

Attachment General-1a, Part 2

Greene County Conservation District GP Comment Response Package

Pennsylvania Chapter 105 General Permit Application (GP-5/8) Permit Application
Forms and Documentation, Washington County

Washington County Conservation District GP Comment Response Package

Attachment General-1a, Part 2

Greene County Conservation District GP Comment Response Package



March 17, 2016

PITT-03-16-037

Project Number: 212IC-PB-00176

Greene County Conservation District
Attn: Mr. Zachary Basinger
22 West High St, Suite 204
Waynesburg, Pennsylvania 15370

RE: Equitrans, LP
Franklin, Jefferson, Morgan Townships, Greene County, PA
GCCD# 10884.01

Dear Mr. Basinger,

In response to your comments issued on January 13, 2016, please find the revised items for the Equitrans Expansion Chapter 105 GP-5 and GP-8 submission. Below are your comments followed by the corresponding responses.

Comment:

1. Please separate the GP-5 & GP-8 impacts in Section G of the GP Registration form as well as the additional impacts sheet.

Response:

Impacts for GP-5 and GP-8 have been calculated and separated for impacts to resources within the project area.

Comment:

2. Please add calculated permanent impacts for all GP-5 impacts in Section G of the GP Registration form as well as the additional impacts sheet. Keep in mind that the permanent impacts are what will be maintained on the right-of-way.

Response:

Permanent impacts have been calculated and separated for resources within the permanent maintained right-of-way.

Comment:

3. Please show all BMP's on plan drawings & any necessary site specific drawings.

Response:

All proposed E&S BMPs have been added to each Figure 1.

Comment:

4. Please show Erosion Control Blanket on all stream crossings

Response:

All proposed E&S BMPs have been added to each Figure 1.



Comment:

5. Please provide a site specific E&S plan for the Chapter 105 submission showing the 15 essential items from 102.4(b)(5).

Response:

An ESCGP-2 application with a complete E&S plan has been submitted to the County on March 18, 2016.

Comment:

6. Only PADEP offices can issue waivers, we are not delegated to do so.

Response:

Streams that meet the waiver conditions under 105.12(a)(2) which have a drainage area under 100 acres have been forwarded to the PADEP office for issuance of the waiver.

Additionally, clearance from PA Fish & Boat Commission and USFWS has been attached. It is anticipated that clearance from the DCNR, the remaining PNDI agency will be obtained during the Summer of 2016 after the survey for state-listed plant species has occurred.

Finally, a couple of slight adjustments to the project LOD have occurred since submittal of the General Permit applications. A summary of those changes are:

- S-AA1 - One of the timbermat crossings for this stream has been removed from the project (-GP-8)
- W-AA1 – The limits of disturbance for the temporary workspace has been revised to avoid this wetland (-GP-8)
- W-AA8 – A timbermat has been added for temporary disturbance within a workspace (+GP-8)

Impacts to streams and wetlands have been revised to separate out the permanent impacts associated with the 50 permanent right-of-way. The permanent impacts for wetlands within the Greene County portion of the project are not a loss of wetlands, as wetland restoration practices will be conducted.

Attached are 2 copies of the revised items for your review and approval. Please let me know if you have any questions during your review. I can be contacted directly at 412-921-8051 or via email at heather.trexler@tetratech.com.

Sincerely,

A handwritten signature in black ink that reads 'Heather Trexler'.

Heather Trexler, PG
Project Manager

Enclosures:

CC: Stephanie Frazier, Equitrans, LP



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS

CHAPTER 105

GENERAL PERMIT REGISTRATION

TYPE OF GENERAL PERMIT: ☒ New Permit

PLEASE MARK ("X") ONE: ☐ Transfer of Existing Permit (Complete Section A, C & H below and all of form [3150-PM-BWEW0016](#))

PLEASE MARK ("X") ALL THAT APPLY:

- ☐ [GP- 1](#) Fish Habitat Enhancement Structures
☐ [GP- 2](#) Small Docks & Boat Launching Ramps
Please mark ("X") the specific type of project:
☐ private recreational dock
☐ public access facility
☐ public service facility
☐ other private or commercial facility
☐ [GP- 3](#) Bank Rehabilitation, Bank Protection and Gravel Bar Removal
☐ [GP- 4](#) Intake and Outfall Structures

- ☒ [GP- 5](#) Utility Line Stream Crossing
☐ [GP- 6](#) Agricultural Crossings & Ramps
☐ [GP- 7](#) Minor Road Crossings
☒ [GP- 8](#) Temporary Road Crossings
☐ [GP- 9](#) Agricultural Activities
☐ [GP-10](#) Abandoned Mine Reclamation
☐ [GP-11](#) Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments (reviewed by DEP Regional Office only)
☐ [GP-15](#) Private Residential Construction in Wetlands

☒ Activity Related to Oil and Gas Exploration, Production or Transmission

☒ Activity Subject to FERC approval (Docket number [CP16-13-000](#)) ☐ FERC Natural Gas Act Facility

SECTION A. APPLICANT INFORMATION

Applicant's Name / Client Equitrans, LP		DEP Client ID# (if known) 163329		Employer ID# (EIN) 251776875	
Client Information - Please select Client Type / Code from drop down box under the correct entity shown to the right (or may be written in) →		Government		Non-Government	
				OTHER Other (Non-G)	
Mailing Address 625 Liberty Avenue, Suite 1700		City Pittsburgh		State PA	ZIP + 4 15222
Contact Person – Last Name First MI Suffix Frazier Stephanie		Telephone (412) 553-5798		Email Address sfrazier@eqt.com	

SECTION B. CONSULTANT INFORMATION (Complete if different than above) ☐ N/A

Contact Person – Last Name First MI Suffix Trexler Heather		Consultant's Title Project Manager		Consulting Firm Tetra Tech, Inc.	
Mailing Address 661 Andersen Drive, Foster Plaza 7		City Pittsburgh		State PA	ZIP + 4 15220
Telephone (412) 921-8051	Fax (412) 921-4040	Email Heather.trexler@tetrattech.com		Employer ID# (EIN) 95-4148514	

SECTION C. PROJECT INFORMATION

Project /Site Name: Equitrans Expansion Project			DEP Site ID# (if known or leave blank)		
Client Relationship - Please select Site-to-Client Relationship / Code from drop down box to the right (or may be written in) →			Double-click on shaded area below to select correct Site-to-Client Relationship / Code ↓		
County Greene	Municipality <input type="checkbox"/> City <input type="checkbox"/> Borough <input checked="" type="checkbox"/> Township Franklin, Jefferson, Morgan		OWNOP Owner/Operator		
Site Location / Address Braden Run Road, Redhook Compressor Facility		City Waynesburg		State PA	ZIP + 4 15370
Collection Method: <input type="checkbox"/> EMAP <input type="checkbox"/> HGIS <input checked="" type="checkbox"/> GISDR* <input type="checkbox"/> ITPMP <input type="checkbox"/> GPS <input type="checkbox"/> WAAS <input type="checkbox"/> LORAN Check the horizontal reference datum (or projection datum) employed in the collection method. EMAP and HGIS (PNDI) have known datum and do not require checking here. <input type="checkbox"/> NAD27 <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> WGS84 (GEO84) Enter the date of collection if coordinates were derived from GPS, WAAS or LORAN. mm dd yyyy					

Applicant's Name Equitrans, LP	GENERAL PERMIT REGISTRATION			
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15. Activities which impact wetlands:
Please place an "X" next to the appropriate box indicating the information provided:

☐ N/A because no wetland impacts are proposed or no compensatory mitigation is necessary.

☒ A wetland delineation with complete data sheets in accordance with the 1987 Corps of Engineers Wetland Delineation Manual AND the appropriate Regional Supplements to the Corps of Engineers Wetland Delineation Manual for use in Pennsylvania.

☐ If direct or indirect wetland impacts are greater than 0.05 acres, a compensatory mitigation plan in accordance with the Department's Replacement criteria which provides compensation at a minimum one to one acre ratio.

☐ **If compensatory mitigation onsite is determined not feasible:**
 A check, number _____, in the amount of \$_____ payable to the National Fish and Wildlife Foundation, N.A. 1237, as compensatory mitigation for _____ acres of impact in wetlands, in accordance with the Pennsylvania Wetland Replacement Project.

<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

16. Registration of a GP-11:
Please place an "X" next to the appropriate box indicating the worksheet(s) provided:

☒ N/A because not registering use of GP-11

☐ E&S Plan

☐ Project Inventory

☐ Bridge and/or Culvert Replacement Projects or Projects That Change the Waterway Opening

<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

SECTION F. SITE PLAN

Please place an "X" next to each item to ensure it is shown on the site plan. Unless otherwise specified in the permit, all items are required to ensure a complete Registration package.

YES	NO		YES	NO	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Name: <u>Please see Section 7.</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	100 year Flood Elevation OR FEMA map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Limits and Flow Direction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Limits of Earth Disturbance Associated with Activity
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Impacts on site (including dimensions)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of Property Lines Relative to the Project
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetlands on site (including acres)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing Utilities, ROWs, Easements
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetland Impacts on site (including acres)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing Buildings, Roadway, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Other Waters (i.e. pond, lakes, wetlands)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proposed Buildings, Roadways, ROW etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site Specific / Standard Drawings location(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Photograph location(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____

SECTION G. IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Please provide the project's total impacts for each category in the table provided below.

Please complete and provide a separate chart detailing the information for each impact to waters and wetlands. Include the identifier developed in Section E.9. for each location. All impact acreages and number of impacts should be totaled on each page and then the project's total impacts provided in the table below.

The [Additional Impacts Associated with Project Work Site \(3150-PM-BWEW0554\)](#) worksheet may be used but is not required.

Total Impacts for the Project	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts	2.160 ac	5 number	0.554 ac	4 number
Total Impacts to Wetlands	0.059 ac	3 number	0.134 ac	3 number
Total Impacts for this Project	2.219 ac	8 number	0.688 ac	7 number



Please complete and provide this chart (as many as is needed) as part of Section G of the [General Permit Registration \(3150-PM-BWEW0500\)](#) for impact locations.

ADDITIONAL IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Provide the unique identifier (from Section E.9.), latitude and longitude, total area and dimensions of impact to waters (including streams, lakes, ponds, etc) and/or wetlands associated with your project for each category below.

The impacts for each identifier below should be totaled and provided at the bottom of the page, then each page totaled. An account of total impacts for the project is to be provided in the chart found in Section G of the General Permit Registration Form.

Identifier <u>S-AA1</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 55' 00.65" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 7' 29.70" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> <i>N/A</i>	<u>0.004</u> ac	<u>10'</u> x <u>17'</u> (GP-8)	<u>0.020</u> ac	<u>10'</u> x <u>88'</u>
	Floodway <input type="checkbox"/> <i>N/A</i>	<u>0.043</u> ac	<u>117'</u> x <u>16'</u> (GP-8)	<u>0.258</u> ac	<u>117'</u> x <u>96'</u>
Total Impacts to Waters (a)		<u>0.043</u> ac		<u>0.258</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> <i>N/A</i>		_____ ac	_____ ' x _____ '	_____ ac	_____ ' x _____ '
Total Impacts for this location (c)		<u>0.043</u> ac		<u>0.258</u> ac	

Identifier <u>S-AA1 (workspace within floodway)</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 55' 0.65" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 7' 29.7" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> <i>N/A</i>	<u>0</u> ac	<u>0'</u> x <u>0'</u>	<u>0</u> ac	<u>0'</u> x <u>0'</u>
	Floodway <input type="checkbox"/> <i>N/A</i>	<u>1.953</u> ac	<u>117'</u> x <u>727'</u> (GP-5)	<u>0</u> ac	<u>0'</u> x <u>0'</u>
Total Impacts to Waters (a)		<u>1.953</u> ac		<u>0</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> <i>N/A</i>		_____ ac	_____ ' x _____ '	_____ ac	_____ ' x _____ '
Total Impacts for this location (c)		<u>1.953</u> ac		<u>0</u> ac	

Identifier <u>W-AA4</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 55' 00.35" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 6' 55.52" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input checked="" type="checkbox"/> <i>N/A</i>	_____ ac	_____ ' x _____ '	_____ ac	_____ ' x _____ '
	Floodway <input checked="" type="checkbox"/> <i>N/A</i>	_____ ac	_____ ' x _____ '	_____ ac	_____ ' x _____ '
Total Impacts to Waters (a)		_____ ac		_____ ac	
Impacts to Wetlands (b) <input type="checkbox"/> <i>N/A</i>		<u>0.008</u> ac	<u>71'</u> x <u>5'</u> (GP-5)	<u>0.059</u> ac	<u>47'</u> x <u>55'</u>
		<u>0.026</u> ac	<u>71'</u> x <u>16'</u> (GP-8)		
Total Impacts for this location (c)		<u>0.034</u> ac		<u>0.059</u> ac	

Total Impacts for "Page <u>1</u> of <u>3</u> " (same as above)	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts (sum of a)	<u>1.996</u> ac	<u>2</u> number	<u>0.258</u> ac	<u>1</u> number
Total Impacts to Wetlands (sum of b)	<u>0.034</u> ac	<u>1</u> number	<u>0.059</u> ac	<u>1</u> number
Total Impacts for this page (sum of c)	<u>2.030</u> ac	<u>3</u> number	<u>0.317</u> ac	<u>2</u> number

Please complete and provide this chart (as many as is needed) as part of Section G of the [General Permit Registration \(3150-PM-BWEW0500\)](#) for impact locations.

ADDITIONAL IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Provide the unique identifier (from Section E.9.), latitude and longitude, total area and dimensions of impact to waters (including streams, lakes, ponds, etc) and/or wetlands associated with your project for each category below.

The impacts for each identifier below should be totaled and provided at the bottom of the page, then each page totaled. An account of total impacts for the project is to be provided in the chart found in Section G of the General Permit Registration Form.

Identifier <u>W-AA7</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 55' 1.72" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 6' 50.37" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input checked="" type="checkbox"/> <u>N/A</u>	<u>0</u> ac	<u>0</u> ' x <u>0</u> '	<u>0</u> ac	<u>0</u> ' x <u>0</u> '
	Floodway <input checked="" type="checkbox"/> <u>N/A</u>	<u>0</u> ac	<u>0</u> ' x <u>0</u> '	<u>0</u> ac	<u>0</u> ' x <u>0</u> '
Total Impacts to Waters (a)		<u>0</u> ac		<u>0</u> ac	
Impacts to Wetlands (b) <input type="checkbox"/> <u>N/A</u>		<u>0</u> ac	<u>0</u>' x <u>0</u>'	<u>0.074</u> ac	<u>162</u>' x <u>20</u>'
Total Impacts for this location (c)		<u>0</u> ac		<u>0.074</u> ac	

Identifier <u>S-AA12</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 55' 3.13" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 6' 20.06" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> <u>N/A</u>	<u>0.015</u> ac <u>0.028</u> ac	<u>75</u> ' x <u>9</u> ' (GP-5) <u>75</u> ' x <u>16</u> ' (GP-8)	<u>0.086</u> ac	<u>75</u> ' x <u>50</u> '
	Floodway <input type="checkbox"/> <u>N/A</u>	<u>0.048</u> ac <u>0.084</u> ac	<u>230</u> ' x <u>9</u> ' (GP-5) <u>230</u> ' x <u>16</u> ' (GP-8)	<u>0.264</u> ac	<u>230</u> ' x <u>50</u> '
Total Impacts to Waters (a)		<u>0.132</u> ac		<u>0.264</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> <u>N/A</u>		<u>0</u> ac	<u>0</u> ' x <u>0</u> '	<u>0</u> ac	<u>0</u> ' x <u>0</u> '
Total Impacts for this location (c)		<u>0.132</u> ac		<u>0.264</u> ac	

Identifier <u>S-AA15</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 54' 35.92" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 5' 32.94" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> <u>N/A</u>	<u>0.007</u> ac	<u>123</u> ' x <u>2.5</u> ' (GP-5)	<u>0.007</u> ac	<u>123</u> ' x <u>2.5</u> '
	Floodway <input type="checkbox"/> <u>N/A</u>	<u>0.048</u> ac	<u>263</u> ' x <u>2.5</u> ' (GP-5)	<u>0.015</u> ac	<u>263</u> ' x <u>2.5</u> '
Total Impacts to Waters (a)		<u>0.015</u> ac		<u>0.015</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> <u>N/A</u>		<u>0</u> ac	<u>0</u> ' x <u>0</u> '	<u>0</u> ac	<u>0</u> ' x <u>0</u> '
Total Impacts for this location (c)		<u>0.015</u> ac		<u>0.015</u> ac	

Total Impacts for "Page 2 of 3" (same as above)	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts (sum of a)	<u>0.147</u> ac	<u>2</u> number	<u>0.279</u> ac	<u>2</u> number
Total Impacts to Wetlands (sum of b)	<u>0</u> ac	<u>0</u> number	<u>0.074</u> ac	<u>1</u> number
Total Impacts for this page (sum of c)	<u>0.147</u> ac	<u>2</u> number	<u>0.353</u> ac	<u>3</u> number

Please complete and provide this chart (as many as is needed) as part of Section G of the [General Permit Registration \(3150-PM-BWEW0500\)](#) for impact locations.

ADDITIONAL IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Provide the unique identifier (from Section E.9.), latitude and longitude, total area and dimensions of impact to waters (including streams, lakes, ponds, etc) and/or wetlands associated with your project for each category below.

The impacts for each identifier below should be totaled and provided at the bottom of the page, then each page totaled. An account of total impacts for the project is to be provided in the chart found in Section G of the General Permit Registration Form.

