-W TEWA 11.33-N TEWA 11.53-N Construction ROW >75 feet	9	**Agricultural Wetland - Disturbed Emergent Pasture** These TEWAs and the full 95-foot construction right-of-way are required for staging of the Coos River HDD. The. They cannot be modified to avoid impacting the wetlands because of engineering requirements in the area of the Coos River HDD (i.e., HDD pull-back string, conventional pipeline installation across the floodplain, topsoil salvaging/storage within the agricultural wetland pasture, and spoil storage/containment requirements). PCGP will utilize appropriate low-ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts in the pasture wetland as specified in FERC's Wetland and Waterbody Procedures. Wetlands WW-222-002 and WW-500-001 are disturbed emergent pasture wetlands and, therefore, impacts are expected to be temporary and short-term, with implementation of the erosion control and restoration BMPs outlined in the ECRP.
11.55BR – 12.12BR	SS-100-005 (BR-S-02) BR-W-03 BR-S-4 BR-S-06 EE-WW-9927	R2UBHx PEMA R2UBHx R2UBHx PEM/PSS	TEWA 11.27-W TEWA 11.33-N TEWA 12.12-W Construction ROW >75 feet	9	**Agricultural Wetland - Disturbed Emergent Pasture** Survey access in these areas was denied and the wetland/waterbody delineation is preliminary. The 95-foot construction right-of-way and the TEWAs are required for conventional pipeline installation across the floodplain, topsoil salvage/storage within the agricultural wetland pastures, and spoil storage/containment. The construction right-of-way cannot be narrowed and the TEWAs cannot be eliminated because the trench width may become excessively wide within the wetland pastures. This is due to the high groundwater table and unconsolidated and saturated soils in the wetlands. The trench width will be wider in the wetlands because the pipeline will be weight-coated with several inches of concrete to compensate for
15.01BR – 15.1BR	BR-W-04A BR-W-04B BR-S-30	PEMA PEMS R4SBC	TEWA 14.73-N Construction ROW >75 feet	12	

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
15.11BR – 15.32BR	BR-S-36 BR-W-05 EE-SS-9068	R2UBHx PEMS R4SBC	TEWA 15.12-W TEWA 15.12-N TEWA 15.26-W	12	pipeline buoyancy in the wetlands. This increases the overall pipe diameter. The burial depth of the pipeline in the pastures will provide for 5 feet of cover over the top of the pipe compared to the standard 3 feet of cover in non-agricultural uplands. It may be difficult to contain/confine the saturated trench spoil materials because these materials typically spread out when stacked due to insufficient strength. Wetland BR-W-03 is an extensive (~2,700 feet) disturbed emergent wetland floodplain pasture that cannot be avoided. PCGP will utilize appropriate low- ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts in the pasture wetlands as specified in FERC's Wetland and Waterbody Procedures. Through these disturbed emergent pasture wetlands impacts are expected to be temporary and short-term, with implementation of the erosion control and restoration BMPs outlined in the ECRP.
24.32BR	BR-S-63	R3UBH	TEWA 24.32-W	21	Survey access to this area was denied and the waterbody delineation is preliminary. The TEWA is necessary for the county road (Coos Wagon Road) crossing, ingress/egress, and construction staging for the crossing of Steinnon Creek; therefore, the TEWA cannot be set back 50 feet from the waterbody. PCGP will utilize appropriate BMPs and restoration measures as outlined in the ECRP to minimize the potential for sedimentation and to restore forested riparian areas.
22.72 22.78	DA-10x NW-40	R4SBx PEMC	TEWA 22.59-N Construction ROW >75 feet	24	**Agricultural Wetland - Disturbed Emergent Pasture** This TEWA is necessary to segregate and store topsoil within the agricultural hayfield/pasture. The affected ditch (DA-10X) and disturbed emergent wetland (NW-40) are excavated drainage ditches within the pasture and therefore impacts to these features will be negligible.
23.38	WW-222-009 (CW-10)	PFOC	TEWA 23.09-W Construction ROW >75 feet	25	The construction right-of-way could not be necked down through this wetland because the side hill alignment requires the full 95-foot construction right-of- way, Although TEWAs were removed from the wetland, TEWAs 23.09-W could not set back 50 feet from the wetland to accommodate the necessary cut and fills and contain all trench/right-of-way spoil. Disturbed areas in this forested wetland would be replanted as described in the ECRP, which includes reestablishment with tree and shrub species, and appropriate BMPs would be installed to minimize potential sedimentation.
28.86	BSP-77	R3SB1F	TEWA 28.5-W	30	TEWA 28.50-W was not located 50 feet back from BSP-77 but was located back from the thin mature riparian forested buffer vegetation in the young regenerating forested area. The alignment at this crossing descends and ascends steep and side sloping terrain, and the drainage crossing is incised requiring the TEWAs for cut and fill and spoil storage. During construction staking, the EIs will ensure the TEWA is appropriately set back to minimize mature riparian tree clearing at the crossing. Appropriate erosion control and restoration BMPs, as outlined in the ECRP, will be implemented to minimize potential sedimentation and to restore habitats.
29.47	BSI-76	R4SB1C	TEWA 29.43-W	30	TEWA 29.43-W was not located 50 feet back from BSI-76 but was setback from the mature riparian forest in the younger regenerating forested area. The drainage crossing is incised requiring the TEWA for construction staging and for cut and fill and spoil storage. During construction staking, the EIs will ensure the TEWA is set back to the maximum extent practical based on site- specific conditions at the crossing. Appropriate erosion control and restoration BMPs, as outlined in the ECRP, will be implemented to minimize potential sedimentation and to restore habitats.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
29.52	BW-72	PEMC	Construction ROW >75 feet	30	**Agricultural Wetland - Disturbed Emergent Pasture** The full 95-foot construction right-of-way is maintained through this wetland to provide adequate space for topsoil segregation/storage and to deeper pipeline burial depths (5-foot) across this pasture/hayfield. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
29.85	BSP-71	R3OWH	TEWA 29.61-N TEWA 29.78-W TEWA 29.87-W Construction ROW >75 feet	30	**Previously Disturbed Area – Pasture** The alignment across the East Fork Coquille River was adjusted to provide a perpendicular crossing to minimize the crossing length of the river, avoid Wetland BW-250, and to avoid two potential MAMU stands along the river. The TEWAs were positioned to abut the existing riparian vegetation along the river banks within the pasture and hayfield but are located within 50 feet of the river. The drainage crossing is incised requiring the TEWAs for construction staging and for cut and fill and spoil storage. PCGP will utilize appropriate BMPs and restoration measures as outlined in the ECRP to minimize the potential for sedimentation and to restore forested riparian areas within the construction right-of-way.
31.64	BSI-70	R4UB1C	TEWA 31.01-W	32	The TEWA was not set back from this incised 1' wide intermittent headwater stream because the alignment traverses side slopes requiring additional grading and spoil storage requirements. The alignment is also co-located with a road with the spoil storage (non-working) side of the construction right-of-way paralleling and overlapping the road in some areas, which restricts the area for spoil storage. During construction staking, the EI will determine if the TEWA can be removed from the drainage crossing to minimize tree clearing based on the site-specific topographic conditions. The EI will also implement appropriate, erosion control and restoration BMPs, as outlined in the ECRP, to minimize potential project effects.
32.40	BSP-57	R3RB2H	TEWA 32.46-W	33	This TEWA is required for the crossing of waterbody BSP-57, a road crossing, and a PI. The TEWA was tapered to the extent feasible and avoids older riparian vegetation, but a small area extends to within 50 feet of BSP-57. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
32.40 32.48	BSI-58 BSI-59	R4UB4C R3RB2H	TEWA 32.48-N	33	This TEWA is needed for ingress/egress, staging, and spoil storage associated with the road crossing and PI. Due to site-specific topographic conditions, it is not feasible to provide a 50-foot setback from the waterbodies, although the TEWA will be offset at least 10 feet from the intermittent drainage which should be dry at the time of construction. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
33.02	BSP-50	R3SB1C	TEWA 33.02-W	34	**Previously Disturbed Area – Forest Clear-cut** Although this TEWA has been located 20 feet from the waterbody, maintaining a 50-foot setback is not feasible due to the location of Waterbody BSP-49. This TEWA is required during the crossing of Waterbody BSP-49 and therefore additional setbacks to maintain a 50-foot setback from Waterbody BSP-50 would make this TEWA impractical during the crossing of Waterbody BSP-49. During construction staking, PCGP's EI will ensure the extent of the TEWA remains only within the recent clear-cut area and does not affect riparian vegetation. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
34.45 34.46	CW-6 CSP-5	PEMC R3SB1H	TEWA 34.41-W TEWA 34.47-W	35	Due to the steep incised topographic conditions at this stream crossing, these TEWAs cannot be located 50 feet or more from the wetland/waterbody. These TEWAs will be set back a minimum of 10 feet from the waterbody. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
35.87	BLM 35-87 (CSP-2)	R4SB	TEWA 35.79-N	36	To minimize effects to an Occupied MAMU stand, the alignment is co-located with a road, traversing sidesloping topography. TEWA 35.79-N was extended across the intermittent drainage to accommodate staging for the in-road lay construction area between MPs 35.34 and 36.12, and to replace/repair the existing culverted crossing of the drainage. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
37.32	ESP-19	R4UB1J	TEWA 37.15-N	37	The alignment in this area follows a narrow ridge line to the crossing of ESI-19. Although TEWA 37.15-N was set back 50 feet from ESI-19 at the crossing, the upstream channel alignment of ESI-19 meanders to the west and flows parallel through regenerating forest habitat within 50 feet of TEWA 37.15-N. TEWA 37.15-N is important to facilitate the crossing of both ESI-19 and ESP-20 (Trib to Big Creek) as well as construction/grading requirements for traversing the narrow ridgeline which will encounter sideslopes. During construction staking, the EI will ensure that TEWA 37.15-N is setback at least 10 feet from ESI-19 and will ensure that appropriate BMPs, outlined in the ECRP, are implemented to minimize potential sedimentation and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
51.71	SS-222-006	R4UB	TEWA 51.57-W	50	**Agricultural Wetland - Pasture** SS-222-006 is a narrow disturbed ephemeral drainage within a pasture/hay field that is expected to be dry during construction. The ephemeral drainage was delineated after establishment of the construction right-of-way, based on a landowner (Standley) requested reroute in this area. TEWA 51.57-W, located at the break between Spreads 1 & 2, is required for the crossing of Highway 42, ingress/egress, construction staging associated with the beginning/ending of pipeline construction spreads, and topsoil and spoil storage. PCGP will ensure that appropriate BMPs, outlined in the ECRP, are implemented to minimize potential sedimentation and to ensure that disturbed areas are appropriately revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
55.90 55.94	BSI-202 BSI-203	R4SB3C	TEWA 55.92-N TEWA 55.89-W	55	**Previously Disturbed Area – Pasture** These TEWAs are located in previously disturbed pastures and will not affect any riparian areas. They are required for topsoil segregation/storage in the pastures and will be set back a minimum of 10 feet from the intermittent drainages which should be dry during construction. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
56.28 56.34	DA-13 DA-14	R4SB	TEWA 56.20-W	55	DA-13 and DA-14 are narrow intermittent drainages that are expected to be dry during construction. These intermittent drainages are interpreted from available data on denied access properties. During construction staking, the EI will remove the portion of TEWA 56.20-W that crosses these drainages and establish a 10-foot minimum TEWA setback from the drainages and ensure that appropriate BMPs, outlined in the ECRP, are implemented to minimize potential sedimentation.
