

Oley Township Avoidance Route Analysis

Environmental Comparison of the Proposed Route and the Oley Township Avoidance Routes¹

Environmental Factor (unit)	Proposed Route MP 4.60 - 13.24	Oley Township Avoidance Routes	
		West MP 4.60 - 14.07	East MP 4.60 - 14.93
Total Route Length (miles)	8.64	9.47	10.33
Wetlands (count)			
Total National Wetlands Inventory (NWI) Wetlands Within a 200-Foot Corridor	4	4	3
Forested/Scrub-Shrub NWI Wetlands	1	1	1
Waterbodies (count)			
Total Streams	5	10	7
Perennial Streams	5	10	7
Major River Crossings (more than 100 feet)	0	0	0
Designated Natural and Scenic Rivers	0	0	0
Ponds/Lakes Within a 200-Foot Corridor	0	1	0
Karst Features within a 200-Foot Corridor (number)	38	2	19
Transportation Crossing (number)			
Railroad	0	0	0
Road	12	13	13
Walkway/Pedestrian Trail	0	0	0
Land Use (miles)			
Forest	0.14	4.50	5.33
Agricultural	8.08	4.78	4.45
Open	0.23	0.03	0.18
Residential	0.00	0.04	0.21
Commercial/Industrial	0.19	0.12	0.16
Residences and Other Structures			
Within 50 Feet of Construction Work Area	2	0	1
Federal Land (miles)	0	0	0
State Land (miles)	0	0	0
Recreation or Other Designated Land Use (miles)	0	0	0
Previously Surveyed Cultural Resources	3	12	5

Note:

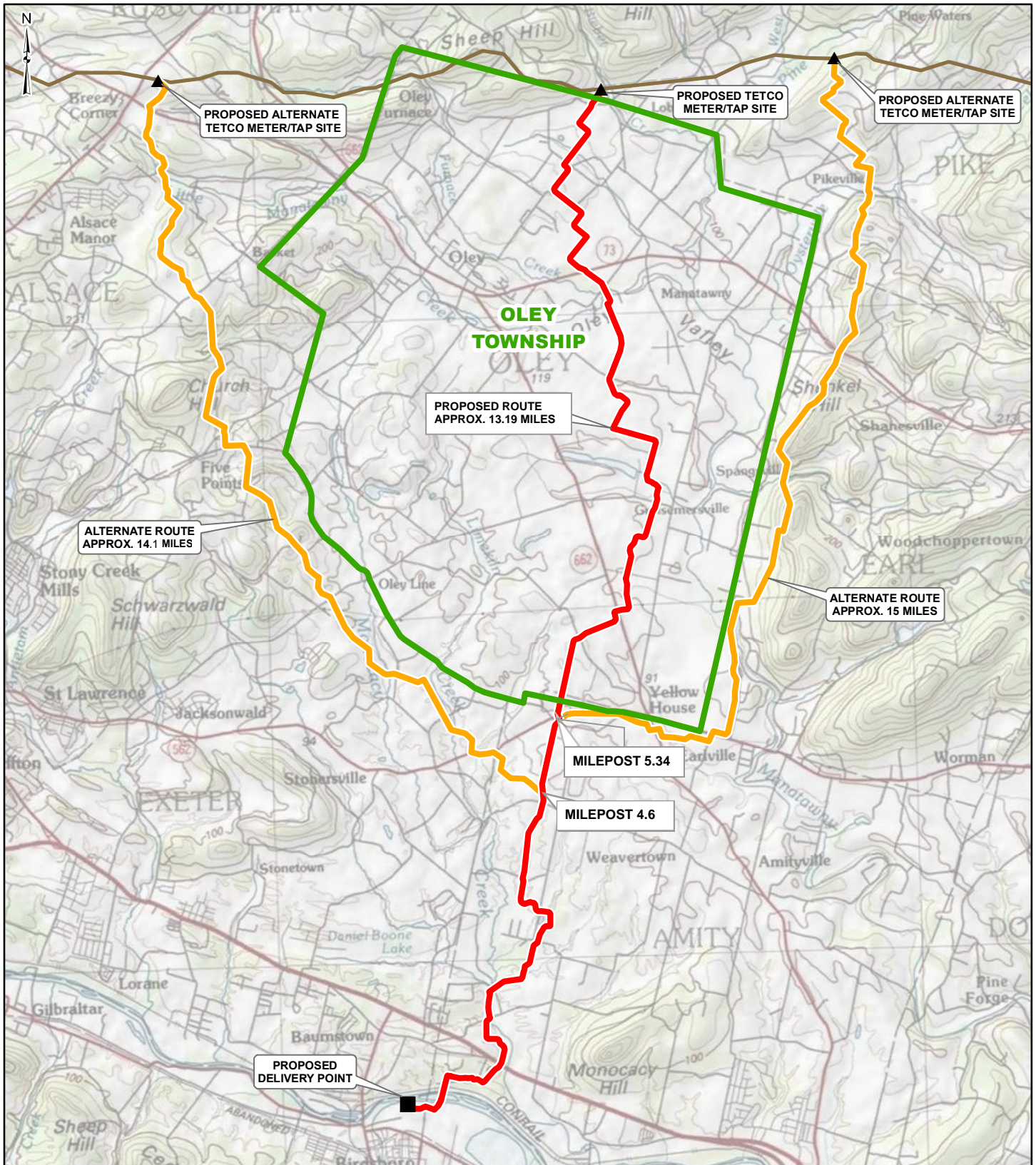
- 1 Table 1 includes information from a desktop review for comparison purposes, it does not include information from field delineations.