Identifier <u>W-AA8</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 54' 35.9" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 5' 32.9" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input checked="" type="checkbox"/> <i>N/A</i>	<u>0.0</u> ac	' x '	<u>0</u> ac	<u>0</u> ' x <u>0</u> '
	Floodway <input checked="" type="checkbox"/> <i>N/A</i>	_____ ac	_____ ' x _____ '	_____ ac	_____ ' x _____ '
Total Impacts to Waters (a)		<u>_____</u> ac		<u>_____</u> ac	
Impacts to Wetlands (b) <input type="checkbox"/> <i>N/A</i>		<u>0.019</u> ac <u>0.005</u> ac	<u>52</u> ' x <u>16</u> ' (GP-5) <u>13</u> ' x <u>16</u> ' (GP-8)	<u>0</u> ac	<u>0</u> ' x <u>0</u> '
Total Impacts for this location (c)		<u>0.024</u> ac		<u>0</u> ac	

Identifier <u>W-AA10</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 54' 16.3" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 5' 23.9" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input checked="" type="checkbox"/> <i>N/A</i>	<u>0.0</u> ac	' x '	<u>0</u> ac	<u>0</u> ' x <u>0</u> '
	Floodway <input checked="" type="checkbox"/> <i>N/A</i>	_____ ac	_____ ' x _____ '	_____ ac	_____ ' x _____ '
Total Impacts to Waters (a)		<u>_____</u> ac		<u>_____</u> ac	
Impacts to Wetlands (b) <input type="checkbox"/> <i>N/A</i>		<u>0.001</u> ac	<u>12</u> ' x <u>2.5</u> ' (GP-5)	<u>0.001</u> ac	<u>12</u> ' x <u>2.5</u> '
Total Impacts for this location (c)		<u>0.001</u> ac		<u>0.001</u> ac	

Identifier <u>S-AA17</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>39° 54' 10.6" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>80° 5' 21.3" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> <i>N/A</i>	<u>0.001</u> ac	<u>12</u> ' x <u>2.5</u> ' (GP-5)	<u>0.001</u> ac	<u>12</u> ' x <u>2.5</u> '
	Floodway <input type="checkbox"/> <i>N/A</i>	<u>0.017</u> ac	<u>304</u> ' x <u>2.5</u> ' (GP-5)	<u>0.017</u> ac	<u>304</u> ' x <u>2.5</u> '
Total Impacts to Waters (a)		<u>0.017</u> ac		<u>0.017</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> <i>N/A</i>		_____ ac	_____ ' x _____ '	_____ ac	_____ ' x _____ '
Total Impacts for this location (c)		<u>0.017</u> ac		<u>0.017</u> ac	

Total Impacts for "Page 3 of 3" (same as above)	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts (sum of a)	<u>0.017</u> ac	<u>1</u> number	<u>0.017</u> ac	<u>1</u> number
Total Impacts to Wetlands (sum of b)	<u>0.025</u> ac	<u>2</u> number	<u>0.001</u> ac	<u>1</u> number
Total Impacts for this page (sum of c)	<u>0.042</u> ac	<u>3</u> number	<u>0.018</u> ac	<u>2</u> number



- ☐ Category I
☐ Category II
☐ Category III

Applicant / Project Name: Equitrans, LP/ Equitrans Expansion Project

County(s): Allegheny, Greene, Washington

PASPGP-4 CUMULATIVE IMPACTS PROJECT SCREENING FORM

The following questionnaire must be completed and submitted to determine the appropriate Pennsylvania State Programmatic General Permit-4 (PASPGP-4) review procedure. Incomplete submissions will be returned. An "Overall Project," as defined for this form, includes all regulated activities that are reasonably related and necessary to accomplish the "Overall Project" purpose. An "Overall Project" must have a clear purpose, be able to function, and have independent utility. All regulated activities, including the direct and indirect impacts occurring as a result of the regulated activities, which are associated with the "Overall Project", should be considered cumulatively when completing this form. For linear projects, all impacts to waters and wetlands associated with the "Overall Project" should be added together and cumulatively viewed as impacts associated with the "Overall Project", which must have a defined beginning and end point. For linear projects, the application shall include a plan that depicts the location of the beginning and end points of the overall project, and all proposed crossings. See the PASPGP-4 permit document at: www.nab.usace.army.mil/Wetlands%20Permits and Part II, for the definition of Independent Utility and Single and Complete Project (discussion of "Overall Project").

The PASPGP-4 authorizes the discharge of dredged or fill materials and/or the placement of structures, for a single and complete project, including all attendant features, both temporary and/or permanent, which individually or cumulatively results in impacts to 1.0 acre or less of waters of the United States including jurisdictional wetlands. These discharges and placement of structures must comply with all the terms, conditions, and processing procedures identified in this PASPGP-4. Refer to the definitions and sketches in PASPGP-4, Part II for calculating the 1.0-acre eligibility threshold for linear projects.

Determination of PASPGP-4 eligibility – For Category I and II Activities, PADEP/County Conservation Districts will review the applications, if applicable, and verify if work is authorized by PASPGP-4. For Category III Activities, the Corps reviews applications and makes a case by case determination that work is eligible for authorization under PASPGP-4.

Applications for activities that individually or cumulatively impact more than 1.0 acre of waters of the United States, including jurisdictional wetlands, including all attendant features, both temporary and permanent, for a single and complete project; or that impact greater than 250 linear feet of streams, rivers, or other watercourses, except fish habitat enhancement structures authorized under PADEP GP-1 and bank rehabilitation and protection, authorized under PADEP GP-3 that affect 500 linear feet or less, are sent to the Corps as a Category III Activity, under PASPGP-4, Part IV, C, 2. The 1.0 acre area measurement includes the sum total of all waters of the United States including both jurisdictional wetlands and streams, rivers, other watercourses.

- For linear projects, the 250 linear foot Category III Activity threshold for stream impacts is applied to the total cumulative impacts of all crossings associated with the overall linear project, regardless of the type of PADEP authorization or combination of authorizations used to approve the overall project.
- Overall linear projects that have cumulative permanent and temporary impacts to waters of the United States, including jurisdictional wetlands, which exceed 1.0 acre, may still be eligible for PASPGP-4 authorization through a Category III review, provided no single and complete project exceeds the 1 acre threshold (see PASPGP-4, Part II for definition of single and complete project and acreage calculations). This verification of eligibility will be made by the Corps of Engineers.
- For phased projects, including phased linear projects, an overall project plan depicting all previously authorized or proposed impacts to waters and/or wetland is required as part of the application. A plan depicting phase I of the overall project would be submitted with any applications associated with phase I. At a later date, when applications associated with phase II are submitted, an overall plan that depicts the impacts for phase I and phase II is required. For example, if a utility line was previously authorized to run from point A to point B, and the permittee now wants to expand the utility line to point C, the plan will depict from point A to point C. In such a case, the overall project has been expanded to extend from point A to point C; the portion from point A to point B is needed for the section from point B to point C to function and meet the overall project purpose. If plan is not submitted as part of application, the application for the purposes of PASPGP-4 will be considered incomplete and the application may be sent to the Corps as a Category III Activity.

SECTION A: PROPOSED IMPACTS

Provide the size of impacts to waters and/or wetlands associated with your application, including temporary and/or permanent impacts, and direct and indirect impacts.

Included in this calculation are the areas directly and indirectly affected by the regulated activities, including the area of waters and/or wetlands filled, drained and/or flooded as a result of the regulated activities. See PASPGP-4, Part II, Definitions, for calculation of linear footage of stream impact, and Part IV, C, 2 for thresholds which require a Corps review of application (Category III Activity).

PADEP GP-11 allows for the registration of multiple overall projects at one time through submission of a project/work site table that identifies each of the separate overall projects. For work associated with PADEP GP-11 registrations, impacts associated with each project/work site should be listed separately. This can be done through a separate PASPGP-4 Project Screening Form for each project/work site, or submission of a separate document/table that identifies each separate project/work site, the proposed work and impact information, as required by this section.

		square feet	linear feet
Permanent Impacts	to waters:	0	0
	to wetlands:	2,935	
Temporary Impacts	to waters:	14,982	644
	to wetlands:	10,219	

SECTION B: OTHER CHAPTER 105/SECTION 10/404 AUTHORIZATIONS

YES NO

- ☐ ☒ 1. If known, has any work associated with the Overall Project been previously authorized by the Corps or DEP? If YES, please complete the table below. If additional space is needed, please attach the applicable information. Include the type of authorization or permit, permit or authorization number(s), date(s) of issuance, and permitted impacts (including square feet and/or linear footage), if applicable, with your application/registration form(s). Types of authorizations or permits may be abbreviated and include: Corps Nationwide Permit, Corps Individual Permit, Corps PASPGP, DEP General Permit, DEP Individual Permit (Dam and/or Encroachment) or DEP Environmental Assessment. See PASPGP-4, Part IV, C, 3 for applications which require a Corps review (Category III Activity).

EXAMPLES:

- If application is associated with the expansion of a residential development, i.e., construction of phase II, the authorizations and impacts, if applicable, associated with construction of phase I are to be identified and listed.
- If application is associated with a linear project, i.e., sewer line, waterline, utility line, etc., and the proposed work is an extension or additional phase being added to a previous segment, the authorizations, and impacts, if applicable, associated with construction of the previous segment(s) are to be identified and listed. For example, if a utility line is constructed from point A to point B, and a year later an extension of the line to point C is proposed, the authorizations and impacts associated with construction of point A to point B should be listed/identified. In this case, the overall project is from point A to point C, as the portion from point A to point B is needed for the section from point B to point C to function and meet the overall project purpose.

Authorization Type	Authorization Number	Date (mm/dd/yyyy)	Permitted Impacts	
			wetlands	waters

YES NO

- ☐ ☒ 2. Are additional Corps and/or DEP authorizations required for your proposed work to function and have independent utility? If YES, please complete the table below. If additional space is needed, please attach the applicable information.

EXAMPLES:

- Development of a residential subdivision may require the filling of waters and/or wetlands for the construction of access roads, utility line crossings, and/or lot development. In such a case, if application is only for the utility lines, the work and impacts associated with the road crossings and lot development need to be identified. For the overall development to function, the road crossings and lot development are needed, not just utilities.
- If widening of a road for construction of a turn lane is needed to facilitate an industrial development, applications associated for the industrial development to construct utility lines and lot development need to include the work and impacts associated with the construction of the turn lane. The construction of the turn lane is needed for the industrial development to function; the two projects are not separate independent projects.

- c. If the application is associated with a linear project, such as an underground electric line or waterline, and additional permits are needed for the utility lines to function, i.e., convey electricity or water from source to user, the additional work and impacts need to be identified. For the overall utility line to function the entire line needs to be constructed; a segment that will not function does not have independent utility.

Authorization Type	Date (if known)	Anticipated Impacts	
		wetlands	waters

SECTION C: ACTIVITIES RELATED TO RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS

The term "Subdivision", for the purposes of this form, is defined as the division or redivision of a lot, tract or parcel of land into two or more lots, tracts, parcels or other divisions of land including changes to existing lot lines.

YES NO

- ☐ ☒ 1. Does the Overall Project involve the construction or expansion of a residential, commercial or institutional subdivision or development? If YES, proceed to question 2. If NO, leave questions 2 and 3 blank.
- ☐ ☐ 2. Does greater than 0.25 acres of wetlands exist within the property boundary (not including those being directly impacted as part of this application)? If YES, provide wetland acreage: _____ acres. If NO, leave question 3 blank.
- ☐ ☐ 3. Are you proposing to protect the wetland area(s) through a deed restriction or conservation easement that follows the Corps' Model Conservation Instruments? If YES, attach a copy of the proposed deed restriction or conservation easement to this form and submit with your application/registration form. Model Conservation Instruments are available at www.nab.usace.army.mil/Wetlands%20Permits/. Failure to submit a proposed deed restriction or conservation easement with permit application/registration form requires a Category III review under PASPGP-4, Part IV, C, 24.

SECTION D: CERTIFICATION

I certify that the information provided on this form is true and correct to the best of my knowledge and information. If any of the information and/or plans is found to be in error, falsified, and/or incomplete, your Chapter 105/PASPGP-4 authorization/verification may be subject to modification, suspension, or revocation in accordance with applicable regulations.



Signature of Applicant

3/17/2016

Date

Stephanie Frazier – Supervisor Permitting - Environmental
Name Typed or Printed

**Equitrans Expansion Project - Greene County
Impact Summary Table**

Waters Name	Stream/ Wetland Type	PA Code 25 Chapter 93 Designated Use	Applicable Permits	Latitude (N)			Longitude (W)			Temporary Stream Impact			Permanent Stream Impact			Installation Method/Impact	Wetlands Onsite	Temporary Wetland Impact	Permanent Wetland Impact	
				DD	MM	SS	DD	MM	SS	Length (ft)*	Width (ft)**	Area (ft ²)	Length (ft)*	Width (ft)**	Area (ft ²)		Area (ft ²)	Area (ft ²)	Area (ft ²)	
S-AA1 - UNT 81118 to South Fork Tennile Creek	Perennial	WWF	GP-5/8	39	55	0.65	80	7	29.7	10	17	170	10	88	880	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-AA1 - UNT 81118 to South Fork Tennile Creek	Perennial	WWF	GP-8	39	55	0.65	80	7	29.7	N/A	N/A	N/A	N/A	N/A	N/A	timber mat crossing removed	N/A	N/A	N/A	
S-AA2 - UNT to South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	54	56.3	80	7	52.3	1.5	165	247.5	N/A	N/A	N/A	timber mat crossing	N/A	N/A	N/A	
W-AA1	PEM	WWF	GP-8	39	54	56.57	80	7	52.73	N/A	N/A	N/A	N/A	N/A	N/A	wetland removed from LOD	5275	N/A	N/A	
S-N1 - UNT to UNT 81118 to South Fork Tennile Creek	Intermittent	WWF	Waived under 105.12(a)(2)	39	54	5.45	80	7	41.99	7	37	259	7	130	910	timber mat crossing	N/A	N/A	N/A	
S-N2 - UNT to UNT 81118 to South Fork Tennile Creek	Intermittent	WWF	Waived under 105.12(a)(2)	39	54	2.97	80	7	5.84	N/A	N/A	N/A	N/A	N/A	N/A	proposed permanent road in floodway	N/A	N/A	N/A	
S-AA3 - UNT to South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	54	58.93	80	7	34.07	4	62	248	4	56	224	open cut trench and timber mat crossing	N/A	N/A	N/A	
W-AA2	PEM	WWF	N/A	39	54	58.36	80	7	34.18	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	293	N/A	N/A	
S-AA4 - UNT to South Fork Tennile Creek	Perennial	WWF	Waived under 105.12(a)(2)	39	55	0.65	80	7	29.7	5	54	270	5	52	260	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-AA8 UNT to UNT 23572 to South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	55	0.35	80	6	55.5	3	29	87	3	51	153	open cut trench and timber mat crossing	N/A	N/A	N/A	
W-AA4	PEM	WWF	GP-5/8	39	55	0.35	80	6	55.5	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	9944	1503	2596	
S-AA9 UNT to UNT 23572 to South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	55	1.72	80	6	50.37	4	106	424	4	83	332	open cut trench and timber mat crossing	N/A	N/A	N/A	
W-AA7	PEM	WWF	GP-5/8	39	55	1.72	80	6	50.37	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	12464	N/A	3209	
S-AA10 UNT to South Fork Tennile Creek	Intermittent	WWF	Waived under 105.12(a)(2)	39	55	3.37	80	6	37.82	5	28	140	5	53	265	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-AA11 - UNT to Ruff Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	55	3.04	80	6	25.22	5	40	200	5	73	365	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-AA12 - Ruff Creek	Perennial	WWF	GP-5/8	39	55	3.13	80	6	20.06	75	25	1875	75	50	3750	open cut trench and timber mat crossing	N/A	N/A	N/A	
W-AA8	PEM	WWF	GP-8	39	55	2	80	6	8.5	N/A	N/A	N/A	N/A	N/A	N/A	timber mat crossing	1186	1020	N/A	
S-AA13 - UNT to South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	54	45.04	80	5	40.7	3	75	225	3	72	216	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-AA14 - UNT to South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	54	44.92	80	5	39.82	3	30	90	3	53	159	open cut trench and timber mat crossing	N/A	N/A	N/A	
W-AA9	PEM	WWF	N/A	39	54	53	80	5	38.6	N/A	N/A	N/A	N/A	N/A	N/A	within temporary workspace, but avoiding	275	N/A	N/A	
S-AA15 - South Fork Tennile Creek	Perennial	WWF	GP-5	39	54	35.92	80	5	32.94	123	2.5	307.5	123	2.5	307.5	HDD Bore	N/A	N/A	N/A	
S-AA24 - UNT to UNT 26514 South Fork Tennile Creek	Intermittent	WWF	Waived under 105.12(a)(2)	39	54	27.23	80	5	28.94	6	2.5	15	6	2.5	15	HDD Bore	N/A	N/A	N/A	
S-AA23 -UNT to UNT 26514 South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	54	26.01	80	5	28.38	9	2.5	22.5	9	2.5	22.5	HDD Bore	N/A	N/A	N/A	
S-AA22 -UNT to UNT 26514 South Fork Tennile Creek	Ephemeral	WWF	Waived under 105.12(a)(2)	39	54	25.5	80	5	28.15	7	2.5	17.5	7	2.5	17.5	HDD Bore	N/A	N/A	N/A	
S-AA21 - UNT to UNT 26514 South Fork Tennile Creek	Intermittent	WWF	Waived under 105.12(a)(2)	39	54	23.69	80	5	27.31	4	2.5	10	4	2.5	10	HDD Bore	N/A	N/A	N/A	
S-AA20 - UNT to UNT 26514 to South Fork Tennile Creek	Perennial	WWF	Waived under 105.12(a)(2)	39	54	16.3	80	5	23.92	1	2.5	2.5	1	2.5	2.5	HDD Bore	N/A	N/A	N/A	
W-AA10	PEM	WWF	GP-5	39	54	16.3	80	5	23.92	N/A	N/A	N/A	N/A	N/A	N/A	HDD Bore	1344	30	30	
S-AA17 - UNT to South Fork Tennile Creek	Perennial	WWF	GP-5	39	54	10.63	80	5	21.31	12	2.5	30	12	2.5	30	HDD Bore	N/A	N/A	N/A	
S-AA18 - UNT to UNT 26514 to South Fork Tennile Creek	Intermittent	WWF	Waived under 105.12(a)(2)	39	54	10.22	80	5	21.22	2	2.5	5	2	2.5	5	HDD Bore	N/A	N/A	N/A	
S-AA19 - UNT to UNT 26514 to South Fork Tennile Creek	Intermittent	WWF	Waived under 105.12(a)(2)	39	54	9.99	80	5	21.56	N/A	N/A	N/A	N/A	N/A	N/A	HDD Bore	N/A	N/A	N/A	
S-AA16 - UNT to South Fork Tennile Creek	Perennial	WWF	existing crossing	39	54	6.91	80	5	7.3	N/A	N/A	N/A	N/A	N/A	N/A	existing permanent road crossing	N/A	N/A	N/A	
W-M4	PEM	WWF	N/A	39	54	7.92	80	5	13.2	N/A	N/A	N/A	N/A	N/A	N/A	within temporary workspace, but avoiding	17194	N/A	N/A	
W-M6	PEM	WWF	N/A	39	54	5.76	80	5	22.2	N/A	N/A	N/A	N/A	N/A	N/A	within temporary workspace, but avoiding	259	N/A	N/A	
Greene County Totals:										289.5	688	4645.5	288	781	7924		48234	2553	5835	sf
Greene County Totals (applying for General Permits)										220	47	2382.5	220	143	4967.5		1.11	0.06	0.13	acre
																	29027	2553	5835	sf
																	0.67	0.06	0.13	acre