56.69	DA-15	PFO	TEWA 56.69-W TEWA 56.72-N	55	Survey access to this parcel was denied and the wetland delineation is preliminary. However, these TEWAs are required for the open cut crossing of Ireland Road (Douglas Co. Road 140). Ireland Road is elevated with 4-5 feet of gravel fill at the pipeline crossing, therefore this material will need to be temporary stored and replaced during restoration. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
56.75 56.78 56.83	BW-160 W-T-02-004A-1 (BW-161) BW-162	PFOC PEMC1 PFO/PEMC	TEWA 56.74-W TEWA 56.75-N TEWA 56.78-N Construction ROW >75 feet	55	These TEWAs are required for ingress/egress, the crossing of Ireland Road, and topsoil and spoil storage. They are located in the wetland and cannot be adjusted to be 50 feet or more from the wetlands and still be useful to complete the required construction activities (crossing of Ireland Road and PI construction). Impacts to the wetland from TEWA 56.74-W would mostly occur to emergent wetland areas. Portions of TEWA 56.75-N have been located to utilize an existing road which bisects the wetlands. TEWA 56.78-N has been located within previously disturbed emergent areas within wetland BW-161.
56.97 57.02	BW-163 BSI-139	PEMC R4SB1C	TEWA 56.78-N Construction ROW >75 feet	56	**Agricultural Wetland - Disturbed Emergent Pasture** This TEWA is required to segregate and store topsoil within this disturbed emergent pasture wetland. Impacts to this wetland from project construction are expected to be temporary and short-term.
57.11 to 57.31	BSI-140 BW-142 BW-141 BSI-138	R4SB1C PEMC PEMC R4SB1C	TEWA 56.78-N TEWA 57.11-N TEWA 57.25-W TEWA 57.31-N Construction ROW >75 feet	56	**Agricultural Wetland - Disturbed Emergent Pasture** TEWAs 57.11-N and TEWA 57.25-W are required to segregate and store topsoil within this disturbed, emergent wetland pasture (BW-142/BW-141). The full 95-foot construction right-of-way will be maintained through this wetland because impacts will be temporary, minor, and short-term. The TEWAs located in or adjacent to BSI-140 and BSI-138 (intermittent drainages) are also located in previously disturbed areas or are required for spoil/topsoil storage associated with the road crossing and the PI. This intermittent drainage is expected to be dry during construction and PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
57.97	BDX-148	R4UB3Cx	TEWA 57.91-N	57	**Agricultural Wetland – Disturbed Emergent Pasture** This TEWA is required to segregate and store topsoil within the disturbed pasture. Construction impacts to this intermittent ditch will be fully restored, resulting in only temporary and short-term effects.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
57.08 to 59.02	BW-150 BSI-151 BDX-157 W4-02 (BW-158) BSP-159 BSP-155 BW-154 BSI-132 BSI-129 BW-126 BW-127 NSP-13 BDX-153 BW-128	PEMC R4SB1C R4UB3Cx PEMC R3SB1H R2SB1H PEMC R4SB3C R4SB3C PEMC PEMC R3SB1H R4UB1Cx PEMC	TEWA 57.91-N TEWA 58.21-N TEWA 58.56-N TEWA 58.65-W TEWA 58.79-N TEWA 58.79-W TEWA 59.30-N TEWA 59.31-W TEWA 59.66-N TEWA 60.01-N TEWA 60.05-W TEWA 60.35-W TEWA 60.44-N Construction ROW >75 feet	57 - 59	**Previously Disturbed Area – Pasture** These TEWAs have not been located 50 feet or more from these waterbodies and wetlands because they have been located within existing disturbed pasture areas. They will not affect any woody/riparian areas. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
63.97	BSP-240 BSI- 241	R2UB1H R4UB1J	TEWA 63.93-W, TEWA 63.93-N TEWA 63.99-N	63	The steep topography immediately east of Kent Creek prevents location of these TEWAs 50 feet or more from these waterbodies. Setbacks greater than 10 feet from Kent Creek (BSP-240 and its tributary (BSI 241) are not feasible considering the space requirements necessary to clear the construction right- of-way, deck and haul timber, cross Kent Creek Road (County Rd 100), and cross the creek using the dry open cut crossing method. TEWA 63.93-W was also configured to utilize existing pasture areas to minimize tree clearing. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
65.76	S2-04 (BSP-227)	R3SB1H	TEWA 65.68-N	64	**Previously Disturbed Area – Pasture** This TEWA has been located within previously disturbed pastures and will not affect existing riparian areas associated with Rice Creek (BSP-227). PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
66.87 66.95 67.00	BSI-230 BSP-168 BSI-169	R4SB1J R3SB1C R4SB3J	TEWA 66.85-W TEWA 66.89-N TEWA 66.89-W TEWA 66.97-W TEWA 66.02-N TEWA 67.03-W	65	**Previously Disturbed Area – Pasture** All of these TEWAs have been located within previously disturbed pastures and will not affect existing riparian areas associated with Willis Creek (BSP- 168). Due to the topographic conditions and the project alignment along the intermittent drainage (BSI-230), this drainage could not be avoided by the right-of-way or TEWA 66.89-W. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated.
69.57	SS-004-006 (SS-100-014)	R4SBC	TEWA 69.54-W	68	TEWA 69.54-W is necessary for the PI and spoils storage in an area where the alignment traverses sideslopes along a ridgeline. Intermittent drainage SS- 004-006, which crosses this TEWA. This potential intermittent waterbody is expected to be dry during construction; however, appropriate erosion control and restoration BMPs, as outlined in the ECRP, would be implemented to minimize sedimentation and to restore this intermittent drainage, if present.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
71.04 to 71.11	WW-005-002 WW-501-009 SS-005-006 (SS-100-015)	PEM PEM R4SBA	TEWA 71.01-N TEWA 71.06-W	70	SS-005-006 is an interpreted intermittent waterbody (NWI) that is affected by TEWA 71.01-N which is required for the Direct Pipe crossing of I-5, South Umpqua River, Dole Road and the railroad. This waterbody is expected to be dry at the time of the crossing. As defined by Section I. B.1. of FERC's Wetland and Waterbody Procedures, these features are not considered waterbodies and are therefore protected under FERC's Upland Plan. During restoration the site/feature would be restored to the approximately preconstruction contour and appropriate erosion control BMPs would be installed as determined by the EI.
71.25	BSP-26 SS-005-008 (SS-100-016)	R3OWH PSS1C	TEWA 71.31	70	The purpose of the TEWA is for hydrostatic test water withdrawal and has been located to primarily occupy existing cleared/disturbed areas. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation
71.34 to 71.42	WW-504-010 (WW-005-004) SS-005-008 EDX-02	PEM PSSC1C R4SB3Cx	TEWA 71.33-W	70 & 71	TEWA 71.33-N, which affects Intermitted drainage SS-005-008, is required to complete the Direct Pipe Crossing of the South Umpqua River (BSP-26), Interstate-5, Dole Road, and the railroad. This TEWA is also necessary to facilitate construction/fabrication of the aboveground Block Valve Assembly #6 (AGF-06) and to facilitate ingress/egress to and use of the Roth Pipe Yard, which abuts the adjacent railroad spur. The intermittent drainage is expected to be dry during construction and would be appropriately bridged/culverted to minimize potential effects to the drainage during Direct Pipe operations and construction of AGF-06. During construction staking the EI, if feasible, will provide a setback between the TEWA and SS-005-008 at the pipeline crossing (~MPs 71.48 to 71.51) to minimize disturbance effects to the drainage. PCGP will implement appropriate erosion control and restoration BMPs, as outlined in the ECRP, to minimize sedimentation and to restore the intermittent drainage. Intermittent ditch EDX-02 and Wetland WW-504-010 are within 50 feet but are upslope and away from the Roth Pipe Yard; therefore, potential effects to and sedimentation of these features will not occur from the use of the yard. ,
73.56	SS-005-011& 012	R4SBA	TEWA 73.53-W	72	A small portion of TEWA 75.53-W is within 50 feet of this intermittent drainage. The TEWA is required to install a PI at this location. Erosion control and restoration BMPs, as outlined in the in the ECRP, will be utilized to minimize potential sedimentation and to ensure disturbed areas are appropriately restored.
