

**Attachment P-1
Resource-Specific Avoidance and Minimization Measures
Columbia County: CPL North**

Resource Type (Stream or Wetland)	Resource Name	Resource ID	MP	Chapter 93 Classification, Wetland Classification	Stream Type (Perennial, Intermittent, Ephemeral)	Stream Trout Status (Class A Wild Trout, Wild Trout, Trout Stocked)	Wetland (Cowardin Classification)	Limits of Disturbance (LOD) Adjustments (Supporting Information for Technical Deficiency #29)	Field Routing Adjustments within 600-foot Wide Corridor (Supporting Information for Technical Deficiency #15)*
Wetland	N/A	W-T02-15001A/ W-T02-15001C	0.20	None	N/A	N/A	PEM, PFO	LOD has been reduced to 75' to minimize impacts to W-T02-15001.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.
Stream	UNT to Fishing Creek	WW-T91-15001	0.21	CWF, MF	Perennial	Wild Trout Waters	R3	WW-T91-15001 encroaches within the southern margin of the LOD. The LOD at this location was reduced to 75 feet to minimize impacts to the adjacent wetland W-T02-15001A. Further LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed in this location to parallel existing ROW and to avoid crossing the stream channel with the pipeline.
Wetland	N/A	W-T02-15002	0.55	None	N/A	N/A	PEM	The LOD has been modified to eliminate impacts to W-T02-15002.	This feature is no longer impacted based on LOD reductions.
Wetland	N/A	W-T02-15003C	0.59	EV	N/A	N/A	PEM, PFO	LOD has been reduced to 80' to minimize impacts to W-T02-15003C. Further LOD reduction was not possible due to the adjacent stream.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.
Stream	UNT to Fishing Creek	WW-T02-15002	0.59	CWF, MF	Perennial	Wild Trout Waters	R3	LOD has been reduced to 80' to minimize impacts to WW-T02-15002.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15004A/ W-T02-15004C	0.92	None	N/A	N/A	PEM, PFO	LOD has been reduced to 75' to minimize impacts to W-T02-15004.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.
Stream	UNT to Fishing Creek (WW-T02-15004)	WW-T02-15004	0.93	CWF, MF	Intermittent	Wild Trout Waters	R4	LOD has been reduced to 75' to minimize impacts to WW-T02-15004.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15005	1.12	None	N/A	N/A	PEM	W-T02-15005 does not extend across the full width of the LOD. Since the wetland width within the LOD is less than 75', the FERC Procedures do not require LOD reduction. In addition, an LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed at this location to crossover the existing pipeline from the north to the south side. The crossover was necessary to align the pipeline for a perpendicular crossing of stream WW-T02-15007. Workspace requirements for the crossover make avoidance of W-T02-15005 infeasible. Additionally, the crossover location was selected to avoid impact to stream WW-T91-15003.
Stream	UNT to Fishing Creek	WW-T02-15006	1.16	CWF, MF	Perennial	Wild Trout Waters	R3	LOD reduction not possible at this crossing (per justification provided for wetland W-T02-15006 crossing)	The pipeline was routed at this location to avoid impacts to stream WW-T91-15003 and avoid impacts to the forested portions of wetland W-T02-15006. The pipeline was also routed to maintain colocation with the existing pipeline.

Wetland	N/A	W-T02-15006A / W-T02-15006A-1	1.17	EV	N/A	N/A	PEM	LOD was adjusted to avoid impacting the forested portion of this wetland (W-T02-15006C). Full LOD reduction to 75' was not possible because additional workspace is needed to successfully complete the road crossing of Camp Lavigne Rd. due to the confined workspace between the road and environmental features. The additional workspace will provide storage for spoil within the wetland and will result in less impact than transporting material to a stockpile area outside the wetland.	The pipeline was routed at this location to avoid impacts to stream WW-T91-15003 and avoid impacts to the forested portions of wetland W-T02-15006. The pipeline was also routed to maintain colocation with the existing pipeline.
Stream	UNT to Fishing Creek	WW-T92-15001B	1.26	CWF, MF	Perennial	Wild Trout Waters	R3	LOD has been reduced to 75' to minimize impacts to WW-T92-15001B.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15007	1.26	EV	N/A	N/A	PFO	LOD has been reduced to 75' to minimize impacts to W-T02-15007.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.
Stream	Fishing Creek	WW-T02-15007	1.31	CWF, MF	Perennial	Approved Trout Waters; Wild Trout Waters	R3	Full ROW width needed to complete a safe and efficient crossing of this large stream.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Stream	UNT to Fishing Creek	WW-T02-15008	1.99	CWF, MF	Perennial	Wild Trout Waters	R3	LOD has been reduced to 80' to minimize impacts to WW-T02-15008.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15008A/ W-T02-15008B/ W-T02-15008C	2.12	None	N/A	N/A	PEM, PSS, PFO	LOD has been modified to eliminate impacts to W-T02-15008.	This feature is no longer impacted based on LOD reductions.
Stream	UNT to Fishing Creek	WW-T91-15004	M-0086 0.21	CWF, MF	Intermittent	Wild Trout Waters	R4	Full ROW width needed to accommodate adjacent PI's.	The pipeline was rerouted in this location to deviate from the existing ROW in order to avoid a documented population of northeastern bulrush, a threatened species, in wetland W-T02-15008. The pipeline crosses perpendicular to stream WW-T91-15004 on a route to resume colocation with the existing pipeline.
Wetland	N/A	W-T02-15009A/ W-T02-15009C	2.26	None	N/A	N/A	PEM, PFO	LOD has been reduced to 75' for the portion of W-T02-15009 that crosses the full width of the LOD. Additional LOD reduction for the portion of the wetland encroaching on the northern end of the LOD would only be possible in the adjacent upland area and would not result in additional minimization of wetland impacts.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.
Stream	UNT to Fishing Creek	WW-T02-15009	2.29	CWF, MF	Intermittent	Wild Trout Waters	R4	LOD has been reduced to 75' to minimize impacts to WW-T02-15009.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Stream	Hess Hollow	WW-T02-15010	2.87	HQ-CWF	Perennial	Class A Wild Trout Waters;	R3	LOD has been reduced to 75' to minimize impacts to WW-T02-15010.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Stream	UNT to Hess Hollow	WW-T92-15001	2.88	HQ-CWF	Perennial	Class A Wild Trout Waters; Wild Trout Waters	R3	LOD has been reduced to 75' to minimize impacts to WW-T02-15001.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15010A/ W-T02-15010C	2.89	EV	N/A	N/A	PEM, PFO	LOD has been reduced to 75' to minimize impacts to W-T02-15010.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.
Stream	UNT to Hess Hollow	WW-T02-15011	2.92	HQ-CWF	Perennial	Class A Wild Trout Waters; Wild Trout Waters	R3	LOD has been reduced to 75' to minimize impacts to WW-T02-15011.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15013A	3.33	EV	N/A	N/A	PEM	W-T02-15013A does not extend across the full width of the LOD. Since the wetland width within the LOD is less than 75', the FERC Procedures do not require LOD reduction. In addition, an LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.