Note:

* As measured transversely from top of bank to top of bank

** As measured along centerline of stream from where water is directed out of the stream to where it is returned to the stream

UNT - unnamed tributary

GP - General Permit

WWF - warm water fish

N/A - not applicable

SECTION 8.0 - PROJECT DESCRIPTION

8.1 DESCRIPTION

Equitrans, L.P. (Equitrans) proposes the Equitrans Expansion Project (Project) located in Allegheny, Washington and Greene Counties, Pennsylvania and Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of the Equitrans system south to the interconnection with Mountain Valley Pipeline LLC's proposed pipeline, as well as to existing interconnects with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

The portion of the project in Greene County will include the installation four pipelines and new above ground facilities. The H-316 natural gas pipeline will be 1-30" natural gas transmission pipeline, approximately 3 miles long, within a 125' wide construction ROW and 50' wide permanent ROW. The H-316 pipeline will move gas from the new Redhook Compressor Station to Equitrans' existing H-302 pipeline for delivery to Texas Eastern or south on Equitrans' H-302 pipeline to MVP. Also in Greene County, the project involves the installation of three shorter pipelines, the M-80, the H-158, and the H-305 pipelines. The H-305 pipeline will have a 100' wide construction ROW and 50' wide permanent ROW. The M-80 and H-158 pipelines will be constructed within a shared 150' construction ROW and each will have a 50' wide permanent ROW. The M-80 segment is a 6-inch pipeline that currently moves gas to the Pratt Compressor Station, but will be required to be extended to move gas to the Redhook Compressor Station once it is commissioned. The H-158 segment is a 12-inch pipeline that also currently moves gas to the Pratt Compressor Station, but will be required to be extended to move gas to the Redhook Compressor Station once it is commissioned. The H-305 segment is a new 24-inch pipeline extension, approximately 540 feet in length that will move gas from the Redhook Compressor Station to Equitrans' existing H-305 pipeline located at the existing Braden Run Interconnect with Texas Eastern. New above ground facilities for this portion of the project include the Redhook Compressor Station and the H-302 tie-in. The pipeline projects spans Franklin, Jefferson and Morgan Townships, Greene County, PA.

8.2 STREAM AND WETLAND CROSSINGS

Construction activities will include clearing and grubbing within the right of way, trenching, boring, pipe installation, and site restoration. This project will require crossings through numerous streams and wetlands.

The Greene County portion of the project will involve crossing 22 streams, Ruff Creek, South Fork Tenmile Creek, UNTs to South Fork Tenmile Creek and crossing 4 wetlands to install the pipeline. South Fork Tenmile Creek, 8 UNTs to South Fork Tenmile Creek and 1 wetland will be crossed by directional bore and the remaining streams and wetlands will be open cut. Temporary timber bridges will be used to move equipment across the streams and wetlands that are open cut. Construction of the pipeline will result in approximately 290 linear feet and 4,646 square feet of temporary stream impacts and

2,550 square feet of temporary wetland impacts in Greene County. Within the permanently maintained right-of-way the project will result in approximately 7,924 square feet of stream impacts 5,835 square feet for wetlands. Waivers are being requested under Chapter 105.12(a)(2) for 18 of the stream crossings as the drainage areas for each of those streams is less than 100 acres. Once the pipeline is installed, the streams and wetlands will be restored to their original topographic condition. BMPs will be used during all phases of construction.

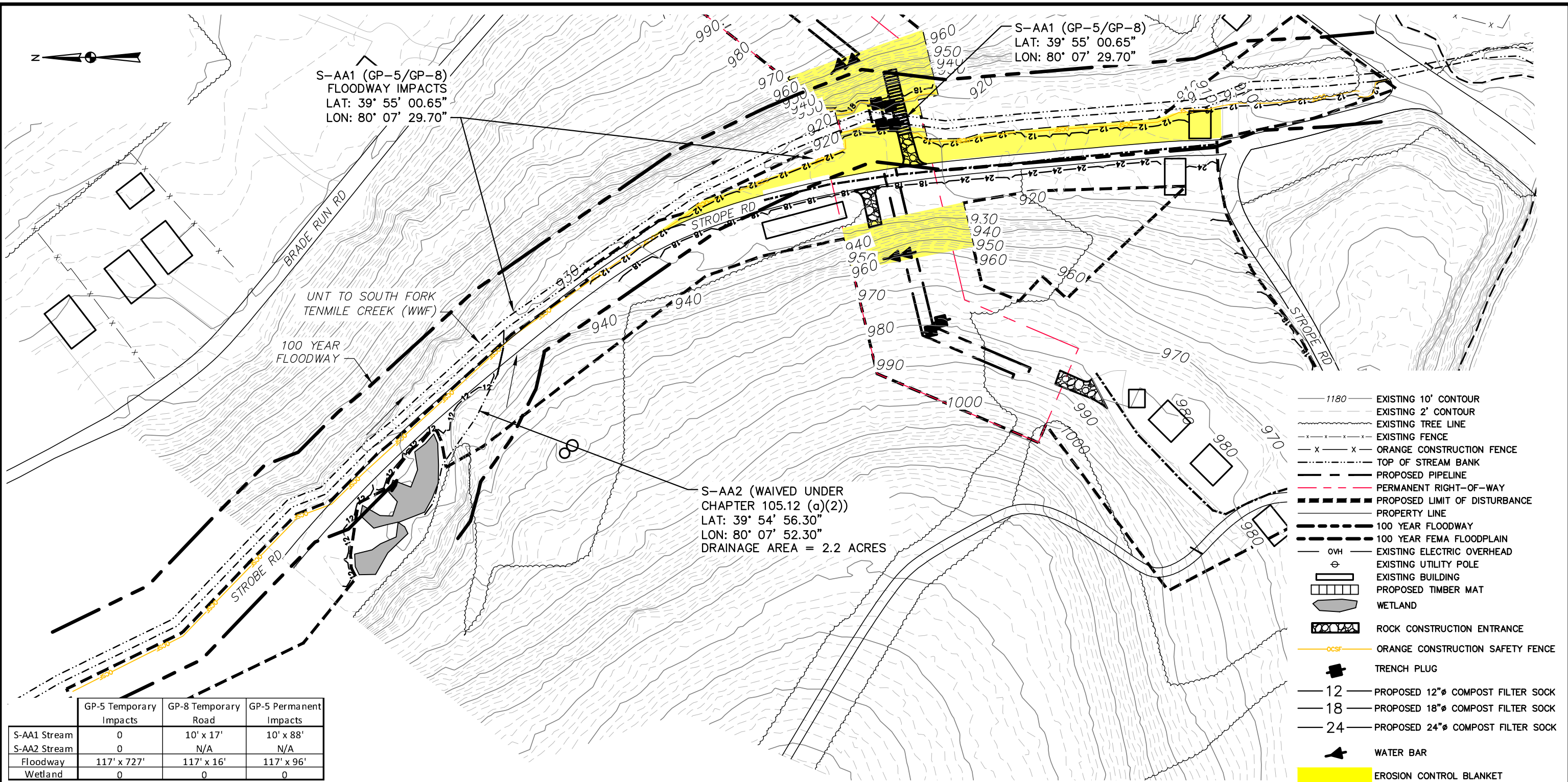
8.3 PENNSYLVANIA NATURAL DIVERSITY INVENTORY PROJECT ENVIRONMENTAL REVIEW

A large project PNDI was submitted to the PA Department of Conservation and Natural Resources (DCNR), PA Fish and Boat Commission, PA Game Commission, and US Fish and Wildlife Service (USFWS) on June 24, 2015 (Section 13.0).

DCNR responded that based on the PNDI review that there was the potential to impact several plant species. Field surveys to identify these species are planned for late spring and summer 2016, during the appropriate flowering time.

The PA Game Commission, PA Fish and Boat Commission and USFWS responded that no impacts are anticipated within the vicinity of the project.

\\nuss010\fp1\cadd\212 - OGA\o&g\EQT\00176 - EEP\GPs\M80-H158\CCD Comment Responses\M80_H158 - 00176GP001.dwg PIT DAVID WALLNER 3/14/2016 10:50:30 AM



	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
S-AA1 Stream	0	10' x 17'	10' x 88'
S-AA2 Stream	0	N/A	N/A
Floodway	117' x 727'	117' x 16'	117' x 96'
Wetland	0	0	0

0 120 240
SCALE IN FEET



TETRA TECH

WWW.TETRATECH.COM

661 ANDERSEN DRIVE - FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
M80/H158 PIPELINE - GREENE COUNTY
GP-5/GP-8 FOR S-AA1
PLAN

DATE: 03/14/16
PROJECT NO.: 212C-PB-00176
DESIGNED BY: DZ
DRAWN BY: DZ
CHECKED BY: HT
SHEET: 1 OF 5

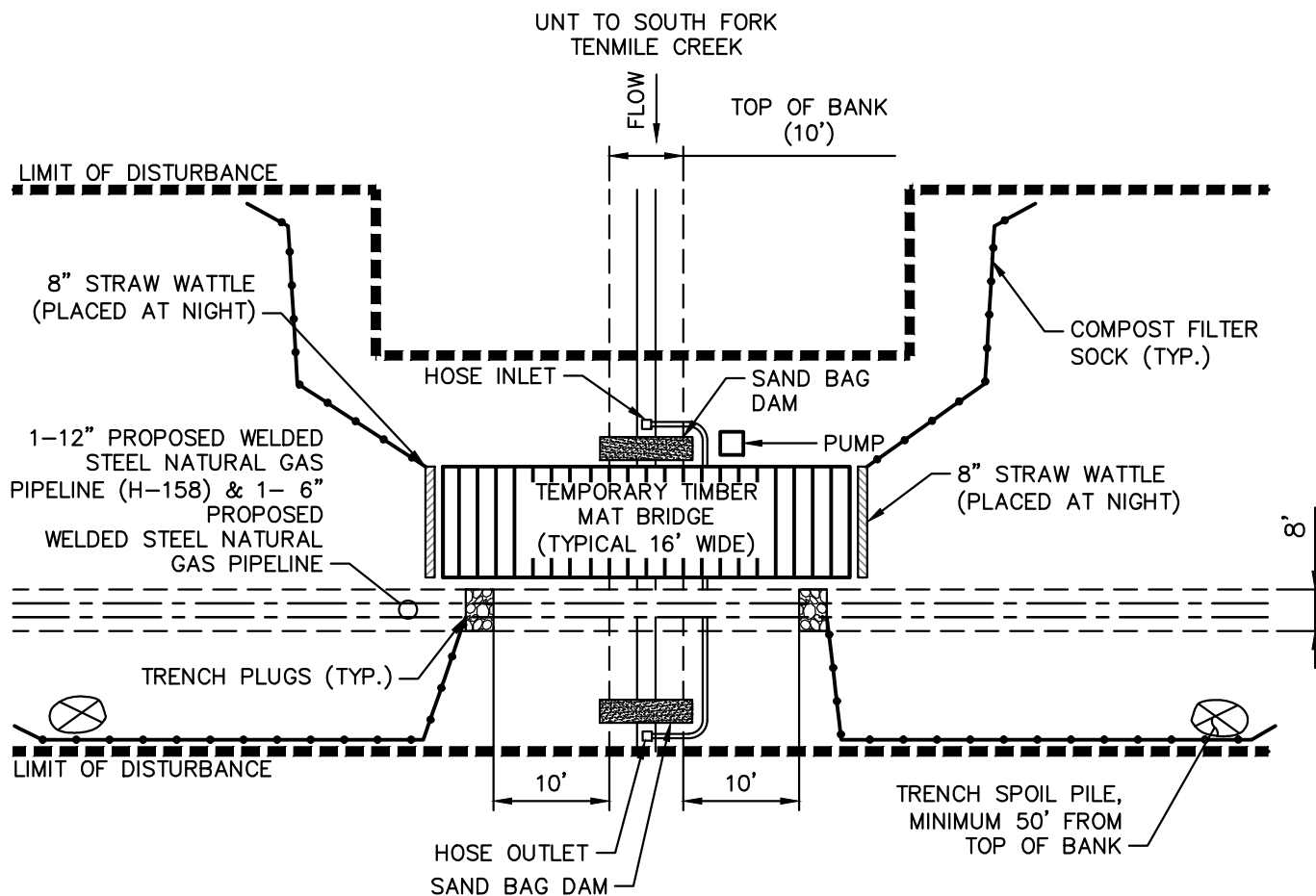
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FIGURE 1

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NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF EQUITRANS, LP TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. BY EQUITRANS, LP. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY EQUITRANS, LP.



PLAN
NOT TO SCALE



TETRA TECH

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661 ANDERSEN DRIVE - FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

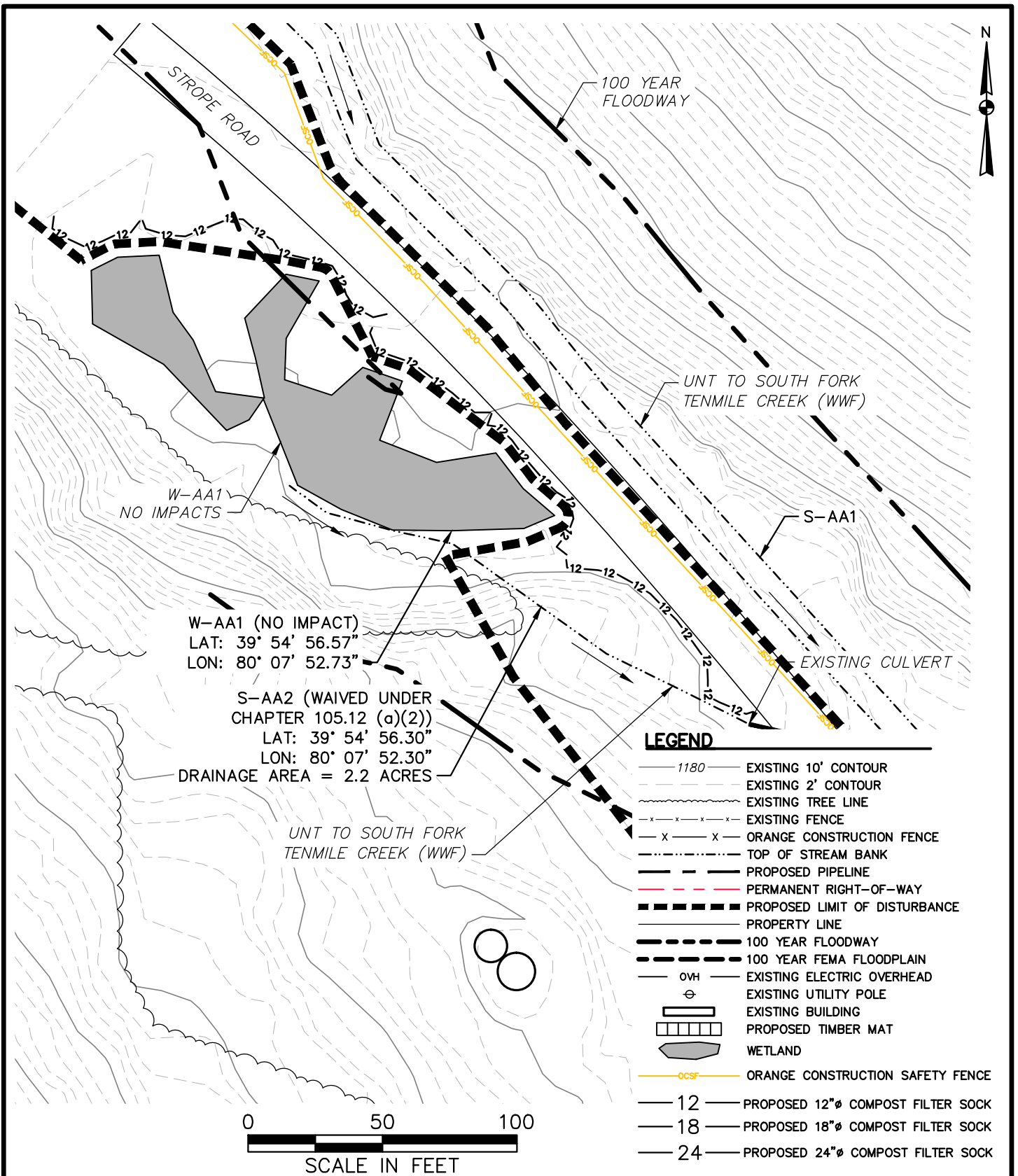
EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
M80/H158 PIPELINE - GREENE COUNTY
GP-5/GP-8 FOR S-AA1
PLAN