73.60	WW-005-006	PEM	TEWA 73.68-W Construction ROW > 75'	73	The 95-foot construction right-of-way was maintained through Wetland WW- 005-006, and TEWA 73.68-W is located within 50 feet of the wetland because of the side sloping alignment in this area. The TEWA is located in previously disturbed herbaceous uplands adjacent to the wetland to facilitate construction at the acute PI. Erosion control and restoration BMPs, as outlined in the in the ECRP, would be utilized to minimize potential sedimentation and to ensure disturbed areas are appropriately restored.
75.33 75.34	EE-SS-9032 ES-SS-9033	R4SBC R4SBA	TEWA 75.32-N TEWA 73.68-W	74	Survey access in this area was denied; therefore, the intermittent streams were interpreted from available sources. The TEWAs are required to facilitate safe construction along the steep narrow ridgelines and for descending/ascending the steep drainage slopes and crossing the incised intermittent streams. PCGP will ensure that appropriate erosion control and restoration BMPs, as outlined in the ECRP, are implemented to minimize potential sedimentation and to ensure disturbed areas are appropriately restored. During construction staking, the EI will also provide, if feasible, TEWA setbacks at these crossings, depending on site-specific conditions.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
76.38	S-T02-004 (BSP-1)	R3SBH	TEWA 76.36-N TEWA 76.36-W	76	**Previously Disturbed Area – Pasture** These TEWAs have not been located 50 feet or more from this waterbody because they are located within existing pastures and forested riparian areas will not be disturbed. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
76.69	BW-2	PEMC	TEWA 76.66-N Construction ROW >75 feet	76	The full 95-foot construction right-of-way and TEWA 76.66-N are necessary in this wetland because the pipeline traverses steep topography and narrow ridgelines in this area. The TEWA is necessary for steep slope construction staging and spoil storage associated with the PI, and other potential grading activities necessary to safely install the pipeline. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.
77.71	BSP-6	R3SB7/PSS1C	TEWA 77.68-N	77	The alignment of BSP-6 was adjusted based on the review of LiDAR data, and the adjustment caused the encroachment into TEWA 77-68-N. During construction staking, the EI will ensure that TEWA 77-68-N is adjusted to provide a 10-foot setback, or greater, from BSP-6, based on site-specific conditions, engineering, construction, and safety constraints. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.
77.93 & 78.02	BSI-8 BSI-10	R3SB1H R4SB3C	TEWA 77.72-N TEWA 77.95-W	77	**Previously Disturbed Area – Pasture & Intermittent Stream** These TEWAs are necessary for staging and pipe storage in an area of the project which traverses rugged and remote terrain with limited access and limited areas suitable for staging. These TEWAs are located in a level, previously disturbed pasture where access is available in the Little Lick Creek drainage. The TEWAs encompass the intermitted drainages which are expected to be dry during construction. Elimination of these drainages from the TEWAs and applying a 50-foot setback would exclude significant areas of these critical staging TEWAs. PCGP will limit project activities within these intermittent tributaries and will also use existing access across the drainages or will use construction mats over these drainages as necessary to minimize potential channel disturbance. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
79.15 79.17 79.19	NSP-38 EE-SS-9038 EE-SS-9039	R3SB1H R3SB1H R3SB1H	TEWA 79.13-N TEWA 79.14-W	78	These waterbodies were interpreted from available data because access was denied. These TEWAs have been located 50 feet from North Myrtle Creek (NSP-37); however, this setback pushes these TEWAs into NSP-38 (Trib. N. Myrtle Creek), EE-SS-9038 and EE-SS-9039. These TEWAs cannot be set back further to allow a 50-foot offset from NSP-38 due to the extremely steep slopes immediately east of the creek (left bank). These TEWAs are needed for the crossing of Myrtle Creek, the crossing of the tributary (NSP-38) as well as for construction up the long steep slope adjacent to NSP-38, EE-SS-9038, and EE-SS-9039. This slope is approximately 1,300 feet in length and has an average slope of approximately 40 percent. PCGP's EI will monitor clearing and construction activities at the crossing of NSP-38, EE-SS-9038, and EE- SS-9039 to mark/flag any vegetation that can potentially be protected within the clearing limits. The EI will review these clearing limits (vegetation protection) with PCGP's Chief Inspector to ensure that the crossing can be safely constructed. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts to this tributary as well as to North Fork Myrtle Creek and to ensure that disturbed areas are appropriately restored and revegetated including woody riparian vegetation.
81.38	BSP-259	R3SB1H	TEWA 81.21-W	81	**Previously Disturbed Area – Pasture** TEWA 81.21-W is located in a hayfield/pasture within 50 feet of BSP 259, but it would not disturb any riparian vegetation associated with BSP 259. Appropriate BMPs, as outlined in the ECRP, would be installed as necessary to minimize potential sedimentation.
81.45-81.64	SS-100-023 EE-SS-9075	R4SBA R2UBH	TEWA 81.53-W	81	**Previously Disturbed Area – Pasture** These intermittent streams were interpreted from available sources because access was denied. TEWA 81.53-W, which crosses SS-100-023 and is within 50 feet of EE-SS-9075, is necessary for topsoil salvage and segregation. During construction, the EI will provide a setback between the TEWA and SS- 100-023. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts to this tributary and to ensure that disturbed areas are appropriately restored and revegetated.
84.23	EW-26 EW-24 EW-25	PEMC PEMC PEMC	TEWA 84.18-W	84	TEWA 84.18-W is required for staging in a remote area where the project traverses steep and rugged terrain and where level areas for large staging and access are extremely limited. Although TEWA 84.18-W entirely encompasses these emergent wetlands, they will be avoided by project activities. The EI will delineate the boundaries of these wetlands with silt fence and ensure that these sites are protected from disturbance.
85.38-85.71	EE-SS-9040 EE-SS-9041 EE-SS-9042	R4SBC R4SBC R3UBF	TEWA 85.15 TEWA 85.68-W	85	**Previously Disturbed Area – Forest Clear-cut** These intermittent streams were interpreted from available sources because access was denied. The TEWAs are required to facilitate safe construction in this area where the alignment traverses steep slopes and side sloping topography. During construction, the EI will provide setbacks between the TEWAs and these intermittent streams, if feasible, based on site-specific conditions and construction requirements to facilitate safe construction. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately restored and revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
88.20 & 88.23	BSI-236 BSI-238 (MOD)	R4SB1J R4SB1J	TEWA 88.07-N TEWA 88.26-W	87	This intermittent drainage, which is expected to be dry during construction, is confined to a road ditch and cannot be avoided by TEWA 88.07-N because of the project's alignment, location of the PIs, and parallel road alignment. These TEWAs are required for ingress/egress, the road crossing, and staging and spoil storage. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to restore the ditch/drainage.
88.48	BSP-232	R3SB1H	TEWA 88.26-W TEWA 88.49-N	88	**Previously Disturbed Area – hayfield/pasture** These TEWAs have not been located 50 feet or more from this waterbody (Fate Creek) because these TEWAs have been located in agricultural hayfields/pastures and will not disturb woody riparian areas immediately adjacent to the creek. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed areas are appropriately revegetated.
92.62	ASP-303	R3RB2H	TEWA 92.57-N TEWA 92.57-W TEWA 92.63-W TEWA 92.62-N TEWA 92.62	92	The steep side sloping topography on the west side (right bank) of St John's Creek prevents locating TEWA 92.57-N and TEWA 92.57-W 50 feet or more from this waterbody. The slope on the west side of the creek is over 1,800 feet in length and has an average slope of greater than 40 percent. Similarly, on the east side (left bank) of the creek, steep slopes limit setbacks of 50 feet or more for TEWAs 92.63-W and TEWA 92.62-N. Further, an existing road provides access to the east side of the creek and the road is incorporated within these work areas. All of these TEWAs will be set back a minimum of 10 feet from the creek. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that disturbed riparian areas are appropriately revegetated with woody riparian species.
94.51 to 94.66	WW-504-012 (AW-197) WW-502-003 (AW-201) WW-GM-39 H3-01 H3-02 H3-03	PEMC PEMC PSS1C PUB2H PUB2H PUB2H	TEWA 94.52-N TEWA 94.56-W TEWA 94.64-N Milo 1 & 2 Yards Construction ROW >75 feet	94	**Previously Disturbed Emergent Wetland** These previously disturbed seasonal emergent wetland and ponds are located in a previously reclaimed barrow/fill area that currently supports a pasture. The alignment has been selected to provide the best crossing location for the South Umpqua River. These TEWAs have been selected as the Milo Yards (1 & 2), a proposed pipe storage and contractor yard. This site is a significant staging area for project activities because of the proximity of the pipeline alignment to a large level area (previous industrial site) with excellent access from Highway 227. These TEWAs are also necessary for ingress/egress, the crossing of Highway 227, spoil storage, and parking. The ponds within the TEWA/yard would not be disturbed and would be protected with silt fence. To restore these wetlands, PCGP would utilize the procedures outlined in the ECRP to restore these disturbed wetlands.