Stream	UNT to Coles Creek	WW-T02-15013	3.35	CWF, MF	Perennial	Wild Trout Waters	R3	LOD has been reduced to 80' to minimize impacts to WW-T02-15013.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15014A / W-T02-15014A-1 / W-T02-15014A-2 / W-T02-15014C-2	3.77	EV	N/A	N/A	PEM, PFO	W-T02-15014 does not extend across the full width of the LOD. Since the wetland width within the LOD is less than 75', the FERC Procedures do not require LOD reduction. In addition, an LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland. A crossover of the existing pipeline was considered to reduce impacts, but was not adopted as this would result in greater impacts to the forested portion of the wetland.
Stream	Ashelman Run (WW-T02-15014)	WW-T02-15014	3.82	CWF, MF	Perennial	Wild Trout Waters	R3	LOD has been reduced to 80' to minimize impacts to WW-T02-15014.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15015A / W-T02-15015C	3.96	None	N/A	N/A	PEM, PFO	LOD has been reduced to 75' to minimize impacts to W-T02-15015.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland. A crossover of the existing pipeline was considered to reduce impacts, but was not adopted as this would result in greater impacts to the forested portion of the wetland.
Stream	UNT to Coles Creek	WW-T02-15012C	4.12	HQ-CWF, MF	Perennial	Wild Trout Waters	R3	LOD has been reduced to 80' to minimize impacts to WW-T02-15012C.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Stream	Coles Creek	WW-T02-15012	4.13	HQ-CWF, MF	Perennial	Wild Trout Waters	R3	LOD has been reduced to 80' to minimize impacts to WW-T02-15012.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this stream.
Wetland	N/A	W-T02-15012A / W-T02-15012C / W-T02-15012C-1 / W-T02-15012C-2	4.15	EV	N/A	N/A	PEM, PFO	LOD has been reduced to 75' and 80' for the portion of W-T02-15012 that crosses the full width of the LOD. Additional LOD reduction for the portion of the wetland encroaching on the northern end of the LOD would only be possible in the adjacent upland area and would not result in additional minimization of wetland impacts.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland. A crossover of the existing pipeline was considered to reduce impacts, but was not adopted as this would result in greater impacts to the forested portion of the wetland. The proposed alignment also avoids impacts to stream WW-T02-15012A.
Stream	UNT to Coles Creek	WW-T92-15002	4.22	HQ-CWF, MF	Intermittent	Wild Trout Waters	R4	Full ROW width needed to complete a safe and efficient crossing of this stream and adjacent wetland.	The pipeline was routed in this location to parallel existing ROW.
Wetland	N/A	W-T02-15016A / W-T02-15016C	4.66	None	N/A	N/A	PEM, PFO	W-T02-15016 does not extend across the full width of the LOD. Since the wetland width within the LOD is less than 75', the FERC Procedures do not require LOD reduction. In addition, an LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland.
Stream	UNT to Marsh Run (WW-T93-15001)	WW-T93-15001	4.80	CWF, MF	Intermittent	Wild Trout Waters	R4	WW-T93-15001 does not extend across the full width of the LOD. An LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of stream impacts.	The pipeline was routed in this location to parallel existing ROW.
Wetland	N/A	W-T02-15016A-1 / W-T02-15016C-1	4.80	EV	N/A	N/A	PEM, PFO	W-T02-15016 does not extend across the full width of the LOD. Since the wetland width within the LOD is less than 75', the FERC Procedures do not require LOD reduction. In addition, an LOD reduction at this location would only be possible in the adjacent upland area and would not result in minimization of wetland impacts.	The pipeline was routed in this location to parallel existing ROW and provides a perpendicular crossing of this wetland. A crossover of the existing pipeline was considered to reduce impacts, but was not adopted as this would result in greater impacts to the forested portion of the wetland. The proposed alignment also avoids impacts to stream WW-T02-15015.

Note:

*The FERC Alignment Sheets provided in Attachment H-1 show field delineated streams and wetlands within the 300-foot wide environmental survey corridor, and surrounding land use features on an aerial base map.