SCALE: NOT TO SCALE

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 4

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FIGURE 2



TETRA TECH

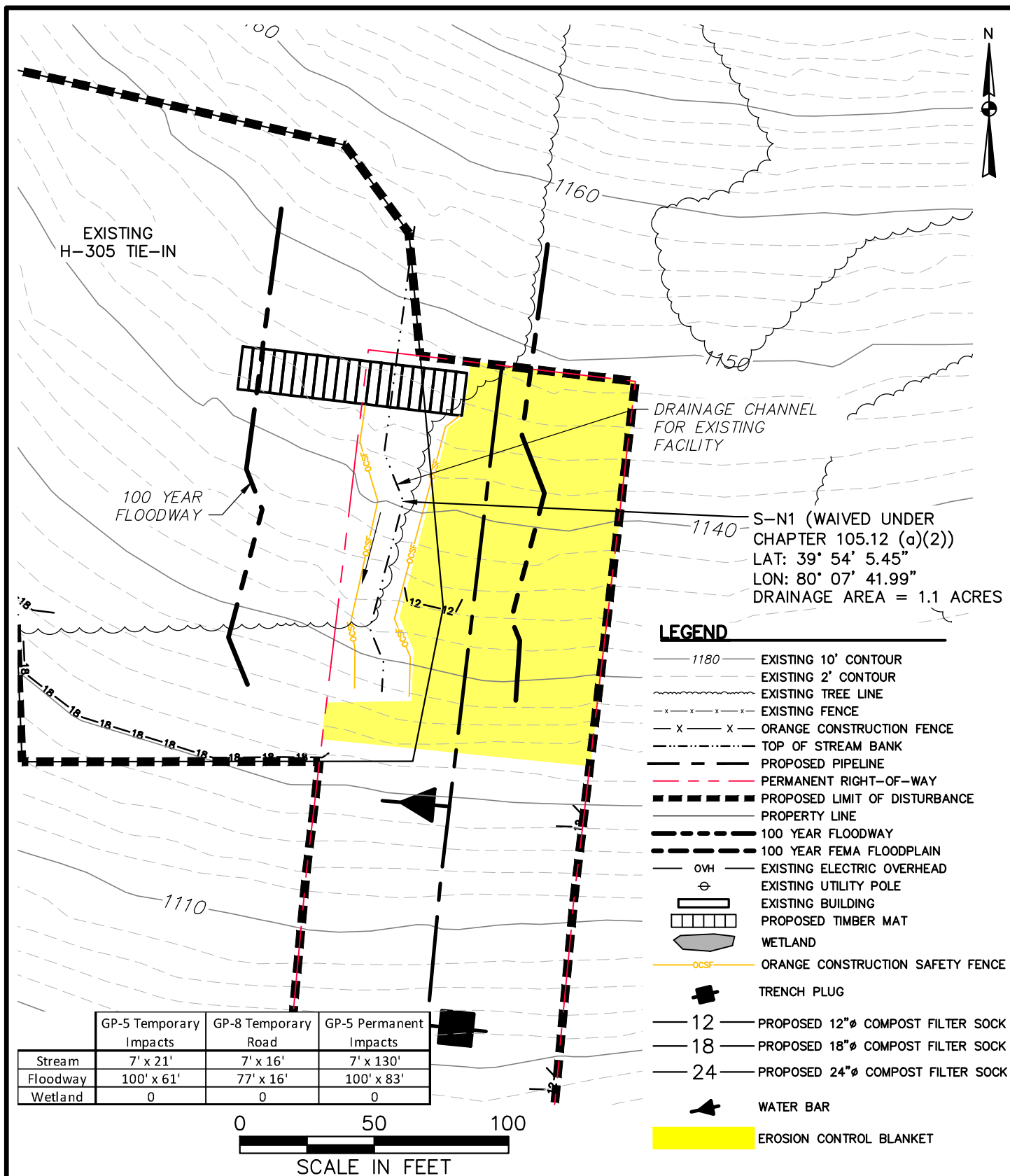
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PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
M80/H158 PIPELINE - GREENE COUNTY
S-AA2 WAIVED UNDER CHAPTER
105.12 (a)(2) - PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H305\CCD Comment Responses\H305 - 00176GP001.dwg PIT DAVID.WALLNER 3/14/2016 11:15:03 AM



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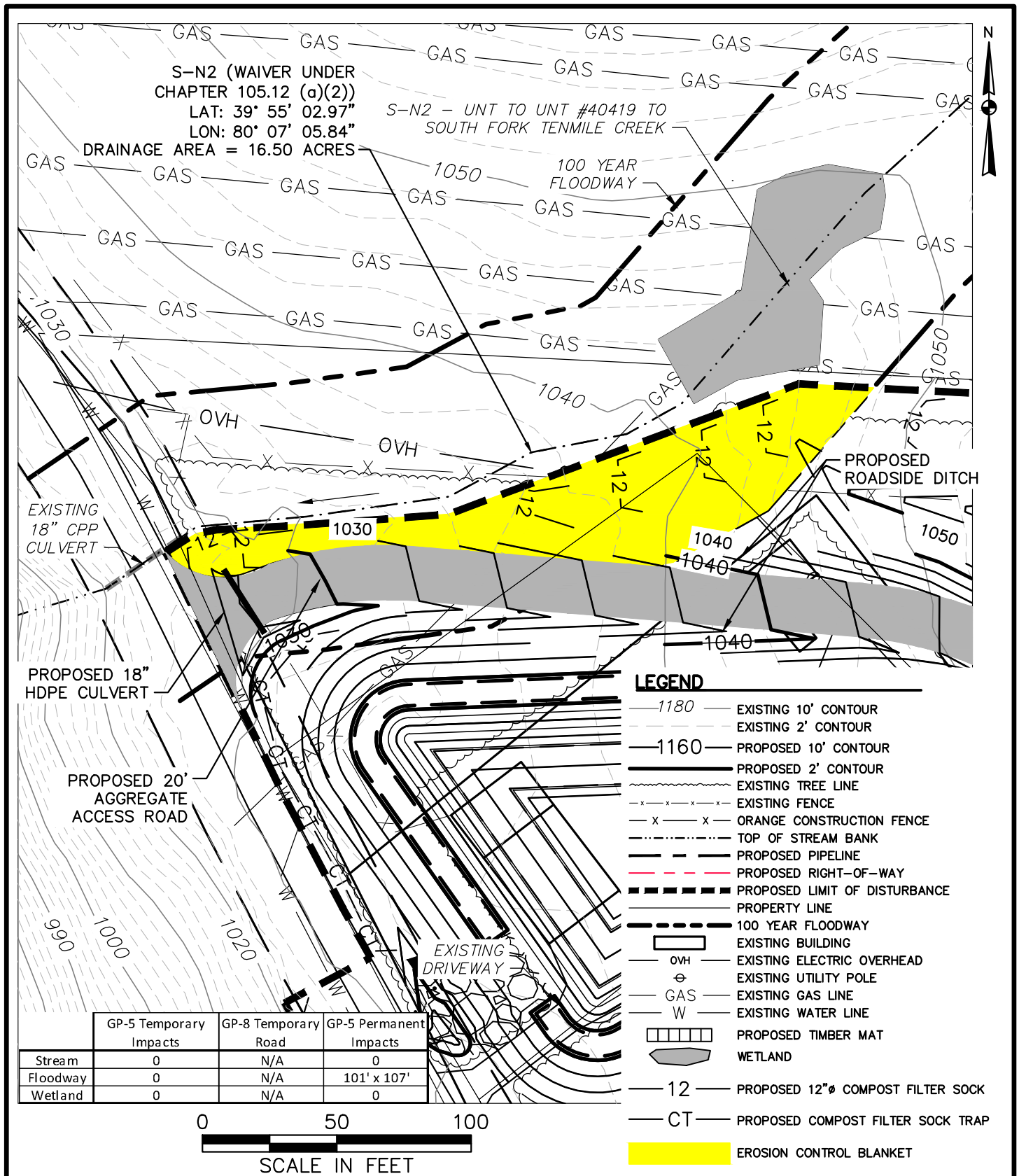
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H305 PIPELINE - GREENE COUNTY
S-N1 WAIVED UNDER CHAPTER
105.12 (a)(2) - PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1
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FIGURE 1

\\nuss010fpi\cadd\$_212 - OGA\O&G\EQT\00176 - Redhook Compressor\GPs\CCD Comment Responses\RHCS - 00176GP001.dwg PIT DAVID.WALLNER 3/11/2016 10:53:03 AM



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
RED HOOK COMPRESSOR STATION- GREENE COUNTY
WAIVER UNDER CHAPTER 105.12 (A)(2) FOR S-N2

PLAN

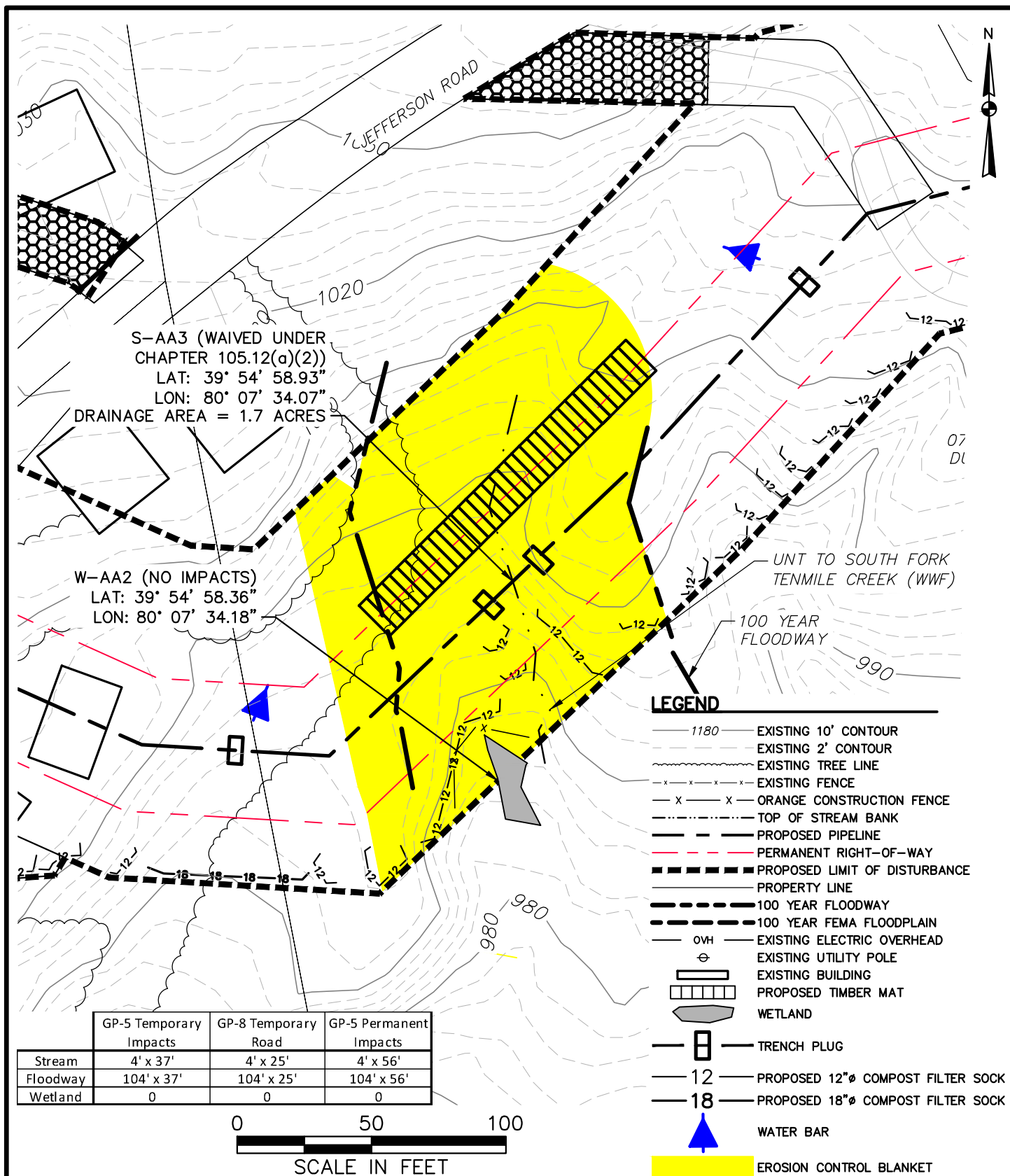
SCALE: 1" = 50'

DATE: 03/14/16
 PROJECT NO.: 212IC-PB-00176
 DESIGNED BY: DZ
 DRAWN BY: DZ
 CHECKED BY: JS
 SHEET: 1 OF 1

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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPS\H316\CCD Comment Responses\H316 - 00176GP061.dwg PIT DAVID WALLNER 3/16/2016 9:00:38 AM



	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
Stream	4' x 37'	4' x 25'	4' x 56'
Floodway	104' x 37'	104' x 25'	104' x 56'
Wetland	0	0	0

0 50 100
SCALE IN FEET



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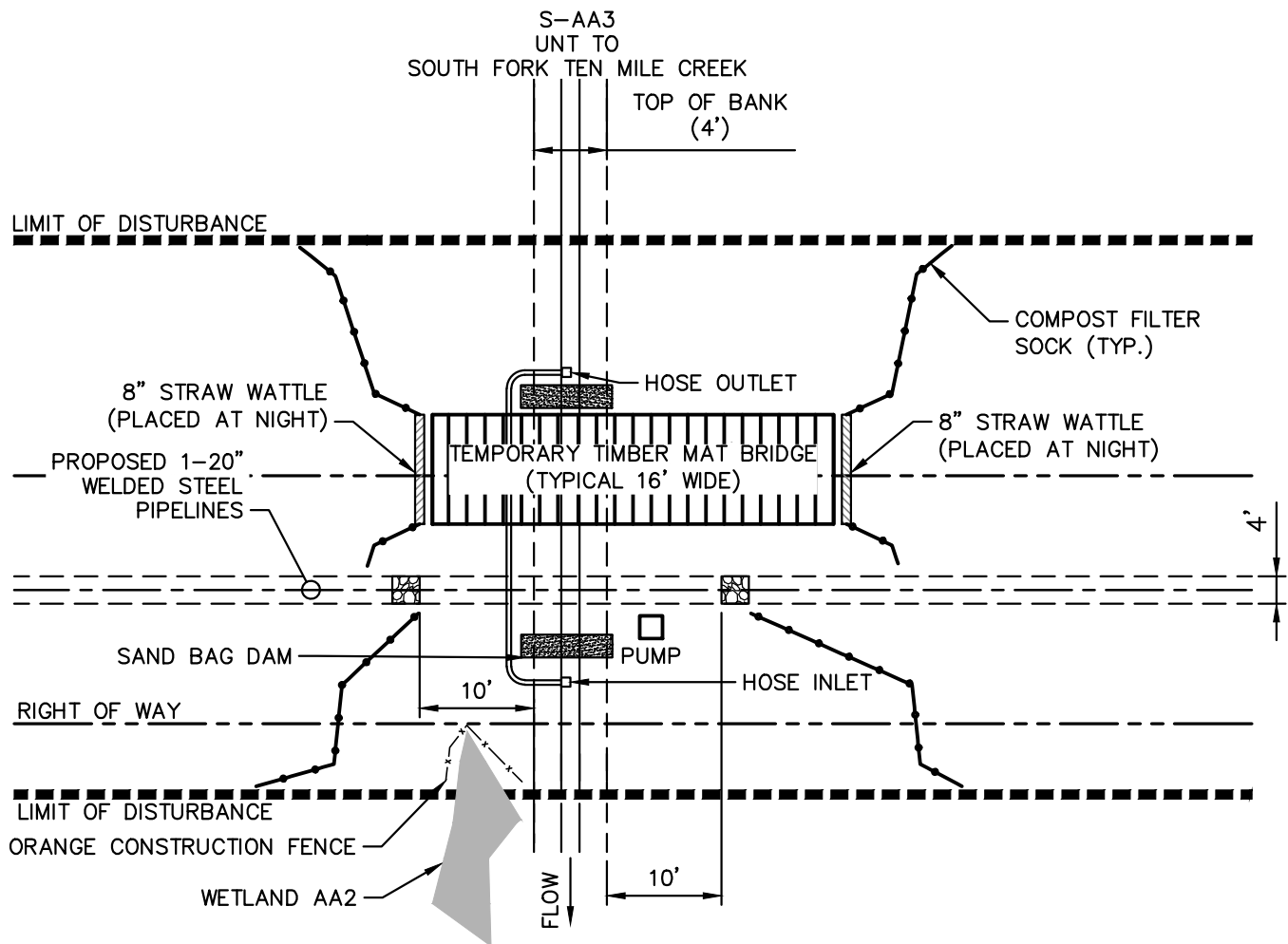
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PITTSBURGH, PA 15220
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
S-AA3 WAIVED UNDER CHAPTER
105.12 (a)(2) - PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 4
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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
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3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF EQUITRANS, LP TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. BY EQUITRANS, LP. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY EQUITRANS, LP.