94.73	ASP-196 (South Umpqua River)	R2OWH	TEWA 94.69-N TEWA 94.69-W TEWA 94.73-W Construction ROW >75 feet	94	These TEWAs and full construction right-of-way width are required for the diverted open cut crossing of the South Umpqua River, a major waterbody with an ordinary high water mark (OHWM) greater than 100 feet in width. The width of the flowing water is significantly less than the OHWM in the summer, when the crossing is proposed. These TEWAs are required to install the temporary portable in-stream diversions so that the crossing can be completed in the dry. The crossing procedures are described in Resource Report 2. The ECRP outlines the measures that will be utilized to restore banks and woody riparian vegetation.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
94.85 94.96	ASI-193 WW-504-013 (AW- 194/AW-195 (MOD))	R4SB3C PEMC	TEWA 94.86-N Construction ROW >75 feet	94	**Agricultural Wetland - Disturbed Emergent Pasture** The full 95-foot construction right-of-and and TEWA 94.86-N are required for topsoil segregation/storage and are located in or within 50 feet of the intermittent tributary to the South Fork Umpqua River (ASI-193) and emergent wetland WW-504-013. The alignment is located in the pasture and will not disturb any woody riparian vegetation associated with the intermittent drainage. PCGP will implement appropriate BMPs and procedures outlined in the ECRP to minimize sedimentation and to restore the disturbed wetland.
103.90	WW-003-006 (CW-55)	PEMC	TEWA-103.92-N TEWA 103.92-W Construction ROW >75 feet	104	**Previously Disturbed Area – Forest Clear-cut** These TEWAs are located in a recent forest clearcut which includes the entire wetland swale. Because this wetland was previously disturbed, the TEWAs were located within 50 feet of the wetland. These TEWAs are necessary for ingress/egress, log storage during clearing, staging and temporary spoil storage associated with the road crossing. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the wetland and to ensure that the area is appropriately restored and reforested.
109.13 to 109.17	GDX-15 WW-111-001 (GW- 14 (FS-HF-C) WW-111-001	R4UB3Cx PSS PSS	TEWA 109.10-W Construction ROW >75 feet	109	The side hill alignment, location of the road crossing (FS 3200500), and PI prevent eliminating TEWA 109.10-W and narrowing of the construction right-of- way to 75 feet at the crossing of Wetland GW-14 and road side ditch (GDX-5). These conditions also prevent a 50-foot setback. The road crossing (minimum 5 feet of cover), side hill construction and PI will require additional excavation and spoil storage. To minimize potential impacts to the wetland, the EI and Chief Inspector will determine at the time of construction what measures can be accommodated in the TEWA configuration based on site-specific conditions (i.e., topographic, slope grading requirements).
109.33	GSI-16 (FS-HF-F)	R4	TEWA 109.19-N	110	TEWA 109.19-N is located within 50 feet of this intermittent drainage that is expected to be dry at the time of construction. The alignment traverses side slopes requiring the TEWA for additional grading and spoil storage. To minimize riparian effects associated with the intermittent drainage, the EI and Chief Inspector will determine at the time of construction what measures can be accommodated in the TEWA configuration/setback based on site-specific conditions (i.e., topographic, slope grading requirements). PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the drainage and to ensure that the area is appropriately restored and reforested.
109.69	GSP-22 (ASP-297/FS-HF-M)	R3UB1H	TEWA 109.68-N	110	TEWA 109.68-N is located along FS Road 3200500 and across the culverted crossing of East Fork Cow Creek (GSP-22) and is necessary for parking/staging during construction. The TEWA was aligned to minimize impacts to riparian vegetation. The configuration of TEWA 109.68-N was also designed to allow the removal of the culvert for potential restoration purposes if the road is not required for future use by the Forest Service. PCGP and the Forest Service discussed the potential removal of the culvert for mitigation purposes during an on-site meeting in the summer of 2008.
109.78	FS-HF-K	R3UB1H	TEWA 109.73-N	110	A small portion of TEWA 109.73-N is within 50 feet of FS-HF-K and is required to facilitate safe construction in the narrow sloping area between the sharp PIs and stream crossings. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the drainage and to ensure that the area is appropriately restored and reforested.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
110.57	EW-69 ESI-68	PUB3C R4SB1H	TEWA 110.73 Peavine Quarry	111	**Previously Disturbed Area – Quarry** This TEWA encompasses an existing quarry on the Umpqua National Forest. Although wetland features EW-69 and ESI-68 are located in the quarry and were created by quarry activities, PCGP Project activities will not disturb these features.
110.96	FS-HF-N (ESI-68)	R4SB1H	TEWA 110.96-N	111	The project alignment was modified in this area to minimize impacts to this intermittent drainage and its upstream source. The alignment modification moved the alignment down slope adjacent to the road to minimize the sideslope cuts. The right-of-way was necked down on the working side and TEWA 110.96-N on the non-working side adjacent to the road to provide ingress/egress and to facilitate installation of the PIs at MPs 110.95 and 110.98. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the drainage and to ensure that the area is appropriately restored and reforested.
118.80	SS-100-032	R4SB1H	TEWA 118.70-N	119	Because access was denied, this intermittent stream was interpreted from available sources. TEWA 118.70-N is required to facilitate construction across the side sloping area. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts to the intermittent drainage and to ensure that the area is appropriately restored and reforested.
118.89	ASP-202	R2SB1H	TEWA 118.70-N TEWA 118.83-W TEWA 118.89-W	119	**Previously Disturbed Area – Pasture** These TEWAs are required for the crossing of West Fork Trail Creek, ingress/egress, and topsoil segregation/storage. They have been located within 50 feet of this stream within a previously disturbed pasture. Woody riparian vegetation associated the waterbody will not be disturbed. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the pasture and riparian areas are appropriately revegetated.
120.45	NSP-11	R4SB1H	TEWA 120.29-W	120	TEWA 120.29-W is located within 50 feet of this intermittent drainage and is required to facilitate construction across the side sloping area and to cross the incised intermittent drainage channel. The end of TEWA 120.29-W abuts the edge of an existing road adjacent to NSP-11. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that the area is appropriately restored and reforested.
120.83	AW-204	PEMC	TEWA 120.73-N TEWA 120.84-N	121	**Previously Disturbed Area – Residential yard/pasture** These TEWAs have been located within 50 feet of this wetland because they are located in the previously disturbed area (residential yards/pasture) and will not disturb any woody riparian vegetation associated the waterbody. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to appropriately revegetate the pasture and riparian areas within the construction right-of-way.
121.87 & 122.65	ESI-70 ESI-71 ESI-72 ESI-73 ESI-74 ASP-235	R4SB1C R4SB1C R4SB1C R4SB1C R4SB1C R3UBH	TEWA 121.95-W TEWA 122.62-W	122 & 123	These TEWAs are required for the Rogue River (ASP-235) HDD, pipe pull- back areas, and to access the river for a water source (Hydrostatic, HDD, dust abatement) and for potential frac out response. Although TEWA 121.95-W is located across these intermittent drainages, which are expected to be dry during construction and the HDD, ground-disturbing activities will be minimized through the use of rollers and temporary bridges to span these drainages. The EI will locate appropriate BMPs to minimize sediment delivery to these intermittent drainages and will work with the HDD contractor to minimize construction-related disturbance to these drainages.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
127.21 127.33	ADX-285 ADX-287	R4UB3CX R4UB3CX	TEWA 127.25-W TEWA 127.24-N	127	These TEWAS are necessary to facilitate construction of the PI across a side sloping area, for ingress/egress from the existing access road, and to stage construction activities. PCGP will ensure that appropriate BMPs are utilized to minimize sedimentation and ensure restoration of the intermittent ditches as outlined in the ECRP.
128.61	AW-278 ASP-310	PEMC/R3UB3 R3SB1H	TEWA 128.55-W TEWA 128.55-N TEWA 128-68-W Construction ROW >75 feet	129	**Agricultural Wetland - Disturbed Emergent Irrigated Pasture** These TEWAs have been located outside of this heavily grazed irrigated pasture wetland, except portions of TEWA 128.55-N which are required for topsoil segregation and storage. The full 95 foot right-of-way will be maintained in the wetland because impacts to this disturbed emergent irrigated pasture wetland will be temporary and short-term. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the pasture is appropriately revegetated.
128.89	AW-309	PEM	Construction ROW >75 feet	129	Wetland AW 309 is an emergent wetland that requires verification. If present, the EI during construction staking will determine the feasibility of necking in the construction right-of-way to 75 feet based on site-specific conditions. The EI will also ensure that appropriate BMPs are utilized to minimize sedimentation, reduce impacts, and ensure restoration of this emergent wetland as outlined in the ECRP.
130.83	WW-201-003b (AW-244) WW-201-003a (AW-245) ASI-246	PSSC R4UB1C	TEWA 130.81-W Construction ROW > 75'	131	This TEWA is required for ingress/egress and the crossing of Crowsfoot Road. It cannot be moved out of this wetland and still efficiently accomplish the road crossing. TEWA 130.81-W is bisected by an existing road that intersects with Crowsfoot Road within the construction right-of-way. Narrowing the construction right-of-way to 75 feet would not minimize disturbance to these wetlands because additional TEWAs would be needed to provide the necessary workspace for the road crossing. The portion of TEWA 130.81-W that is within 50 feet of ASI-246 would not disturb woody riparian vegetation. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated.
