

January 9, 2020

RETTEW Associates, Inc., Sunoco Pipeline, L.P.'s (SPLP) geophysical contractor, completed a multi-technique geophysical survey over a 250-foot section of East Boot Road in East Goshen Township, Chester County, on June 22, 2019.

The results from the geophysical techniques were consistent with each other, and with the geology as mapped by the PA Geological Survey. RETTEW observed no evidence in the data indicating SPLP's construction activities caused any subsurface impacts or subsidence; however, there are identified anomalies beneath the roadway which may be related to saturated soils in the utility trenches. For safety considerations these anomalies warranted further investigation.

To supplement the first assessment, an expanded Ground Penetrating Radar (GPR) geophysical survey was completed on October 8-9, 2019, extending from west of the Boot Road/Wilson Drive intersection to east of the Carriage Drive intersection with Boot Road in East Goshen Township. The survey area included the two former horizontal directional drilling inadvertent return areas: one near the southeast corner of the Wilson Drive intersection and the pavement saw cut at the Wilson Drive intersection.

The GPR scanning detected known and marked underground utilities, and four anomalous areas of high-amplitude GPR reflectors. The four anomalous areas are near the Carriage Drive intersection - three are west of the intersection and one is east of the intersection. No anomalies were identified in the vicinity of the Wilson Drive intersection. The anomalies are characteristic of disturbed soils and possible soil settlement or subsidence. The three areas west of Carriage Drive are located around multiple water lines and valves. Two of the areas were identified in the June 2019 GPR survey. The third is coincident with a backfilled excavation area. The area east of Carriage Drive does not appear to be associated with any marked utilities. The anomalous features do not appear to represent open voids.

The SPLP S3-460 pipeline installation is complete. A final GPR geophysical survey of the area of East Boot Road covered by the assessment performed on October 8 and October 9 will be performed in the near future to verify conditions following the completion of the pipeline construction.

This Summary should be used only in the context of the full report for which it is intended.



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