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EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5/GP-8 FOR S-AA3 & W-AA2
PLAN

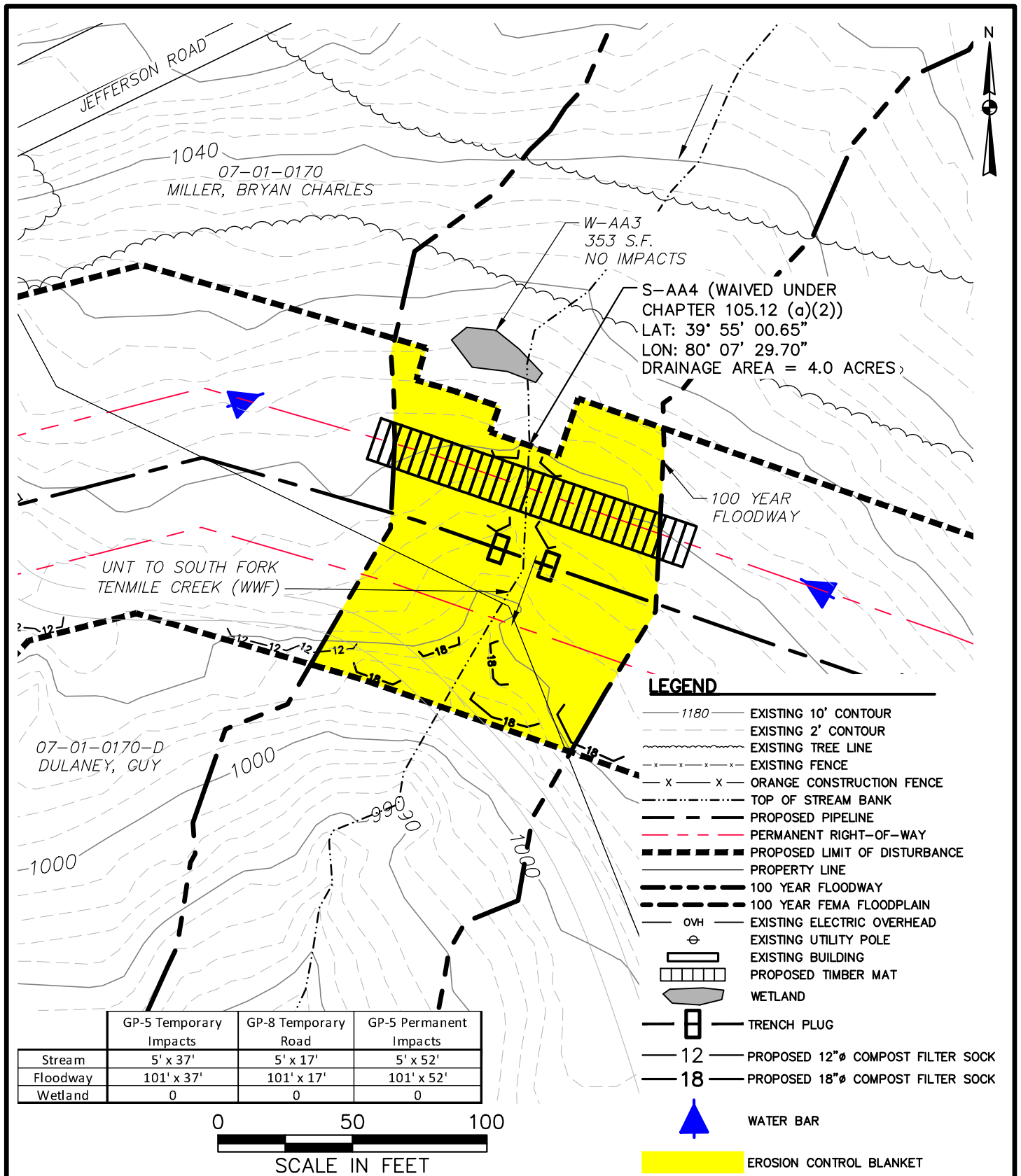
SCALE: NOT TO SCALE

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 4

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FIGURE 2

\\nuuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP001.dwg PIT DAVID WALLNER 3/14/2016 12:31:56 PM



TETRA TECH

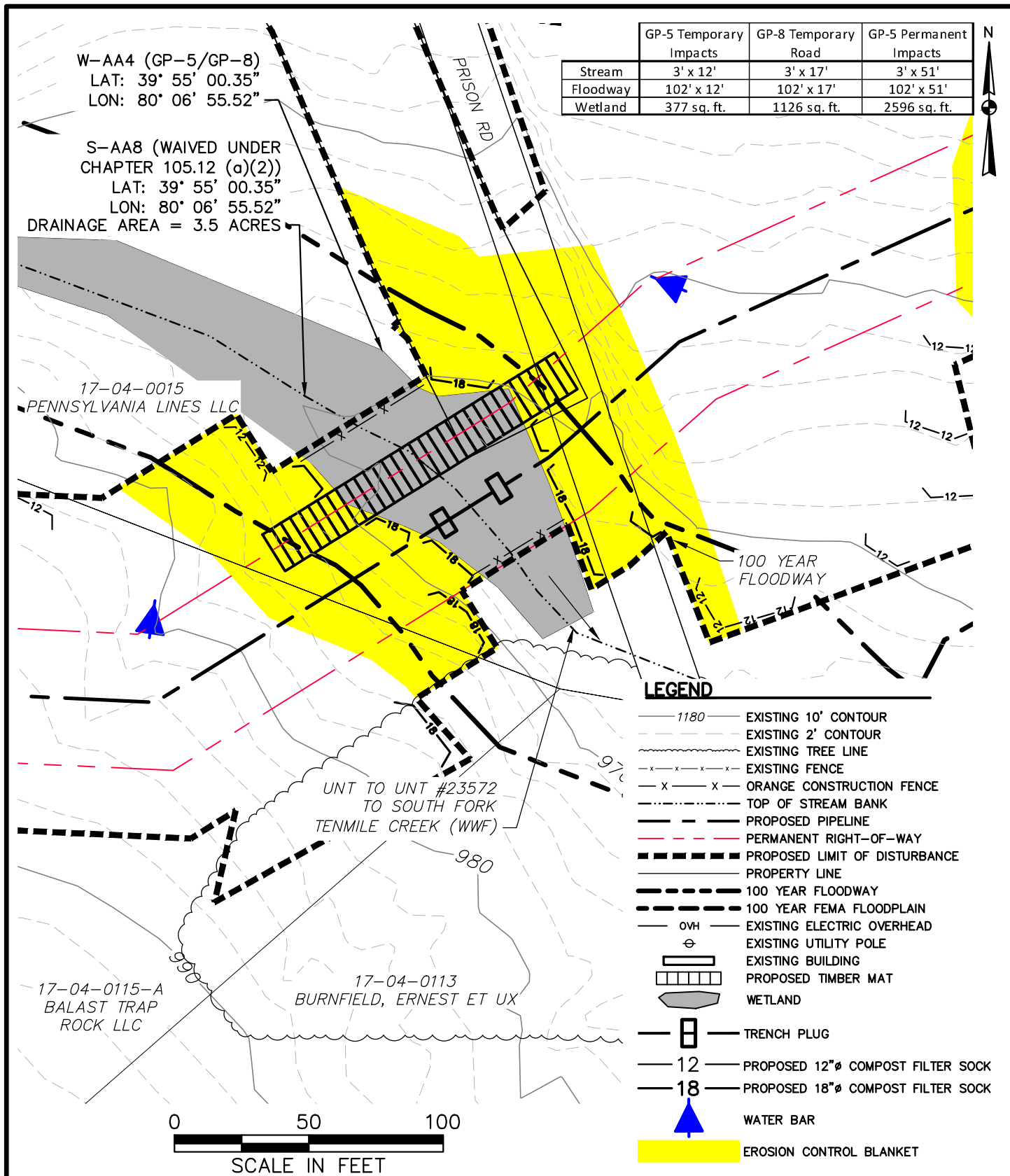
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
S-AA4 WAIVED UNDER CHAPTER
105.12 (a)(2) — PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 4
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GP\H316\CCD Comment Responses\H316 - 00176GP005.dwg PIT DAVID.WALLNER 3/16/2016 9:03:39 AM



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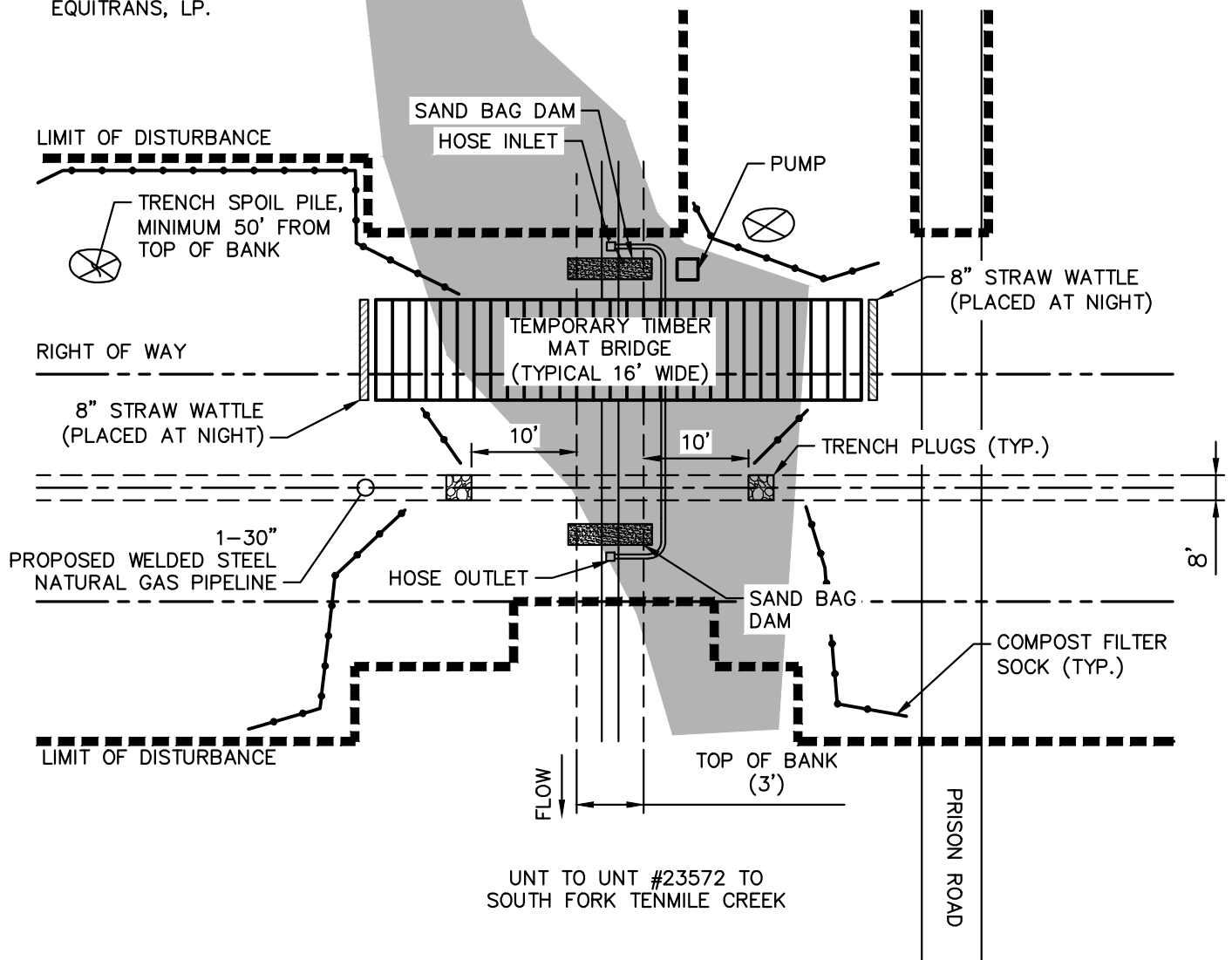
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
GP-5/GP-8 FOR W-AA4 — PLAN
S-AA8 WAIVED UNDER CHAPTER 105.12 (a)(2)
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 4
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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
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UNT TO UNT #23572 TO
SOUTH FORK TENMILE CREEK

PLAN
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5/GP-8 FOR S-AA8/W-AA4
PLAN

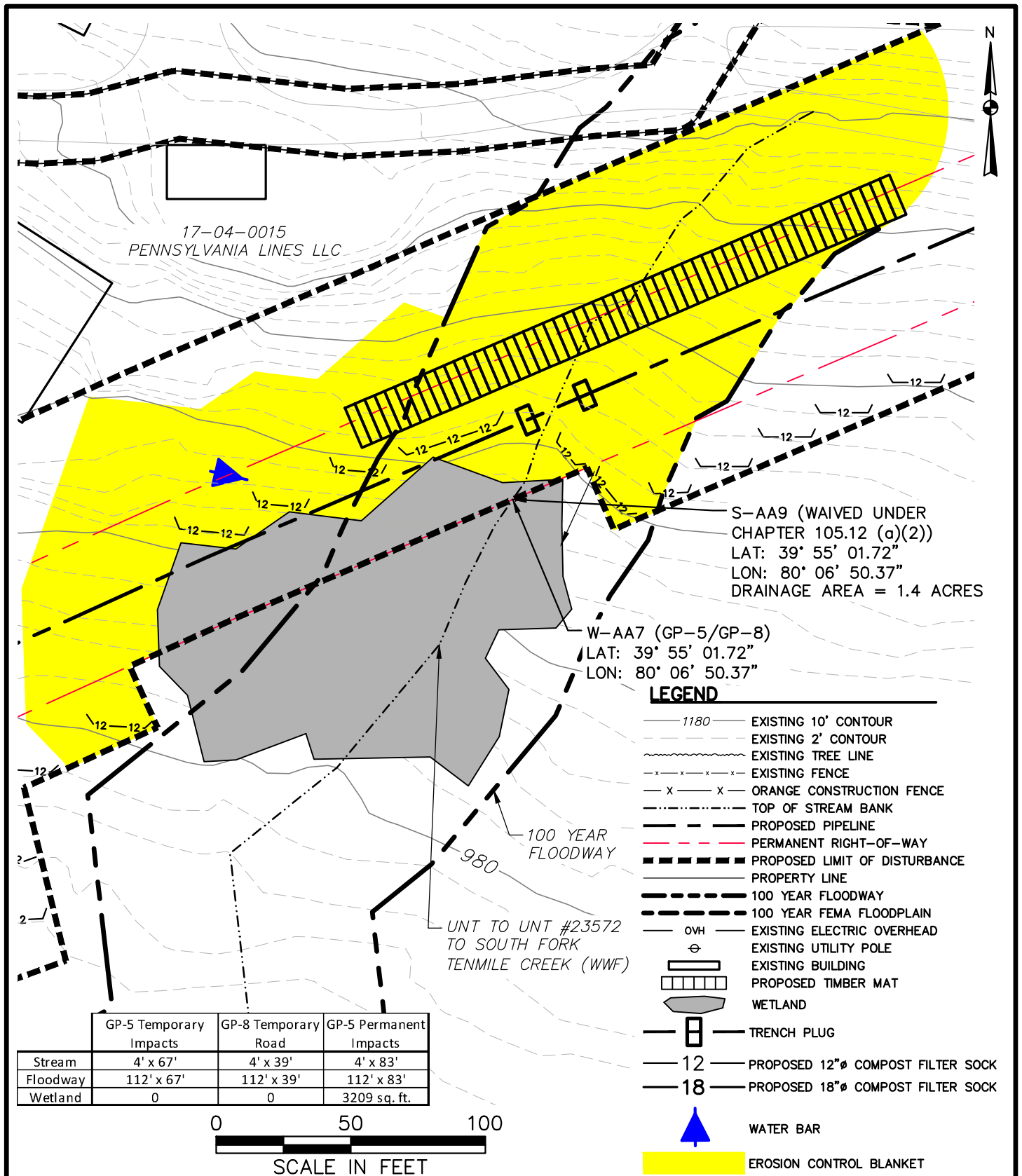
SCALE: NOT TO SCALE

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 4

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FIGURE 2

\\nuss010\p1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GP\H316\CCD Comment Responses\H316 - 00176GP009.dwg PIT DAVID.WALLNER 3/16/2016 9:05:10 AM



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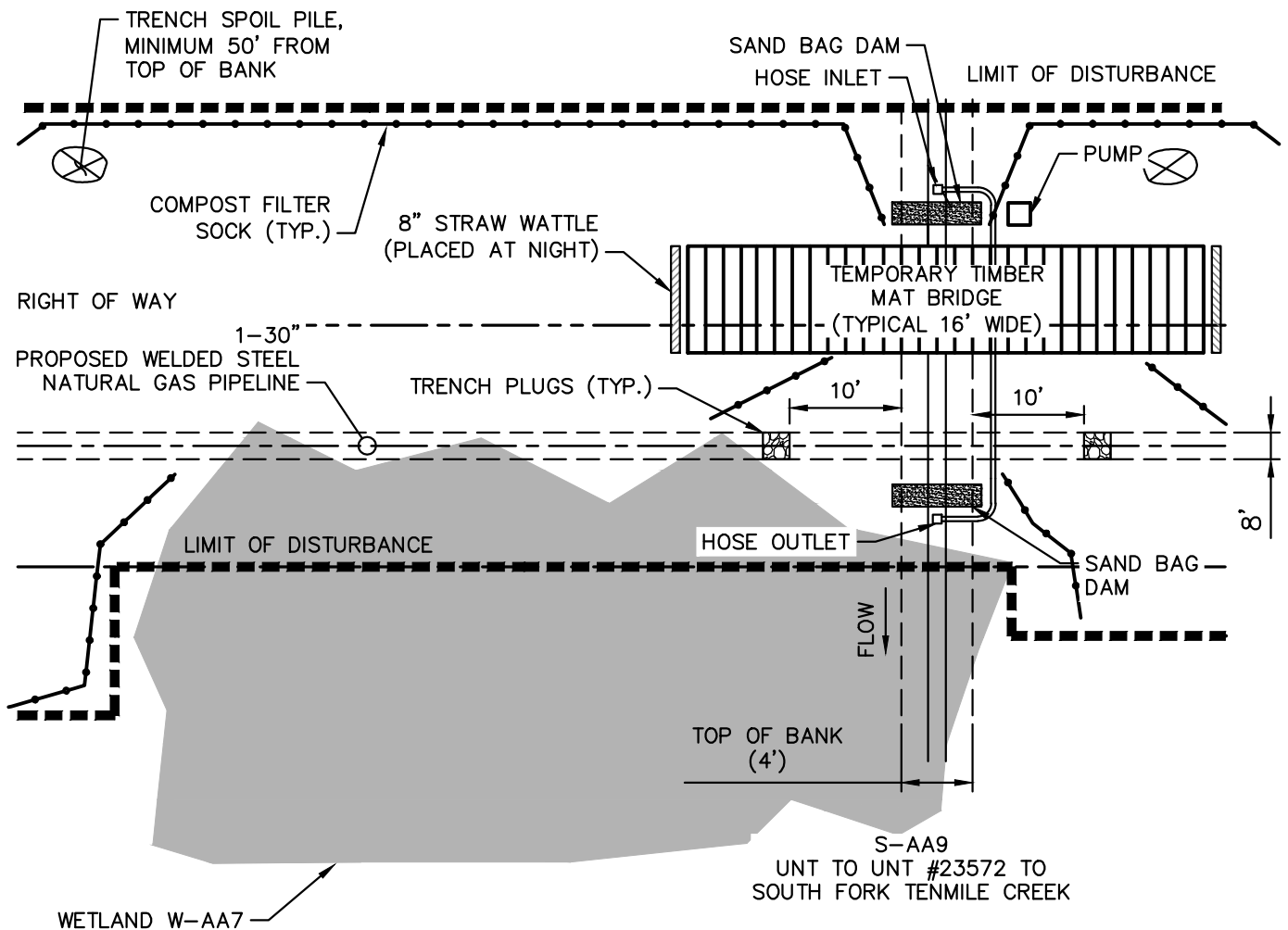
EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5/GP-8 FOR S-AA9/W-AA7
PLAN

SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 4
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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5/GP-8 FOR S-AA9/W-AA7
PLAN