131.26	WW-201-001 (AW-248 (MOD)	PEMA	TEWA 131.03-N	131	TEWA 131.03-N was reduced in size and located in an area primarily dominated by emergent vegetation with very few shrubs. Moving the TEWA back to allow a 50 foot setback would disturb more shrub vegetation; therefore, the TEWA was not set back 50 feet. The construction right-of-way was necked down to minimize disturbance to this wetland. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation impacts and to ensure that the wetland and uplands are appropriately revegetated.
132.03 & 132.12	S2-02 (ADX-253) WW-502-002(W2- 02) ASP-252	R4UB3x PEMA R4SB1C	TEWA 131.88-N Construction ROW > 75'	132	**Previously Disturbed Area – Hayfield** TEWA 131.88-N and the full 95-foot construction right-of-way are maintained through the pasture/and hayfield because topsoil salvaging and five feet of cover are required in the pasture. Because of the 5-foot depth of cover, additional area is required for spoil and topsoil storage. The TEWA is located with a 10-foot minimum setback from Neil Creek (ASP-252) because it is located in an irrigated hayfield and riparian vegetation will not be affected by its location. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the hayfield is appropriately revegetated.

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132.22 132.26	WW-502-001 EDX-75	PEM1C R4UB3x	TEWA 132.18-W Construction ROW > 75'	132	**Previously Disturbed Area – Heavy Grazing / Cattle Use** WW-502-001 is a disturbed emergent wetland, heavily impacted (trampled) by concentrated cattle use during the winter. The TEWA and 95-foot construction right-of-way are necessary to facilitate construction across sideslopes and expected shallow bedrock areas. Temporary and short-term effects to this disturbed wetland are not expected to affect or alter this system. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the hayfield is appropriately revegetated.
132.26 to 132.54	EDX-75 W3-05 (AW-243) W5-01	R4UB3x PEMC	TEWA 132.18-W TEWA 132.26-W 132.45-W 132.46-N 132.52-W 132.52-N Construction ROW > 75'	131 - 133	**Agricultural Wetland – Hayfield/ Pasture** The alignment in this area was rerouted based on a landowner request (Schott), which significantly reduces the crossing length/effects within Wetland W3-05 (AW243). However, the full 95-foot construction right-of-way and TEWAs are required in these wetlands to cross the Butte Falls Hwy (elevated road fill), for, ingress/egress, and installation of Block Valve #11 – Launcher/Receiver in the upland area at MP 132.46. In addition, five feet of cover and topsoil salvage are required in the pasture. Because of the 5-foot depth of cover, additional area is required for spoil and topsoil storage. PCGP will use low-ground-weight equipment or operate equipment off of mats to minimize rutting and compaction impacts. The measures outlined in the ECRP will be used to minimize potential sedimentation impacts and to ensure that the wetlands are appropriately revegetated.
132.69	W5-02 (AW-242)	PEMC	TEWA 132-68-N TEWA 132-69-W TEWA 132.72-W	133	Wetland AW-242 was extended to the west across the modified alignment in this area based on landowner request (Schott). The right-of-way was not necked down to 75 feet through the wetland, and TEWAs 132.68-N, 132.69-W, and 132.72-W could not be set back 50 feet from this wetland because of the PI at MP 132.71 and the established setback of TEWA 132.72-W from wetland AW-264. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the TEWAs are appropriately revegetated.
133.09	AW-263	PEMC	Construction ROW > 75'	133	minimize rutting and compaction impacts. The measures outlined in the ECRP will be used to ensure that the wetland is appropriately restored.
133.35	ASP-241	R3UB3H	TEWA 133.24-N TEWA 133.28-W	134	Waterbody ASP-241 is formed from leakage from the Medford Aqueduct (ASP- 240) which is to be crossed by conventional boring. TEWA 133.24-N is required for the bore pit installation and boring operations. The TEWA cannot be moved back to avoid the intermittent drainage considering the bore length (~300 feet) and the topography in this area. If the waterbody is flowing at the time of construction, the flow will be diverted around activities as necessary to avoid water quality impacts. TEWA 133.28-W cannot be set back 50 feet from the waterbodies because it is critical to minimize the length of the bore to minimize boring risk/failure.
138.65 138.57	ASI-208 SS-GM-9 SS-GM-10 SS-GM-11 SS-GM-12	R4UB3C R4SB3 R3UB1 R4SB3 R4SB4	TEWA 138.24-W TEWA 138.26-W TEWA 138.39-W TEWA 138.40-N TEWA 138.47-W TEWA 138.56-W Construction ROW > 75'	139	These TEWAs were designed to be between these small ephemeral/intermittent head water streams, to fascinate construction across the dissected terrain, incised drainages crossings and PIs and could not be setback 50-feet from these features. During construction staking the EI, to the extent feasible, will adjust the TEWAs based on site specific conditions to ensure that grading and disturbance to riparian vegetation adjacent to these drainages is minimized All of these headwater drainages are expected to be dry at the time of construction. The EI will also ensure that appropriate BMPs measures outlined in the ECRP to minimize potential sedimentation and to ensure that the TEWAs are appropriately revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
139.07 & 139.17	S-T04-002A (SS- GM-14) WW-GM-33 (ASI-214) WW-GM-37	R4SB3 PEMC/R4UB1C PEMA	TEWA 139.01-N TEWA 139.01-W TEWA 139.08-N TEWA 139.08-W Construction ROW > 75'	139	The location of wetland SS-GM-14 in relation to the gravel access road prevents a 50-foot setback from this intermittent drainage to complete both road and drainage crossings. The TEWAs have been located with a setback of approximately 20 feet or more to minimize riparian vegetation impacts. TEWA 139.08-W is required for ingress/egress and staging. This TEWA is accessed by an existing, private graveled road in a remote area which is level and provides an ideal staging location. A 50-foot setback from SS-GM-14 and ASI- 214 was not provided because TEWA 139.08-W was located entirely within a rangeland pasture and will not affect woody riparian vegetation. The full 95- foot construction right-of-way through wetland WW-GM-37 is required to accommodate the crossing of SS-GM-15 with no additional TEWAs.
139.39 to 139.91	S-T04-008 (ASI- 217) ASI-226 ASI-227 ASI-228 SS-GM-43 (AW-230) SS-GM-19	R4SB1C R4SB1C R4SB1C R4EMC R4SB3 R4SB1	TEWA 139.46-W TEWA 139.57-N TEWA 136.60-N TEWA 139.68-W TEWA 139.82-W Construction ROW > 75'	140	The alignment in this area traverses a slightly sloping rangeland pasture which is bisected by numerous intermittent drainages, and emergent wetlands. The alignment was routed through the pasture to minimize forested impacts and was necked down to minimize impacts to these features where feasible. Although these TEWAs have been located to minimize impacts to these wetland/waterbody features, where possible, it is not feasible to set back TEWAs 139-46-W, 139.57-N, or TEWA 139.60-N 50 feet from these features. TEWAs 139.68-W and 139.82-W, which are required for the PIs and spoil storage, are located within several of the intermittent drainages and emergent wetlands. The intermittent drainages are expected to be dry during construction and impacts to these features will be temporary and short-term and fully mitigated through implementation of the measures outlined in the ECRP (topsoil salvage, scarification and reseeding).
140.94 141.08	ADX-186 EW-76 EW-77 EW-78 (EW-82)	R4SB1 PEMC PEMC PEMC	TEWA 140.98 TEWA 140.85-W	141	**Previously Disturbed Area – Reservoir Dam** TEWA 140.98 is required for water withdrawal proposed at Star Lake Reservoir. Water withdrawal activities for dust or fire control would not require any excavation or ground disturbance at this site. Where traffic is required across these emergent wetlands, the travel route will be matted if the wetlands are saturated to minimize potential compaction impacts.
141.48	ASI-188	R4SB1	TEWA 141.44-W TEWA 141.52-W	142	The route in this area was slightly modified to avoid the parallel alignment of the intermittent drainage ASI 188 within the construction right-of-way, and the right-of-way (working sides) was reconfigured because of sideslopes. To accomplish this alignment/right-of-way modification, two PI were included at MPs 141.46 and 141.5, which required TEWAs to store spoil for the side sloping alignment. Although the TEWAs were set back from the intermittent drainage, which is not expected to be flowing at the time of construction, a 50- feet setback could not be maintained. PCGP will use the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
142.28 to 142.65	EDX-32 EW-33 EW-35 ESP-34 ESI-31 EDX-36	R4SB3Cx R4SB3Cx PEMC R3SB3H R4SB3Cx R4SB3Cx	TEWA 142.17-N TEWA 142.51-W TEWA 142.58-W TEWA 142.58-N Construction ROW > 75'	142 & 143	**Agricultural Wetland – Irrigated Emergent Pasture** The full 95-foot construction right-of-way is maintained and the TEWAs are located within this irrigated pasture wetland because impacts to this disturbed emergent wetland are expected to be temporary and short-term. The TEWAs are required for topsoil segregation/storage and are needed for staging during the crossing of Salt Creek. These TEWAs have been located within the wetland pasture but outside of woody riparian areas immediately adjacent to the creek. The full right of way width is maintained because of the required 5- foot depth of cover over the top of the pipe in the pastures, which requires additional area for topsoil and spoil storage. Impacts to these features will be fully mitigated through implementation of the measures outlined in the ECRP (topsoil salvage, and reseeding) and the use of low-ground weight equipment or operating equipment off of equipment mats if needed to minimize rutting and compaction impacts.