Two Oley Township avoidance routes were considered during scoping and are shown on Figure 10.4-2, Oley Township Avoidance Routes. Both routes follow the Proposed Route from MP 0.00 to MP 4.6 and 5.34, respectively. From MP 4.6, one alternate route travels to the west of the Proposed Route and totals

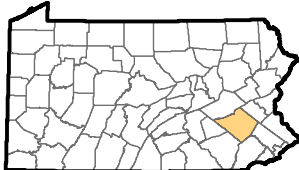
approximately 14.1 miles. From MP 5.34, a second alternate route travels to the east of the Proposed Route and totals approximately 15 miles. A 200-foot corridor desktop review of the route to the west identifies four NWI wetlands, one which is forested/scrub-shrub, 10 streams and two karst features. A 200-foot corridor desktop review of the route to the east identifies three NWI wetlands, one which is considered forested/scrub-shrub, seven streams and 19 karst features. Table 1 includes the portion of the two Oley Township avoidance routes that diverge from the proposed route, except for the portion of the east route, which overlaps with the proposed route from milepost 4.6 to 5.34. No NWI wetlands, streams or residences/structures were identified between milepost 4.6 to 5.34. One road is crossed between milepost 4.6 to 5.34 and has been included for both the Proposed Route and the east route. The number of streams, roads, and residences/structures have been revised to reflect current routing.

Field verification for alternate routes were not completed due to land access, therefore were compared based on a desktop review. As shown in Table 1, both the Oley Township avoidance east and west routes would cross more streams and are approximately 1.0 to 1.7 miles longer than the Proposed Route. The amount of NWI wetlands crossed is similar between the Proposed Route and the two avoidance routes. Both the east and west routes would require significantly more tree clearing, approximately 4.4 and 5.2 miles more than the proposed route, for the western and eastern routes respectively, whereas the proposed route primarily crosses agricultural land. The Proposed Route crosses more karst features, however, geotechnical investigations were performed and a mitigation plan was developed and submitted in the Federal Energy Regulatory Commission filing.

The Oley Township east and west avoidance routes have the potential to impact more environmental resources due to their greater length. In addition, both routes would cross significant slopes, potentially requiring additional workspace for side slope construction, which could pose a safety hazard for construction. For these reasons, the two alternative routes were not considered further.



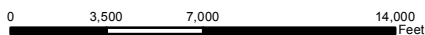
PROJECT LOCATION



BERKS COUNTY
PENNSYLVANIA

LEGEND

- BIRDSBORO PIPELINE
- PROPOSED ROUTE
- PROPOSED ALTERNATE ROUTE
- OLEY TOWNSHIP
- TETCO PIPELINE



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**FIGURE 10.4-2
OLEY TOWNSHIP AVOIDANCE
ROUTES**



BIRDSBORO PIPELINE PROJECT

DRAWN BY: WWB DATE: 2/8/2017