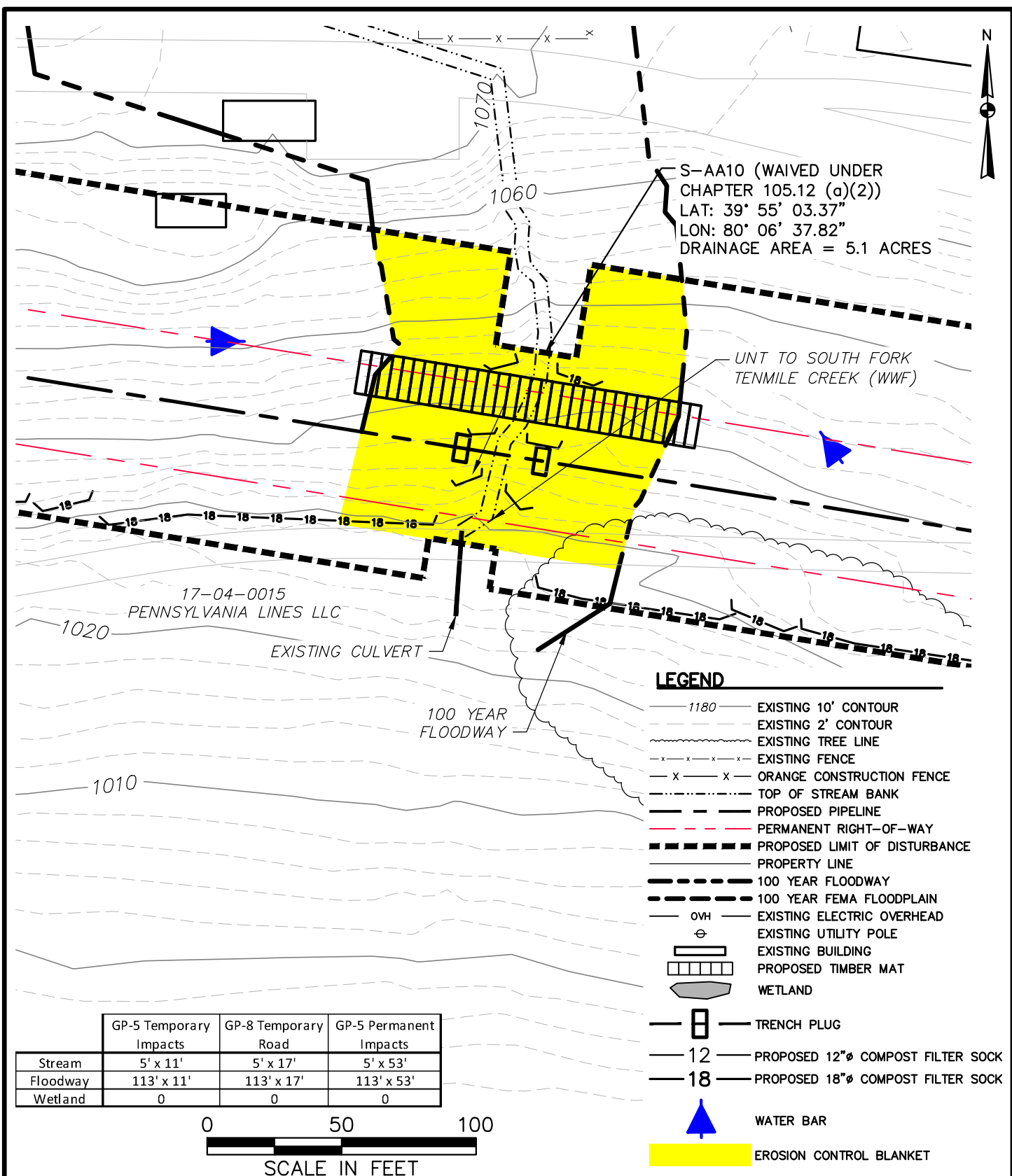
SCALE: NOT TO SCALE

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 4

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FIGURE 2

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP013.dwg P1T DAVID WALLNER 3/14/2016 2:10:28 PM

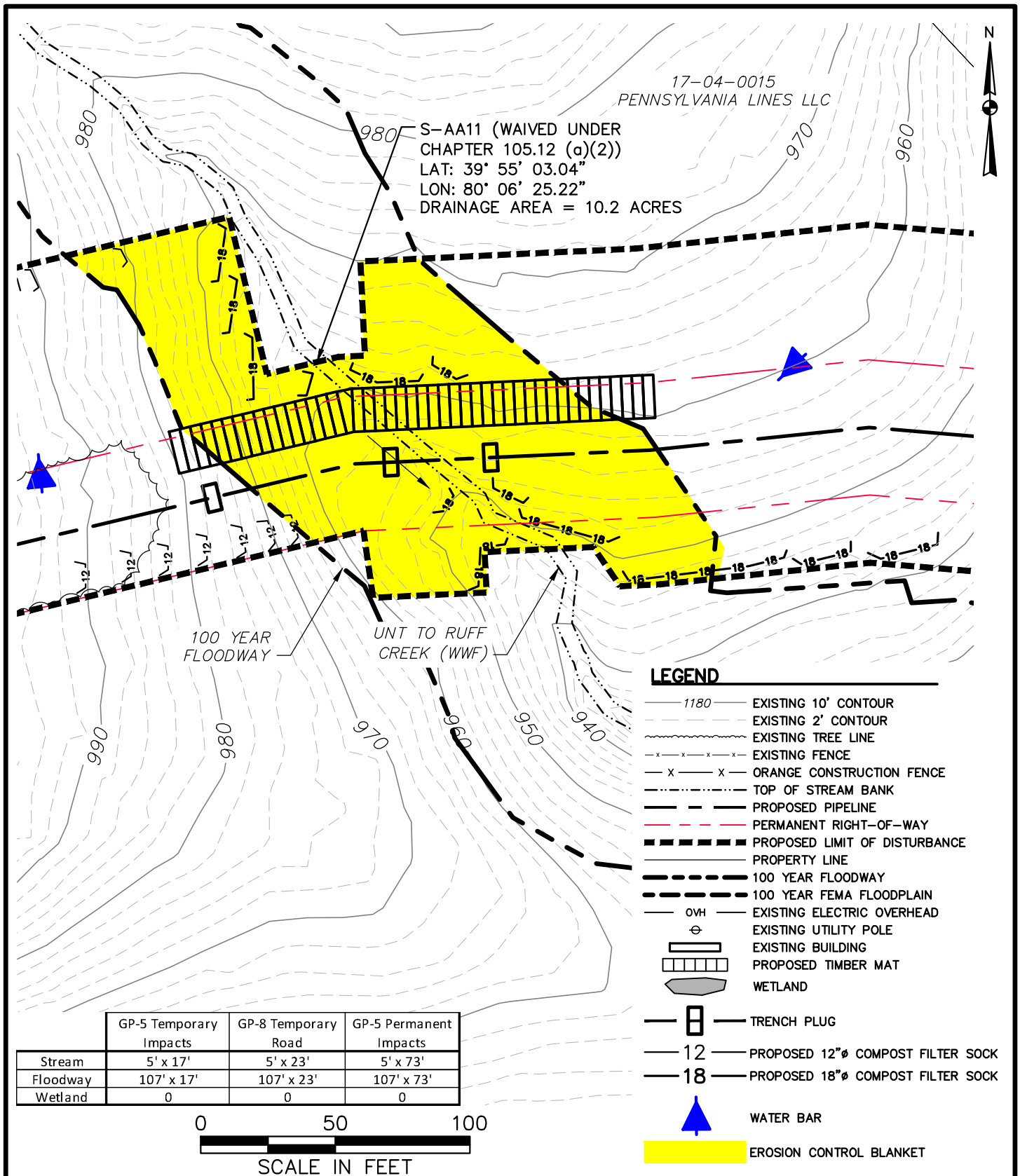


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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
WAIVED UNDER CHAPTER 105.12(a)(2)
FOR S-AA10 — PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP017.dwg PLOT DATE: 3/14/2016 2:19:34 PM



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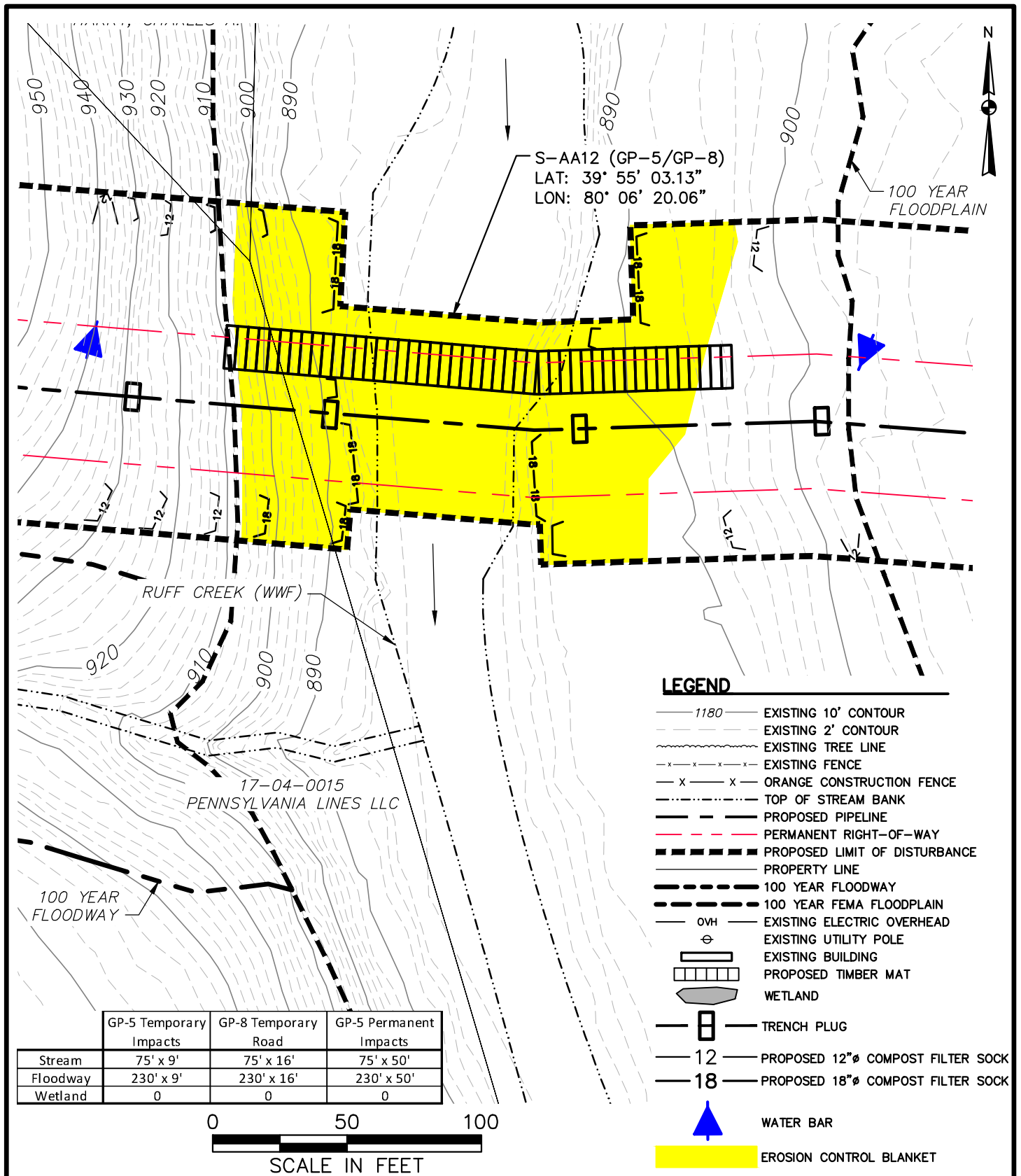
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
WAIVED UNDER CHAPTER 105.12 (a)(2)
FOR S-AA11 — PLAN
SCALE: 1" = 50'

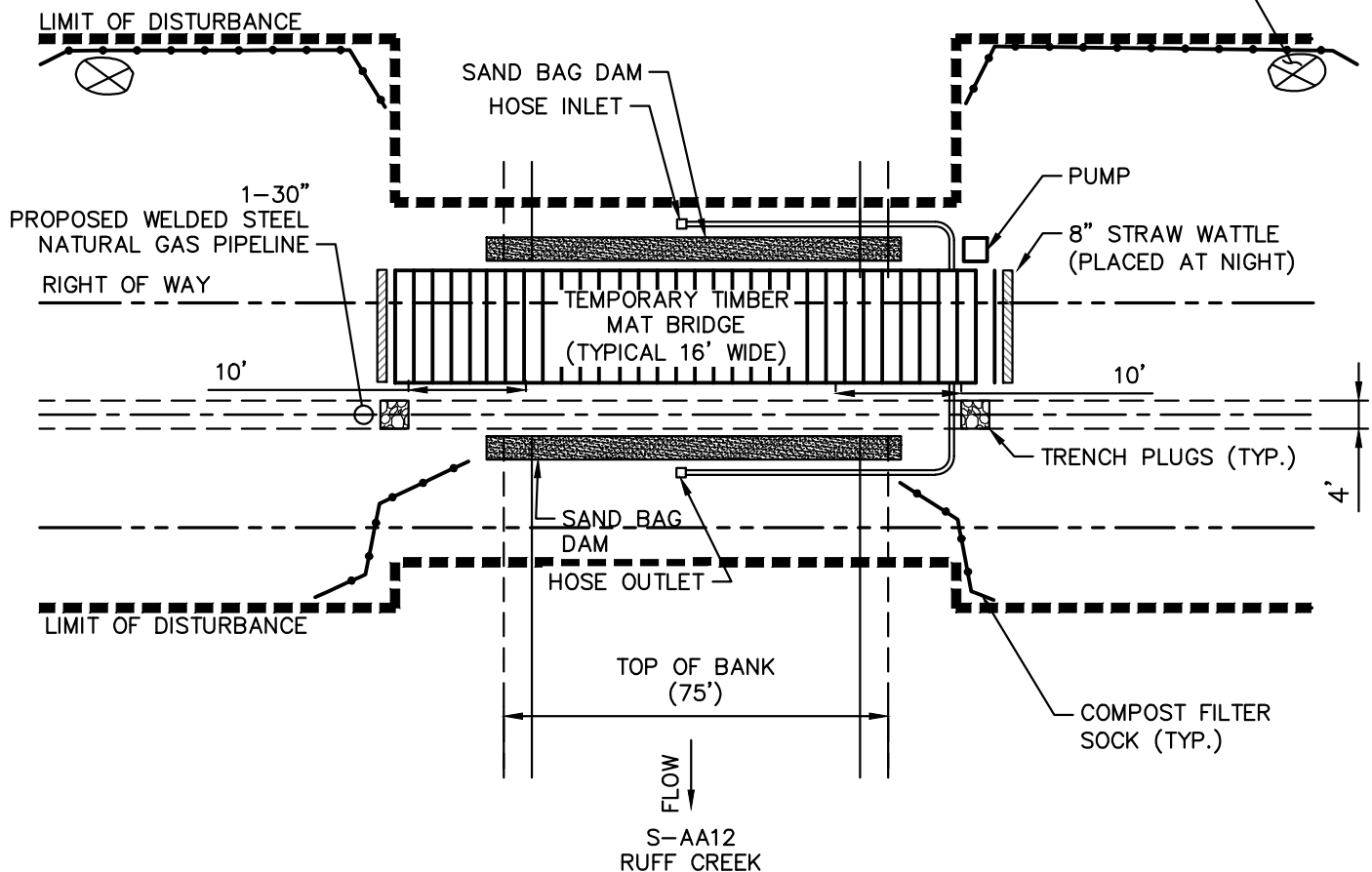
DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP021.dwg PIT DAVID WALLNER 3/14/2016 2:33:16 PM



NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF MOUNTAIN VALLEY PIPELINE, LLC TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT TRENCH SPOIL PILE, AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. MINIMUM 50' FROM TOP OF BANK
VALLEY PIPELINE, LLC. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED
LOCATED IN THE FIELD BY MOUNTAIN VALLEY PIPELINE, LLC.