143.12	ESI-37	R4SB3C	TEWA 143.05-W TEWA 142.11-W	143	The alignment in this area traverses side sloping toe slopes. To minimize effects to ESI-37 and associated forested riparian areas, TEWAs 143.05-W and 142.11-W are required to facilitate construction, including the PI and crossing of ESI-37. Therefore, the full 50-foot setback cannot be incorporated. PCGP will utilize the measures outlined in the ECRP to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated, including supplemental plantings of woody species.
143.51-]143.77	EL-41 ESI-38 ESI-39 ESI-40	R4SB2C R4SB3C R4SB3C	TEWA 143.69-W	144	**Agricultural Wetland – Stock Pond** The alignment and location of the PI prevents setting the TEWA outside the stock pond (wetland EL041). The alignment on the C2 Ranch was rerouted based on landowner recommendations, but the TEWA could not be located to avoid the excavated pond. During construction PCGP will minimize disturbance to the stock pond as much as feasible and will repair any damage to the pond during restoration.
144.70	GSP-5 (ESP-48)	R3SB3H	TEWA 144.59-N	144	Waterbody GSP-5, a confined stream reach flowing immediately adjacent to BLM Road 36-2E-19 (Salt Creek Road), also runs through TEWA 144.59-N and is within 50 feet of TEWA 144.70-W. The alignment in this location was dictated by the landowner (C2 Ranch), and the acute angle (PI) of the pipeline requires the need for TEWAs 144.59-N and TEWA 144.70-W. The configuration of the alignment and the road made it impractical to avoid the stream with the TEWA in the project design. However, during construction the stream would be flagged by the EI and project activities/disturbance would minimize/avoid impacts to the stream to the extent practical. The EI would assure that appropriate BMPs are installed to protect the stream reach in this area.
145.54	ESI-61 EW-63	R4SBC PEMC/PSSC	TEWA 145.38-N TEWA 145.53-W	145	The bored crossing of Highway 140 will require these TEWAs for ingress/egress to excavate the bore pit, store spoil, and for equipment staging. Therefore, a 50-foot setback on this intermittent drainage was not feasible considering the location of the highway in proximity to the intermittent stream. Further the shrub/tree riparian area is very limited along this intermittent stream and impacts to this riparian area will be replanted after construction.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
145.63	EW-67	PEMC	TEWA 145.58-W TEWA 145.58-N	145	**Agricultural Wetland – Irrigation Ditch** Wetland EW-67 is an irrigated wetland pasture with associated ditches located immediately adjacent to Highway 140 and North Fork Little Butte Creek. The TEWAs are not set back 50 feet because the TEWAs will not disturb any riparian vegetation. The highway crossing will be bored and the location of the sharp PI makes it infeasible to include TEWA setbacks from the irrigated field and ditches. Further, the TEWAs are necessary to stage the crossing of North Fork Little Butte Creek.
146.05	ESI-56	R4SBC	TEWA 145.91-W	146	TEWA 145.91-W is required to accommodate grading cuts associated with the ridge toe slope along with existing roads and the incised drainage of ESI-56. Although the full 50-foot setback from ESI-56 was not entirely incorporated, prior to clearing, the EI will flag any trees for saving within TEWA 145.91-W, where feasible, to minimize riparian disturbance. The EI will also ensure that the measures outlined in the ECRP are utilized to minimize potential sedimentation and to ensure that the disturbed areas are appropriately revegetated, including supplemental plantings of woody species.
146.38	ESI-55	R4SBC	TEWA 146.14-N	147	TEWA 146.14-N is necessary for topsoil salvage and segregation through the pasture crossed in this area. During construction staking, the EI will determine appropriate cutouts/setbacks between this TEWA and ESI-55 based on site- specific conditions to minimize removal of woody vegetation. This intermittent waterbody is expected to be dry at the time of construction.
152.33	AL-169	PUBFx	TEWA 152.29-N	153	**Previously Disturbed Area – Excavated pond** This man made pond may be used as a water source for dust/fire control if allowed by the landowner.
171.06	WW-001-013 (EW-85)	R4UBC/PEMC	TEWA 171.08-N TEWA 171.08-W	171	**Previously Disturbed Area - Existing Road** TEWA 171.08-N and TEWA 171.08-W were not placed 50 feet back from wetland EW085 because an existing road is located along the southern edge of the wetland. These TEWAs were located on the northern edge of the road shoulder adjacent to the wetland in the previously disturbed road area. Sediment barriers would be placed along the TEWAs adjacent to the wetland to ensure that sediment is contained within the construction right-of-way.
171.57	SS-201-001 (GSP-7)	R3SBC	TEWA 171.08-N	171	The linear TEWA 171.08-N was maintained in this area because of the sidesloping alignment that is confined/co-located with Clover Creek Road. The right-of-way has been narrowed to slightly less than 75 feet in this area, but the TEWA is needed to facilitate sideslope construction and the crossing of GSP- 7. PCGP will implement BMPs, outlined in the ECRP, to minimize potential sedimentation and ensure that all disturbed areas are appropriately restored. .
176.54	ESI-69	R4SB2	TEWA 176.49-N	176	TEWA 176.49-N was located across intermittent drainage (ESI-69) because of the side slope construction requirements, and required PI locations in this area. The PIs (pipe bend angles) are required based on the slope contours. Prior to clearing, the EI will flag trees for salvage/saving trees within TEWA 176.38-N, where feasible, to minimize riparian disturbance.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
188.90	SS-001-001 (SS-100-025)	R4EM2	TEWA 188.82-W	188	TEWA 188.82-W was extended across this intermittent waterbody, which is located in a steep, incised drainage, adjacent to an access road crossing, PIs, and steep sidesloping topography. The waterbody is expected to be dry at the time of construction and all appropriate erosion control and revegetation BMPs, as outlined in the ECRP, will be installed to minimize sedimentation. Prior to clearing, the EI will flag trees to be protected within TEWA 188.82-W, where feasible, to minimize riparian disturbance.
191.45 to 198.16	Multiple Agricultural Hayfield/Pasture Wetlands and drainage Ditches/canals	PEMC PEMA R4UB2x R4UB3Cx	Multiple TEWAs and Construction ROW > 75 feet	190 - 196	**Active Agricultural Wetland – Hayfield/Pastures** The full 95-foot construction right-of-way was maintained between MPs 191.5 and 198.20 through the many and extensive hayfields/pastures wetlands in this area. Additionally, multiple TEWAs have been located in these hayfield/pasture wetlands in this area and are located immediately adjacent to the many drainage ditches/canals that are crossed. The construction right-of- way design is based on the expected high groundwater levels and the need to have the necessary space to contain the topsoil and excavated spoil. The trench width may become excessively wide because of the high groundwater table and the unconsolidated and saturated soils in the wetland. The right-of- way width and TEWAs are necessary because the trench will also need to be wider in the wetland because the pipeline will be weight-coated with several inches of concrete to compensate for pipeline buoyancy which increases the overall pipe diameter. In addition, the burial depth of the 36-inch pipeline in the pasture will have 5 feet of cover over the top of the pipe compared to the standard 3 feet of cover in non-agricultural uplands. Additionally, it will be difficult to contain/confine saturated trench spoil materials within the wetland because these materials typically lack sufficient strength for stacking or piling. The alignment for much of this area parallels a paved private access road which is provided by TEWAs 192.51-W. Ingress/egress from this road will be critical for project activities. Trench dewatering will be an important component of the project construction activities in this area because of the high groundwater table. Therefore, to ensure that discharge from dewatering activities does not flow into the construction footprint, TEWAs have been located south of the private access road that parallels the alignment which is down slope of the alignment. These dewatering TEWAs include: 192.76-W, 192.94-W, 193.13-W, 193.32-W, 193.51_W, and 194.51-W. PCGP will utilize appropriate low-ground pressure equipment or will operate equipment off of mats to minimize potential rutting or compaction impacts as specified in FERC's Wetland and Waterbody Procedures. Appropriate BMPs will also be utilized, as specified in the ECRP, to minimize potential sedimentation impacts. All of the affected wetlands are disturbed emergent pasture wetlands and impacts associated with the project activities are expected to be temporary and short-term.
198.99	AL-44	PABGh	TEWA 199.01-W	196	**Disturbed Industrial Yard** TEWA 199.01-W is required for the HDD crossing of the Klamath River and is located within a previously disturbed industrial yard. The EI will ensure appropriate sediment controls are installed to minimize potential sedimentation of the pond.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
199.59 to 199.77	WW-001-006 (AW-156) AW-157 AW-158 WW-001-007 (AW-159) WW-GM-36 (AW- 160)	PEMC/R4UB3x PEMC/R4UB3x PEMC/R4UB3x PEMC PEMC	TEWA 199.58-W TEWA 199.60-N Construction ROW > 75 feet	197	**Active Agricultural Wetland – Hayfields/Pastures** TEWAs 199.60-N and 199.58-W are required for the HDD crossing of the Klamath River. These TEWAs may also be used for staging of all project activities east of the Klamath River and will be used to move all spread equipment around the Klamath River. Wetland AW-159 is an agricultural drainage ditch as well as a depressional emergent pasture wetland. Impacts to this wetland have been avoided, but TEWA 199.58 could not be offset 50 feet from the wetland and be fully functional for the Klamath River HDD. PCGP will implement the measures outlined in the ECRP to minimize potential sedimentation and to appropriately restore all disturbed areas.
