

TRIP REPORT WOLF BRIDGE ROAD VALVE SITE – INFILTRATION TESTING

1.0 PURPOSE

This Trip Report presents the field data and results of a double-ring soil infiltration test conducted to support the design of a stormwater management system at the Wolf Bridge Road Valve site located in Middlesex Township, Cumberland County, Pennsylvania, as part of the Pennsylvania Pipeline Project (PPP) for Sunoco Pipeline, LP. One deep test (IT-A) was scheduled to be performed at the site. The test location is listed by coordinates (latitude and longitude) in Table 1 and shown on the attached figure.

2.0 FIELD ACTIVITIES

The infiltration test was conducted by Jim Coffman of Tetra Tech, Inc., on October 4, 2016. The test location was positioned in the field using a handheld, WAAS-enabled GPS unit. Table 1 provides the coordinates of the test location. The test was located in an agricultural field approximately 130 feet west of Wolfs Bridge Road.

The preliminary infiltration test activities were performed in accordance with the procedure specified in the 2006 Pennsylvania Stormwater Best Management Practices (BMP) Manual. The test location was prepared with a mini-excavator, and care was taken to minimize disturbance of the soil surface to be tested. Because bedrock was encountered before excavating to the targeted infiltration depth, no infiltration testing was conducted. The proposed infiltration test depth and location is presented in Table 1.

The weather at the time of the proposed testing was sunny and approximately 65 degrees Fahrenheit. A check of the nearest weather station, located approximately 1.2 miles away, indicated no precipitation had occurred during the 24 hour period preceding the testing.

A test pit was excavated near the testing location to characterize the soil, determine the depth to bedrock, if encountered, and inspect for evidence of the seasonal high water table. The test pit was identified with the corresponding infiltration test name. The test pit was machine-excavated to 21 inches below the ground surface where bedrock was encountered. Descriptions of the soil were recorded on the field log, which is based on the form example in the BMP manual. A copies of the field soil log is attached to this report.

3.0 RESULTS

3.1 Soil Description

Soils encountered generally consisted of a relatively deep (up to approximately 21 inches) reddish brown (2.5YR 4/4) loam with shallow small roots which was underlain by a saprolite layer consisting of highly weathered shales terminating on competent bedrock approximately 60 inches below ground surface. This saprolite layer had mixed lithochromatic mottles of brown

(7.5YR 5/3) and gray (7.5YR 5/1).

Seasonal high water was not observed at the testing location.

According to United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey data, the soil type for the test location is mapped as follows:

- Blairton Silt Loam - (BpB soil symbol) with 3-8 percent slopes; with high runoff and is somewhat poorly drained.

3.2 Infiltration Tests Results

The proposed test depth at this site was 36 inches below ground surface, however, during the excavation it was determined that weathered bedrock was encountered at approximately 21 inches below ground surface. After discussions with the project engineer at the time of the excavation, it was determined that the test would not be conducted due to the shallow depth of weathered rock.