PLAN
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5/GP-8 FOR SC-AA12
PLAN

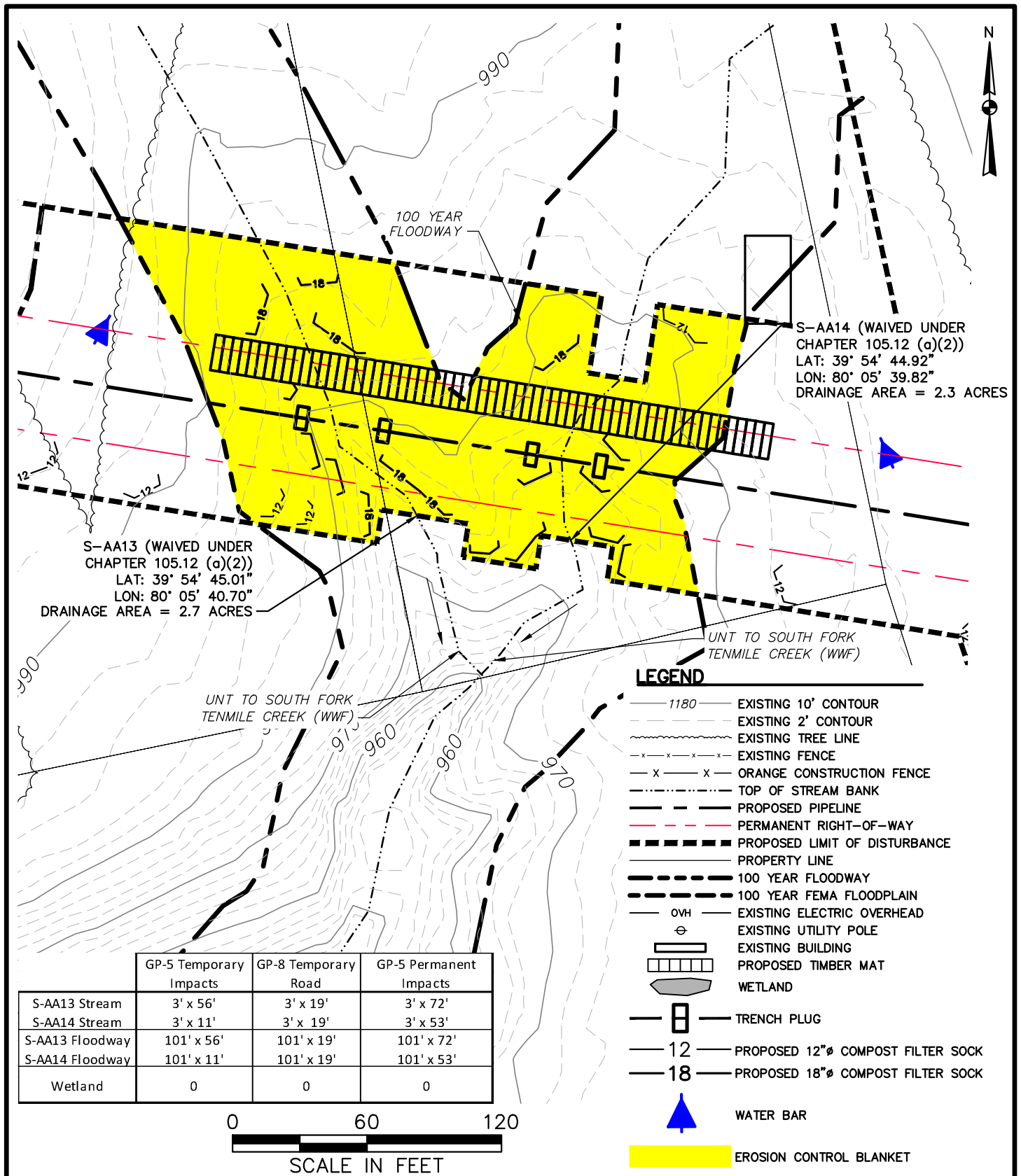
SCALE: NOT TO SCALE

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 4

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FIGURE 2

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP025.dwg PIT DAVID WALLNER 3/14/2016 2:53:52 PM



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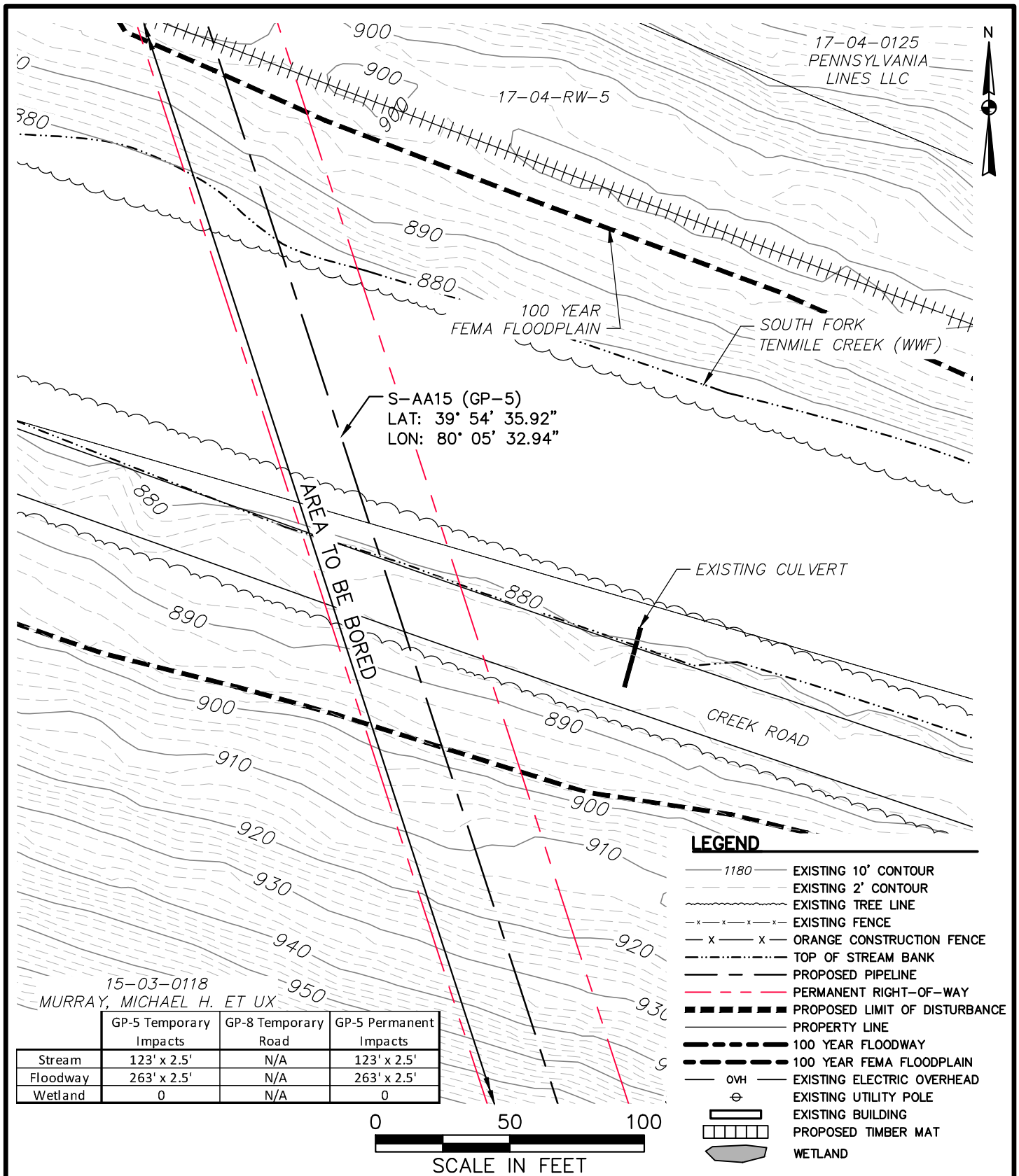
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
WAIVED UNDER CHAPTER 105.12 (a)(2)
FOR S-AA13/S-AA14 — PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP029.dwg PIT DAVID.WALLNER 3/10/2016 8:27:38 AM



15-03-0118
MURRAY, MICHAEL H. ET UX

	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
Stream	123' x 2.5'	N/A	123' x 2.5'
Floodway	263' x 2.5'	N/A	263' x 2.5'
Wetland	0	N/A	0



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA15

PLAN

SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 3

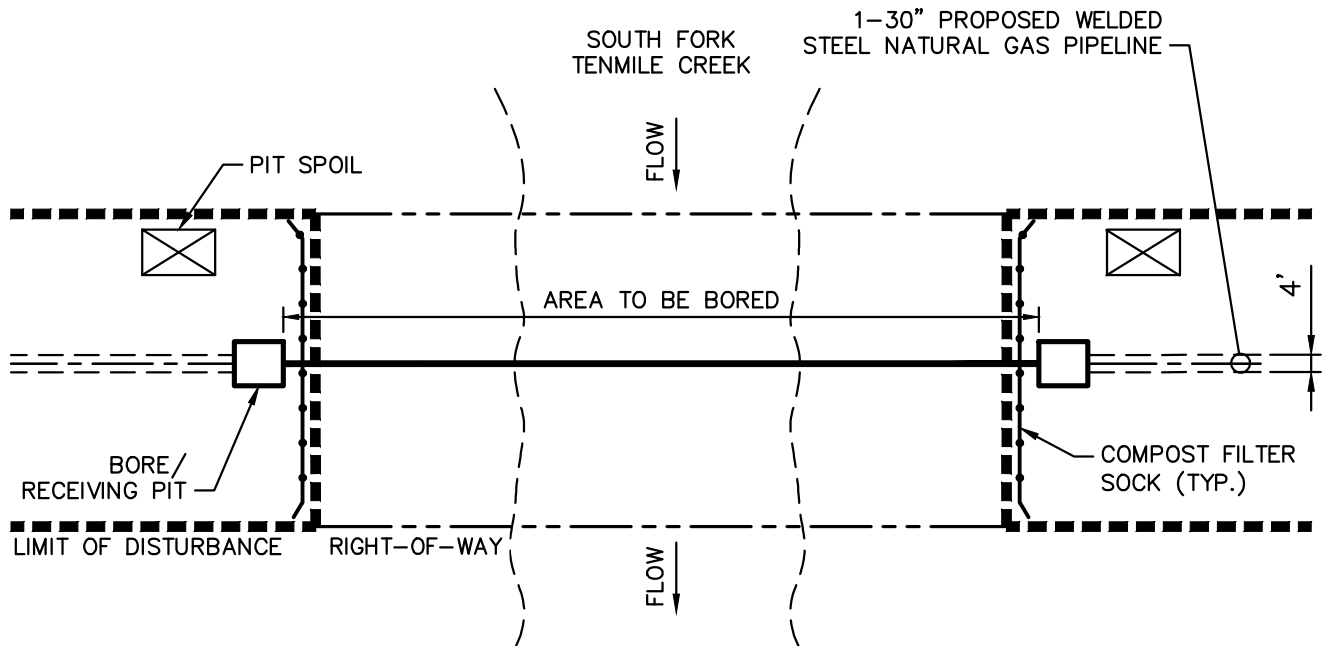
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FIGURE 1

\\nuss010ip1\cadd\$_212 - OGA\O&G\EQ\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP030.dwg PIT DAVID.WALLNER 3/7/2016 11:19:26 AM

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF EQUITRANS, LP TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. BY EQUITRANS, LP. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY EQUITRANS, LP.



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA15

PLAN

SCALE: NOT TO SCALE

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 3

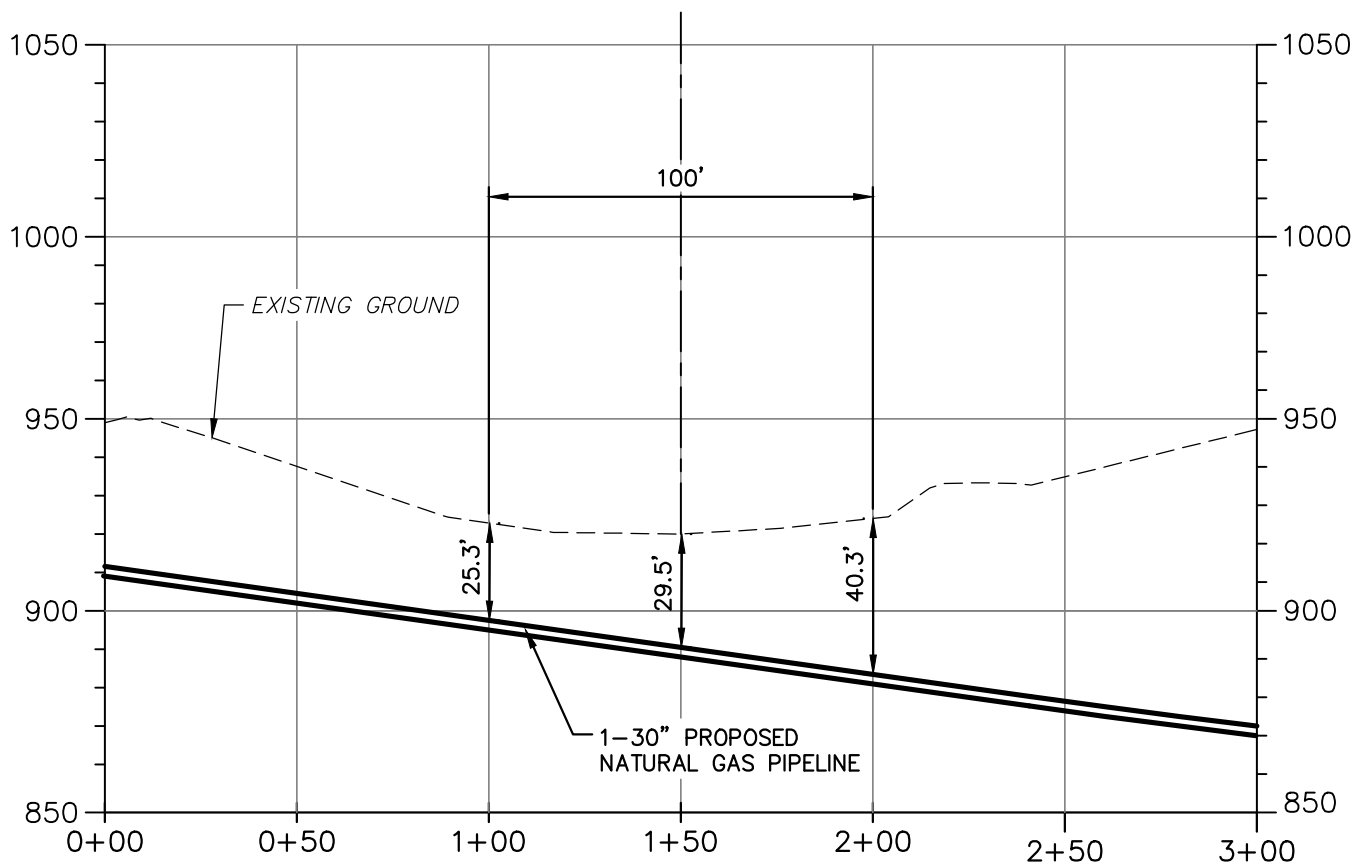
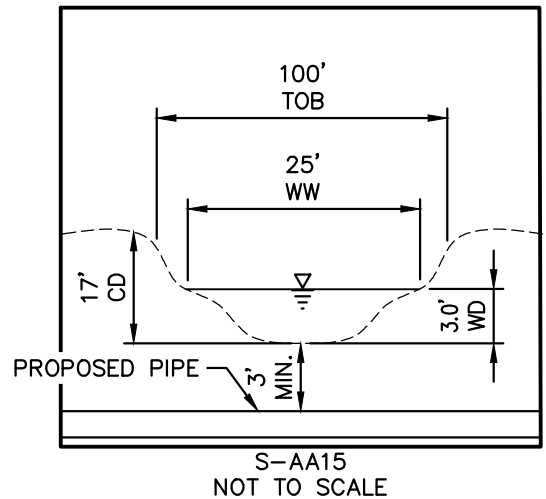
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FIGURE 2

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP031.dwg PIT DAVID WALLNER 3/8/2016 2:09:50 PM

S-AA15 CHANNEL WIDTH = 100'
S-AA15 CHANNEL DEPTH = 17'
S-AA15 WATER WIDTH = 25'
S-AA15 WATER DEPTH = 3.0'

S-AA15
SOUTH FORK
CROSS CREEK



PROFILE FOR S-AA15 HDD PROFILE

SCALE: HORIZ: 1" = 50'
VERT: 1" = 50'



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA15
PROFILE

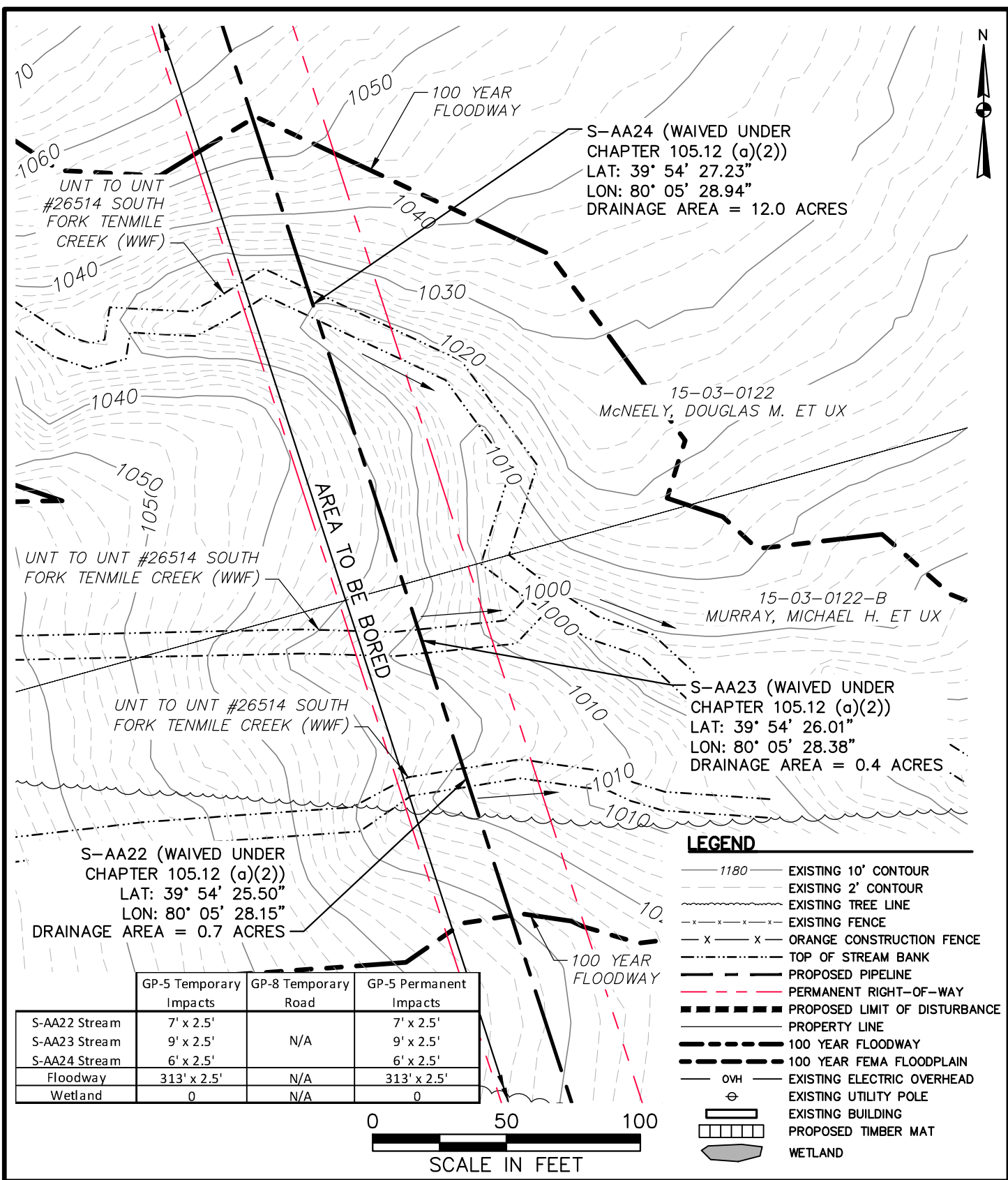
SCALE: AS NOTED

DATE: 03/14/16
PROJECT NO.: 2121C-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 3 OF 3

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FIGURE 3

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP033.dwg PIT DAVID.WALLNER 3/14/2016 2:59:11 PM



	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
S-AA22 Stream	7' x 2.5'	N/A	7' x 2.5'
S-AA23 Stream	9' x 2.5'	N/A	9' x 2.5'
S-AA24 Stream	6' x 2.5'	N/A	6' x 2.5'
Floodway	313' x 2.5'	N/A	313' x 2.5'
Wetland	0	N/A	0