200.03 200.06	WW-001-003 (AW-312) AW-255	PEMC PEMC	TEWA 199.58-W TEWA 199.97-N TEWA 200.09-N TEWA 200.09-W TEWA 200.18-W Construction ROW > 75 feet	198	**Agricultural Wetland – Hayfields/Pastures** The construction right-of-way and TEWA requirements in this hayfield/pasture wetland were designed in consideration of the railroad crossing, the two sharp PIs in the alignment and the required 5-foot of cover over the top of the 36-inch diameter pipeline. The railroad will be bored and because of the length of the wetland the bore pits could not be placed outside the wetland. The two PIs will require additional workspace to install the radius bend or fitting and to contain the additional spoil materials associated with these PIs. Because of the location of the PIs the TEWAs could not be placed outside the wetland. In this area, the trench width may become excessively wide due to the high groundwater table and the unconsolidated and saturated soils in the wetland. Therefore the full 95-foot construction right-of-way was maintained through these wetland pastures. The right-of-way width and TEWAs are necessary because the trench will be wider in the wetland because the pipeline will be weight-coated with several inches of concrete to compensate for pipeline buoyancy which increases the overall pipe diameter. Further, the excavated trench spoil material will be difficult to contain/confine because they are expected to be saturated and will be spread out when stacked because these saturated materials typically lack sufficient strength. Project impacts to these agricultural wetlands will be temporary and short-term, and PCGP will apply the appropriate measures outlined in the ERCP to minimize potential sedimentation and to restore these areas.
200.31 200.54	ADX-293 ADX294	R2UB3Hy R2UB3Hy	TEWA 20.37-W TEWA 200.46-N TEWA 200.54-N	198	**Agricultural Wetland – Hayfields/Pastures and Previously Disturbed Areas – Pastures** TEWA 200.37-W is required to complete the crossing of Joe Wright Road, and TEWAs 200.46-N and 200.54-H are required to cross ADX-284, an irrigation ditch/drain. The TEWAs have been located immediately adjacent to the canals and ditches in adjacent fields/pastures, which will not affect riparian vegetation.
201.39 to 212.07	WW-001-002 (AW-95) WW-GW-35 (AW-98) AW-102 AW-108 AW-122 SS-003-005 (NSP- 1) WW-003-001 WW-202-005 (WW-003-002) and multiple drainage ditches/canals	PEMC PEMC PEMC PEMC PEMC R3UBH PEMC PEM1Cx	Multiple TEWAs Construction ROW > 75 feet	199 - 209	**Agricultural Wetland – Hayfields/Pastures and Previously Disturbed Areas - Pastures** The agricultural wetlands and numerous ditches and canals that are crossed in this area require the full 95-foot construction right-of-way and the TEWAs to be located in the wetlands and immediately adjacent to the ditches/canals. In these areas, the pipeline will require a 5-foot depth of cover and topsoil will be segregated in these areas. The topsoil and additional spoil material that will be excavated and stored in these areas will require the full construction right-of- way width and TEWAs. The TEWAs are required for ingress/egress as well as the multiple road and canal/ditch crossings in this area. The TEWAs have been located immediately adjacent to the canals and ditches because the adjacent fields/pasture will not affect any riparian vegetation. Project impacts to these agricultural wetlands will be temporary and short-term and PCGP will apply the appropriate measure outlined in the ERCP to restore these areas.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
212.51 to 212.73	WW-001-001 (EW-86) (EW-87) (ESI-52) (EDX-54) (EDX-55)	PEMC PEMC PEMCR4SBC R4UB3Cx R4UB3Cx R4UB3Cx	TEWA 212.08-N TEWA 212.49-W TEWA 212.53-N TEWA 212.53-W TEWA 212.67-N TEWA 212.69-W Construction ROW >75 feet	210	**Previously Disturbed Area – Railroad right-of-way/Irrigation Canal/Irrigated Hayfield** These TEWAs are required for the bore of the Burlington Railroad at MP 212.52 and the crossing of the irrigation canal at MP 212.72. The wetlands are previously disturbed emergent wetlands. Project impacts to these agricultural wetlands will be temporary and short-term, and PCGP will apply the appropriate measures outlined in the ECRP to control erosion and to restore these areas.
212.85 to 214.18	EDX55/EDX-90 ADX-318/EDX-90 ADX 318 ADX 274 ADX 275	R4UB3Cx R4UB3Cx R4UB3Cx R4UB3Cx R4UB3Cx	TEWA 212.69-W TEWA 213.22-N TEWA 213.88-W	210 & 211	**Previously Disturbed Area – Hayfields/Pastures** The alignment in this area follows/abuts irrigation ditches/canals as requested by the landowner to minimize encumbrances to the agricultural fields. The TEWAs have been located immediately adjacent to the canals and ditches in fields/pasture, which will not affect riparian vegetation.
214.28	Edge-2	PUBC3	TEWA 213.88-W	211	**Previously Disturbed Area – Cattle Feedlot/ Holding Pen** This feature is located within a concentrated cattle feed lot/holding pen that held standing water at the time of an Oregon Department of State Lands wetland review site visit with PCGP. DSL requested that this highly disturbed feature be designated/identified. TEWA 213.88-W is required to cross Hill Road which is elevated on fill in this area. The TEWA was not set back from this unvegetated and highly disturbed/trampled area in the feedlot pen because impacts from the TEWA during construction will not affect any function this low lying area might be considered to provide.
216.10 216.30 216.44	ASI-51 ASI-50 ASI-49	R4SB3C R4SBC R4SB1x	TEWA 214.08-W TEWA 216.10-W TEWA 216.31-W TEWA 216.44-W	214	The alignment in this area is co-located with a powerline easement which crosses undulating and sidesloping topography. The TEWAs are required for additional spoil storage associated with sidehill construction. Although the TEWAs have been removed from the intermittent drainages, which are expected to be dry during construction, they could not be set back 50 feet from the channel because of construction requirements. PCGP will apply the appropriate measures outlined in the ECRP to control erosion and to restore these areas.
219.69-219.70	AW-292 ASI-291 NL-116 Excavated Pond	PEMC R4UB3C PABGx	TEWA 218.84-N TEWA 219.70-N TEWA 219.69	217	**Previously Disturbed Area – Power Line Corridor** These TEWAs are located in a previously disturbed powerline corridor and their location will not impact any riparian vegetation. These TEWAs have been offset a minimum of 10 feet from Wetland AW-292 and intermittent stream (ASI-291). PCGP will utilize the measures outlined in the ECRP to minimize the potential for sedimentation and to ensure that adjacent areas are appropriately revegetated. TEWA 219.69 encompasses an excavated pond (NL-116) for water withdrawal purposes for potential dust control. All required appropriation/withdrawal permits and landowner approvals would be acquired prior to withdrawals.

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Site-Specific Modifications to FERC's Wetland and Waterbody Procedures and Upland Plan

MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
Project-wide	Waterbodies and Wetlands	Various	Various Uncleared Storage Areas (UCSAs)	1 - 226	PCGP requests a modification for the location of the uncleared storage areas (UCSAs) to be allowed within 50 feet of wetlands or waterbodies so that large woody debris can be stored on site and in close proximity to where it will be redistributed during restoration efforts. As defined in Resource Report 1 (Section 1.5.1) the UCSAs will be used to store forest slash, stumps, and dead and downed log materials that will be scattered across the right-of-way after construction. PCGP requests this modification because forest and vegetation clearing and ground disturbance will not occur in these areas, therefore the potential for sedimentation to a wetland or waterbody is greatly minimized. PCGP requests that the UCSAs be used to store large wood debris such as dead and downed logs and stumps which will be scattered over the right-of- way after construction. Other than large woody debris, woody material generally less than 8 inches in diameter would not be stored in the UCSA's within 50 feet of a wetland or waterbody. PCGP expects that most of the existing large woody debris material may be sufficiently decayed, therefore minimizing the moving and handling of this material would be important so this material is not lost through the handling process.
Project-wide	Various ditches and intermittent streams		Various	1 - 226	The project crosses numerous road ditches and intermittent streams that are not expected to be flowing at the time of construction. As defined by Section I. B.1. of FERC's Wetland and Waterbody Procedures, these features are not considered waterbodies and are therefore protected under FERC's Upland Plan. PCGP will comply with this definition, except for intermittent streams on federal lands covered under the Northwest Forest Plan. PCGP has generally provided minimum setbacks from these types of features and the TEWAs have been located outside these features where practical.
Project-wide but concentrated in the Klamath Basin 191 to 230.9	Numerous agricultural irrigation canals ditches and canals	R4UB3x PEM	Various	192 - 226	A significant number of agricultural ditches and canals are traversed by the Pipeline in the Klamath Basin within agricultural croplands, pastures, and hayfields. These canals and ditches do not support riparian vegetation and adjacent areas are disturbed emergent and actively cultivated hayfields and pastures. Therefore, consistent with FERC's Wetland and Waterbody Procedures (Section V. B. 2. a.), the locations of TEWAs have been located immediately adjacent to these waterbodies without a 50-foot setback to facilitate these crossings.
Project-wide	Various Hydrostatic/Dust Water Source Withdrawal TEWAs	Various	Various	1-226	Various TEWAs at the potential water source locations for hydrostatic test or dust control (see Table 1.6-2 in Resource Report 1 and Table 2.2-12) have been located within 50 feet of the source water to allow staging of necessary pumping equipment. Procedures outlined in the SPCC Plan would be implemented to ensure pumping equipment is adequately contained and refueling operations are properly controlled. Appropriate sediment control measures, as outlined in the ECRP will also be appropriately implemented, if necessary during these activities.