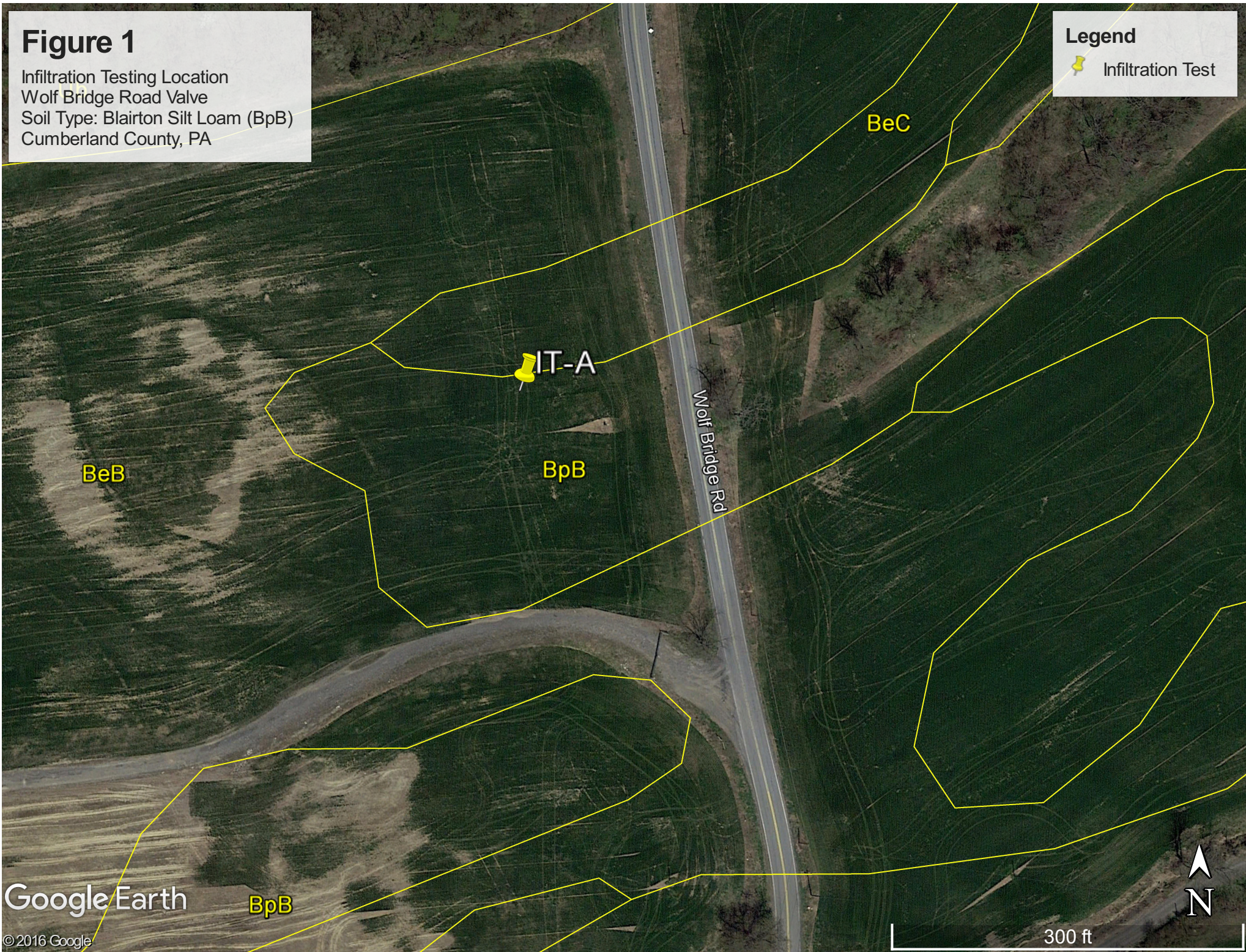
Table 1
Summary of Infiltration Test Results
Wolf Bridge Road Valve
Middlesex Township, Cumberland County, PA
Sunoco PPP

Test Location (IT-)	Location Data		Test Depth (inches)	Infiltration Test Result (inches/hour)
	LATITUDE	LONGITUDE		
IT-A (shallow)	40.2368833°	- 077.1651353°	36	NA

Figure 1

Infiltration Testing Location
Wolf Bridge Road Valve
Soil Type: Blairton Silt Loam (BpB)
Cumberland County, PA

Legend
📌 Infiltration Test



ATTACHMENTS

SOIL LOGS

Soil Log

Tested By: J. Coffman

Project: Sunoco Marina E2

Project No.: 112 IC05958

Test Pit: Wolf Bridge Rd A

Date: 10/4/16

Elevation: _____

Equipment Used: Track hoe (case 55 b)

Geology: Soil/rock

Soil Type: loam

Land Use: soybean field

Weather: Sunny
(partly cloudy)

Additional Comments slightly rolling landscape

Horizon	Upper Boundary	Lower Boundary	Soil Textural Class	Type, Size, Coarse Fragments, etc.	Soil Color	Color Patterns	Pores, Roots, Rock Structure	Depth to Bedrock	Depth to Water	Comments
A/B	0"	21"	loam	rock frag (up to 1")	reddish-bwr 2.5YR 4/4	solid	small roots shallow	—	—	moist
C/R	21"	60"	shale		mixed bwr/6gy	mixed mottling in weathered	rock (top of rock)	21"	—	Bedrock @ 21" (weathered)

Horizon:	USDA Definition	Soil Textural Class	Boundary	Notes:
O	Organic debris	Use ternary diagram from US Department of Agriculture Soil Conservation Service	Use depth and classification	* No infiltration testing due to thin soil cover & previous shallow testing (per Jacquie Brody's/Engineer's) decision Photos: 7-14
A	Dark colored, mixed mineral organic matter		Classification as Follows:	
B	Maximum accumulation of silicate clay minerals		Abrupt	
C	Weathered parent material		Clear	
R	Layer of consolidated rock beneath the soil		Gradual	
			Diffuse	

Table based on: Sample soil log located on page 12 of the Pennsylvania Stormwater Best Management Practices Manual
USDA Definitions located from: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/edu/?cid=nrcs142p2_054308

John Baker on site from start to finish
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