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
Treatment of Forest Slash and Modification From Section IV. F. 3. e. of FERC's Upland Plan					
Slash from timber clearing will be salvaged on or at the edge of the right-of-way and scattered/redistributed across the right-of-way during final cleanup and reclamation according to BLM and Forest Service fuel loading specifications to minimize fire hazard risks. This material will be pulled back onto the right-of- way during final cleanup after seeding. **If during final redistribution significant disturbance occurs to seeded areas the EIs will ensure that supplemental hand broadcast seeding occurs to ensure adequate seed coverage for erosion control.** Where it is not feasible to pull the slash back onto the right-of-way after seeding and it is redistributed before seeding, seeding in these areas (broadcast or hydroseeding) will occur with specifications to ensure adequate seed coverage. Scattering the slash across the right-of-way will hinder Off Road Vehicle (ORV) traffic on the right-of-way and will act as a natural mulch to minimize erosion. Because more than 1 ton per acre of woody material (logs, slash and chips) may be scattered across the right-of-way during final cleanup in many areas, **PCGP requests a modification from Section IV. F. 3. e. of FERC's Upland Plan.** PCGP will utilize the fuel loading standards of the BLM and the Forest Service as the limit for the quantity of woody debris that will be distributed across the right-of-way to minimize fire hazard risks for this modification request. **Section IV. F. 3. e. of FERC's Upland Plan** states that if wood chips are used as mulch to not use more than 1 ton per acre of chips and to add an equivalent of 11 lbs of available nitrogen where chips are used as mulch. The purpose of Section IV.F.3.e. of FERC's Upland Plan is to ensure that revegetation efforts are not hindered due to the decaying process of large amounts of wood chips which can bind-up soil nitrogen and impede revegetation. PCGP requests this modification because it will be impractical and infeasible to remove this woody slash material from the right-of-way and it is a typical sivilcultural practice in the project area (i.e., forest slash left in logged areas). Furthermore, it is expected that the woody slash material will not deplete soil nitrogen in the short-term, during revegetation establishment, because the size of the woody material that will be scattered on the right-of-way will be large and will not readily decay in the short-term to bind-up soil nitrogen. The Forest Service and BLM fuel loading requirements that PCGP would follow are provided in Section 1.6.1 of Resource Report 1.					
Danger/Hazard Trees To ensure safety during construction, PCGP requests a **modification to Section IV.A.1. of FERC's Upland Plan,** associated with confining activities to FERC's approved construction limits, in the event PCGP's professional forester and/or certified arborist designates a danger/hazard tree outside of the approved construction limits, as required by OSHA regulations during forest activities.[1] Hazard trees will be identified based on standard OSHA practices and guidelines (Filip, et. al., 2014; USDA, Forest Health Protection Pacific Northwest Region Portland, OR R6 NIR-TP-021-2013) and mitigated according to these guidelines based on site-specific conditions. Additionally, in some situations during right-of-way clearing/timber felling operations, it may not be possible for specific trees or portions of trees to be completely felled within the construction right-of-way limits (i.e., alignment ascends/descends steep slopes with mature trees [some more than 200 feet tall]; diseased/decayed trees are present; trees are leaning in unmanageable directions or degrees; or other site-specific conditions, based on OSHA safety guidance). Where danger/hazard trees are felled or where tree/woody material inadvertently falls outside the construction right-of-way limits, PCGP will compensate the landowner or the land-managing agency for the value of the danger/hazard tree, or for any tree damage that may result from felling activities. This modification request complies with best management forest practices and with OSHA regulations.[1] Because timber clearing will be conducted within appropriate seasonal windows to protect sensitive species, this modification will ensure worker safety and will minimize effects to sensitive resources. [1] OAR 437, Division 7 Forest Activities - Oregon OSHA: Danger tree – A standing tree, alive or dead, that presents a hazard to personnel due to deterioration or physical damage to the root system, trunk (stem), or limbs, and the degree and direction of lean.					
Landowner Requested Logs Where landowners request non-merchantable logs be salvaged for personal use/fire wood, PCGP requests that this material be allowed to be stockpiled within the PCGP Project's survey corridor (i.e., cultural, wetlands, biological) adjacent to but outside of the PCGP construction right-of-way and TEWAs in areas acceptable to the landowner. The EI will ensure that the adjacent offsite areas are consistent with FERC's Upland Plan (Section III.A.1., 2 and E. and IV.A.1.) and will not affect other landowners or sensitive environmental resource areas.					

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MP	Wetland	Cowardin Type	TEWA	Environmental Alignment Sheet	Modification Rationale
Topsoil Salvaging on Forest Lands Where Requested by Landowner					
Along the alignment where topsoil segregation is proposed on level terrain, PCGP has requested 10 feet of temporary extra work area in addition to the 95-foot construction right-of-way to effectively conduct topsoil salvaging from the trenchline and spoil storage area. Where topsoil salvage from the full construction right-of-way is requested, PCGP will utilize up to a 25-foot wide temporary extra work area. The purpose of this temporary extra work area is to ensure that the topsoil is segregated and kept separate from the trench subsoil. In steep forested landscapes, it is impractical to salvage topsoil based on topographic and vegetation conditions (i.e., large trees/stumps that would have to be removed in order to accomplish the task). The Forest Service previously requested that topsoil be salvaged on NFS lands. However, PCGP is **requesting a modification from Section IV.B.1 (4) of FERC's Upland Plan which specifies that topsoil be salvaged according to landowner requests.** PCGP requests this modification on all forest lands managed by the Forest Service, BLM, or private landowners. The purpose of the modification is to prevent the need for additional temporary extra work areas (and associated disturbance) on NFS lands to conduct the topsoil segregation. The alignment mainly traverses forested habitats through NFS lands which are primarily designated as LSR. Resource Report 8 provides a more detailed discussion of LSRs. According to Forest Service Standards and Guidelines, LSRs are managed with an objective to protect and enhance habitat for late-successional and old- growth related species. Limited silvicultural treatments are permitted in LSRs. It is PCGP's opinion that widening the proposed 95-foot construction right-of- way to 105 feet (i.e., topsoil salvage from trench line and spoil storage), and likely even more on steep terrain, to accommodate topsoil salvaging, would create more long-term impacts in these habitats than is practical or warranted. The construction footprint has been purposefully restricted in LSRs to minimize overall project disturbance. This has been accomplished by reducing the total number of temporary extra work areas in LSRs and limiting these work areas to the minimum size necessary. In forested habitats, the temporary extra work area that would be required to segregate the topsoil on NFS lands would be considered a long-term impact because of the time required to reestablish LSR forest stand characteristics. In forested areas, topsoil would be segregated from the trench line and spoil storage areas, and this topsoil would be returned to the same area after trench backfilling. This topsoil segregation area would coincide with the 50-foot permanent easement and the 30-foot corridor centered over the pipeline that would be maintained in a shrub or herbaceous state to facilitate corrosion and leak surveys and for aerial surveillance according to DOT regulations (192.705 Transmission lines: Patrolling and 192.706 Transmission lines: Leakage surveys). Creating long-term impacts to LSR habitats by enlarging the construction right-of-way to segregate topsoil does not provide a benefit compared to the habitat lost. This is because the topsoil that would be segregated occurs in the area that would become the permanent easement. This area will be maintained in a shrub or herbaceous state. Again, PCGP believes that creating long-term impacts from cutting additional forested areas and causing added disturbance in order to segregate topsoil is not reasonable or advantageous. PCGP will comply with Section VI. B. 2. h. of the FERC Procedures that specifies that the topsoil will be segregated in wetlands, except in areas where standing water is present or soils are saturated. PCGP will comply with this measure in all wetlands crossed by the project including those in forested areas. PCGP acknowledges and understands the importance of the soil and topsoil resource and would comply with the Forest Service and BLM's request to salvage topsoil if practical on forestlands. However, for the reasons stated above, this request is unreasonable. PCGP would apply the measure outlined in the ECRP to minimize adverse impacts to soil resources, minimize erosion and potential sedimentation, and to appropriately revegetate or reforest all disturbed areas. PCGP will only maintain the 30-foot area centered over the pipeline during long-term operations with these activities typically occurring about every 3 to 5 years. PCGP believes that by utilizing the measures outlined in the ECRP that impacts to site productivity will be minimized and the disturbed areas associated with the right-of-way will restored. The 30 foot area centered over the pipeline, would be converted to a non-forested condition through project maintenance activities. This area would coincide with the typical topsoil salvaging area, therefore, any loss of soil productivity in this area from soil mixing should not inhibit the vegetation communities that PCGP would maintain on the right-of-way (i.e., herbaceous and shrub vegetation). Further, as described in the Resource Reports and the ECRP, slash from forest clearing operations including dead and downed logs and other woody material that occur within the right-of-way would be salvaged on the edge of the construction right-of-way for redistribution during restoration. This material would provide effective ground cover for erosion control, provide important organic matter for nutrient cycling and provide habitat for all forest species including moss, lichen, fungi and mollusks species, among others.					
The use of clean gravel or native cobbles in coldwater fisheries					
According to Section V.C.1. of FERC's Wetland and Waterbody Procedures, clean gravel or native cobbles for the upper 1 foot of trench backfill is required in all waterbodies that contain coldwater fisheries, regardless of stream substrate materials. PCGP requests a modification from this Section of the Wetland and Waterbody Procedures in fish bearing streams that do not have gravel, cobble or other rock substrates. Many of these streams crossed by the project are remote and steep valley or ravine bottoms therefore hauling rock to these steams would create more disturbance and is impractical, especially where these streams do not have these substrate characteristics. In these waterbodies, PCGP would backfill the trench with the native material excavated from the trench.					