TETRA TECH

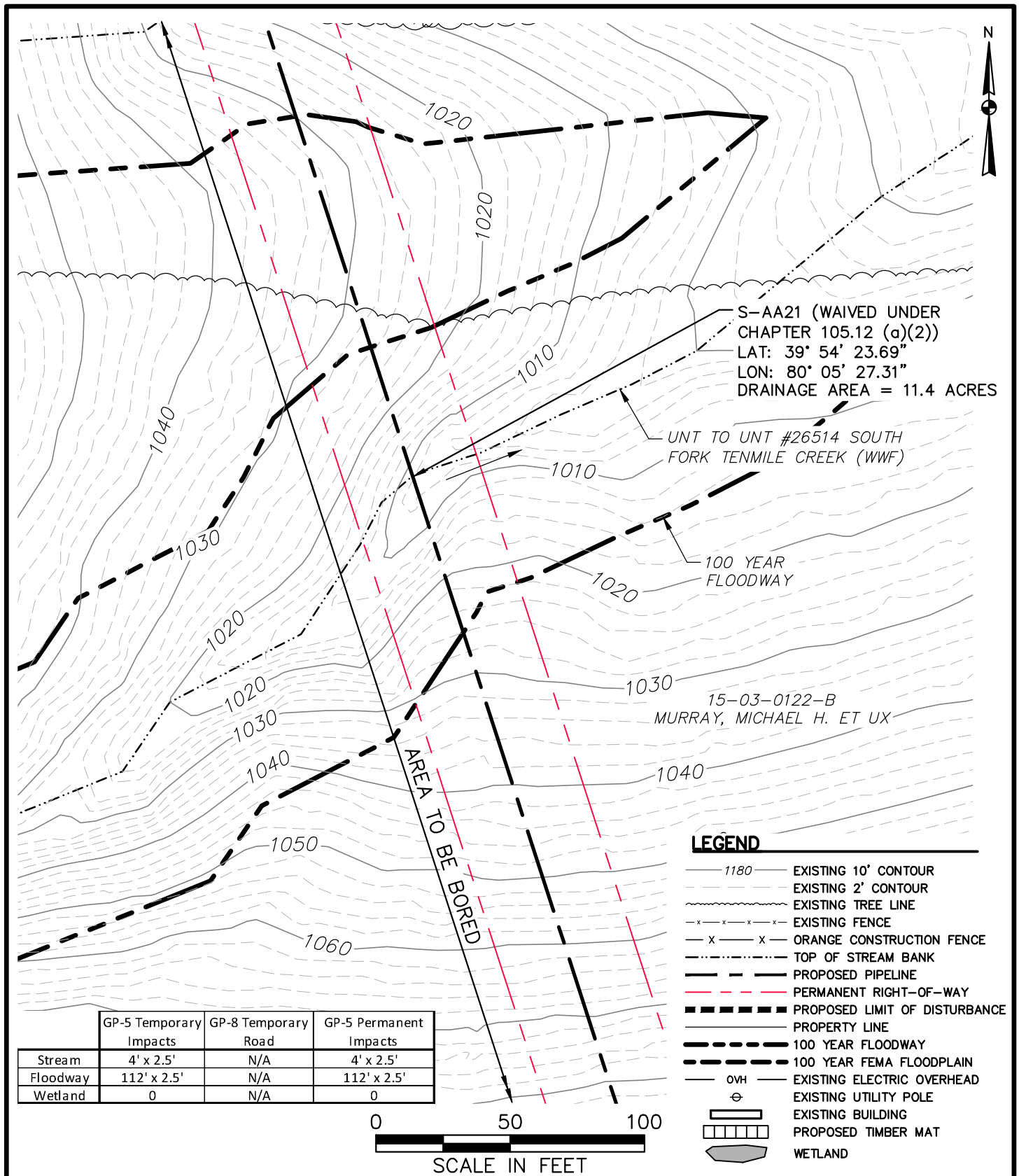
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
WAIVED UNDER CHAPTER 105.12 (a)(2)
FOR S-AA24/S-AA23/S-AA22 - PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\OG&G\EQT\00176 - EEP\GP\H316\CCD Comment Responses\H316 - 00176GP037.dwg PIT DAVID.WALLNER 3/14/2016 3:02:58 PM



	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
Stream	4' x 2.5'	N/A	4' x 2.5'
Floodway	112' x 2.5'	N/A	112' x 2.5'
Wetland	0	N/A	0

0 50 100
SCALE IN FEET

LEGEND

- 1180 ——— EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING TREE LINE
- x-x-x-x- EXISTING FENCE
- x-x-x- ORANGE CONSTRUCTION FENCE
- TOP OF STREAM BANK
- PROPOSED PIPELINE
- PERMANENT RIGHT-OF-WAY
- PROPOSED LIMIT OF DISTURBANCE
- PROPERTY LINE
- 100 YEAR FLOODWAY
- 100 YEAR FEMA FLOODPLAIN
- O V H — EXISTING ELECTRIC OVERHEAD
- ⊕ EXISTING UTILITY POLE
- ▭ EXISTING BUILDING
- ▭ PROPOSED TIMBER MAT
- ▭ WETLAND



TETRA TECH

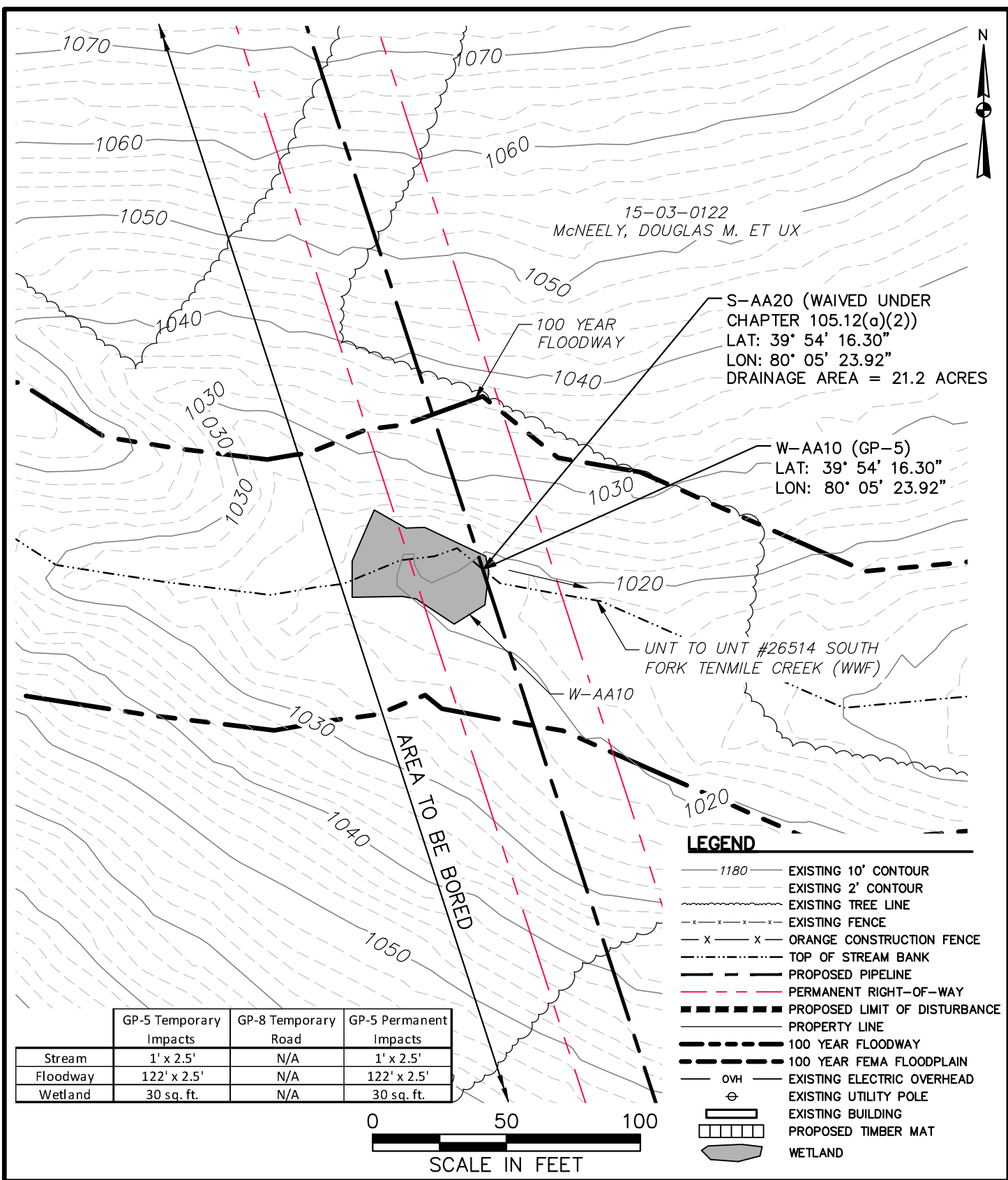
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
WAIVED UNDER CHAPTER 105.12 (a)(2)
FOR S-AA21 — PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP041.dwg PIT DAVID WALLNER 3/14/2016 3:06:16 PM



	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
Stream	1' x 2.5'	N/A	1' x 2.5'
Floodway	122' x 2.5'	N/A	122' x 2.5'
Wetland	30 sq. ft.	N/A	30 sq. ft.



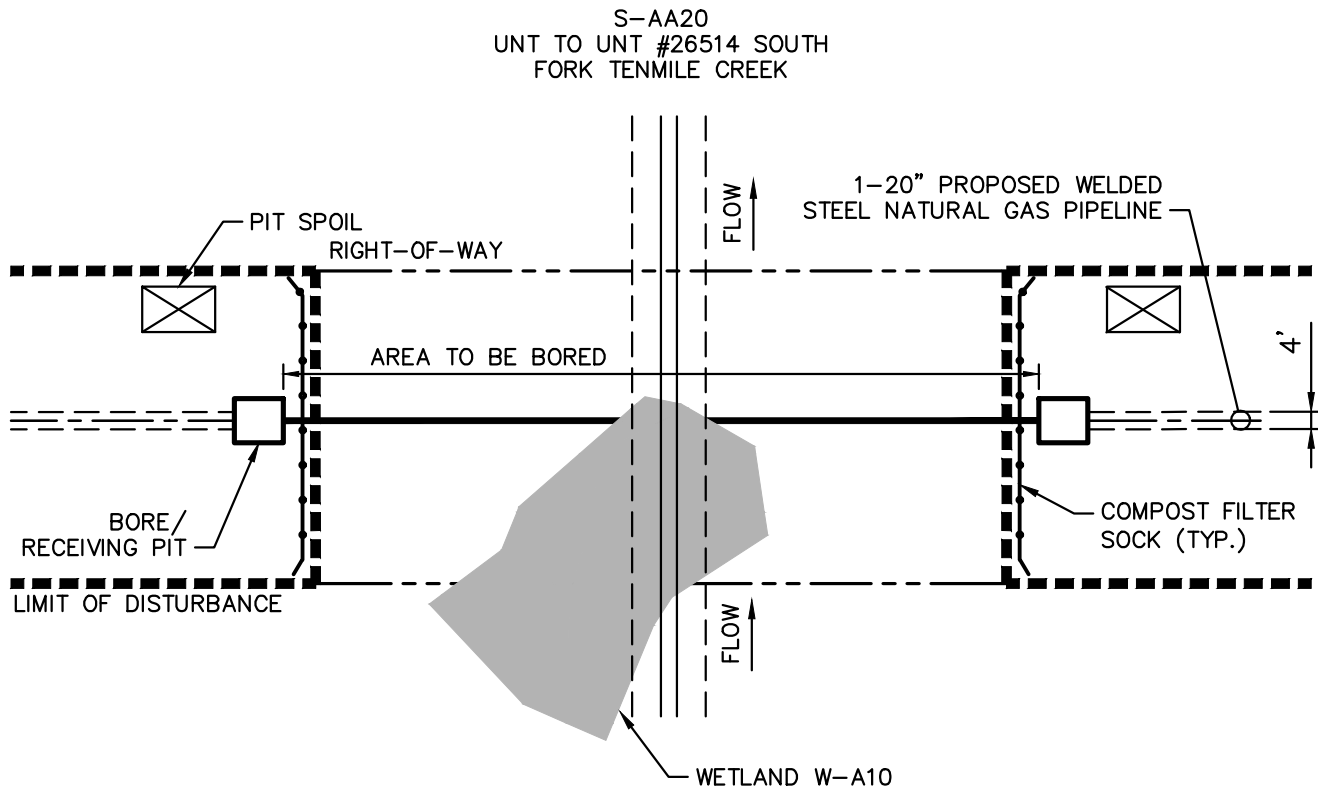
661 ANDERSEN DRIVE - FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA20/W-AA10
PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF EQUITRANS, LP TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. BY EQUITRANS, LP. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY EQUITRANS, LP.



PLAN
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EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA20 & W-A10
PLAN

SCALE: NOT TO SCALE

DATE:	03/14/16
PROJECT NO.:	212IC-PB-00176
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DRAWN BY:	NN
CHECKED BY:	JS
SHEET:	2 OF 3

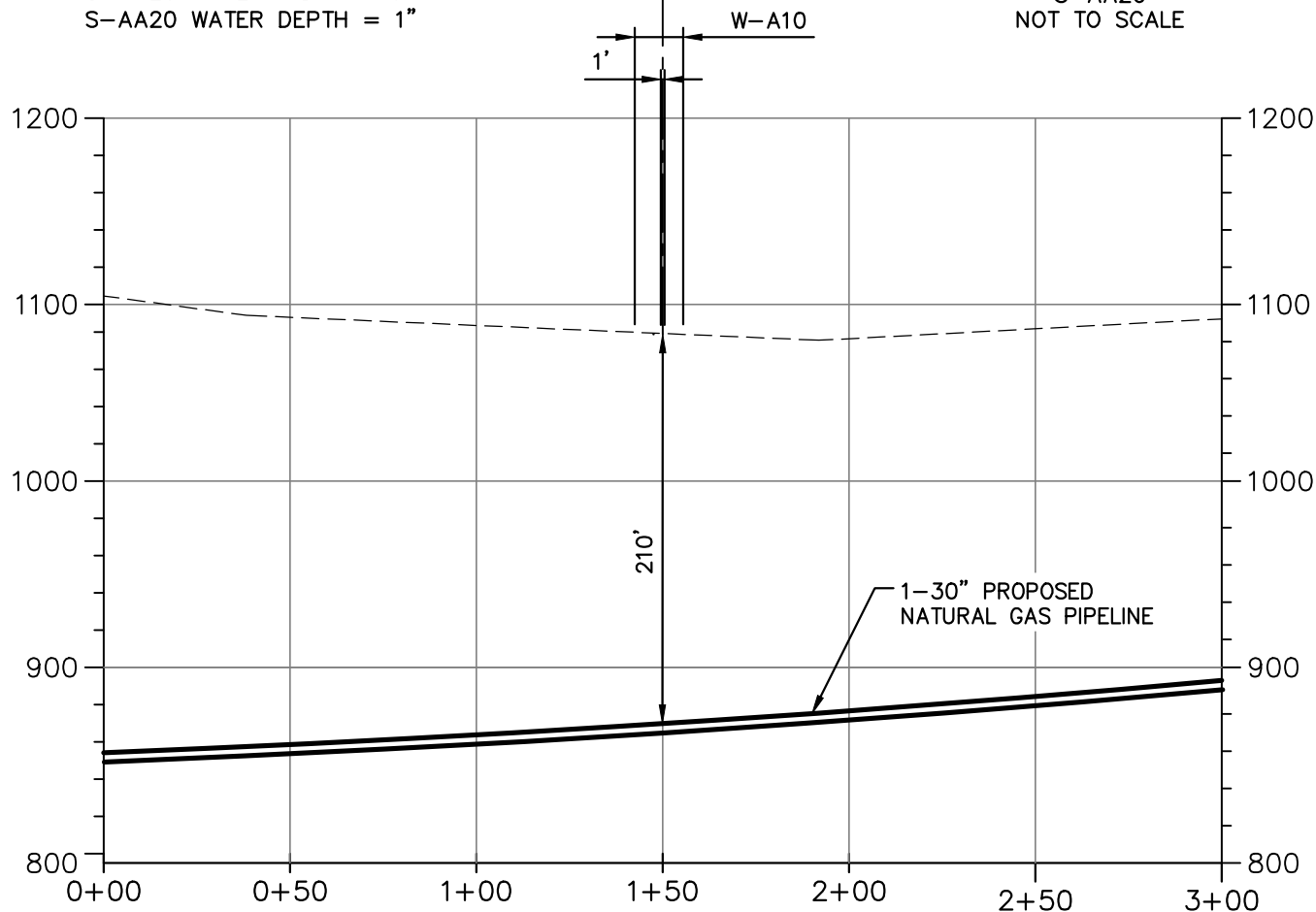
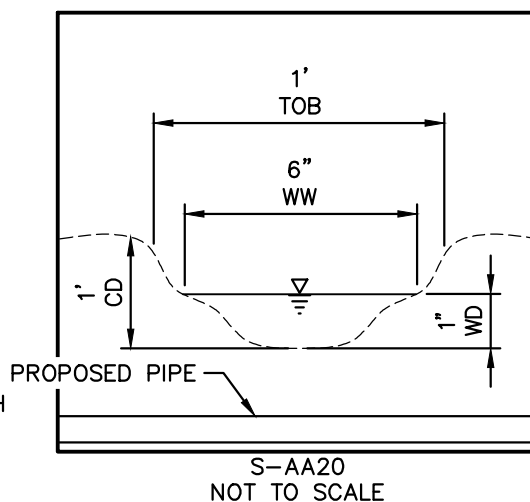
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FIGURE 2

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQ\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP043.dwg PIT DAVID.WALLNER 3/8/2016 2:03:00 PM

S-AA20 CHANNEL WIDTH = 1'
S-AA20 CHANNEL DEPTH = 1'
S-AA20 WATER WIDTH = 6"
S-AA20 WATER DEPTH = 1"

S-AA20
UNT TO UNT #26514 SOUTH
FORK TENMILE CREEK



PROFILE FOR S-AA20 & W-A10 HDD PROFILE

SCALE: HORIZ: 1" = 50'
VERT: 1" = 100'



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA20 & W-A10
PROFILE

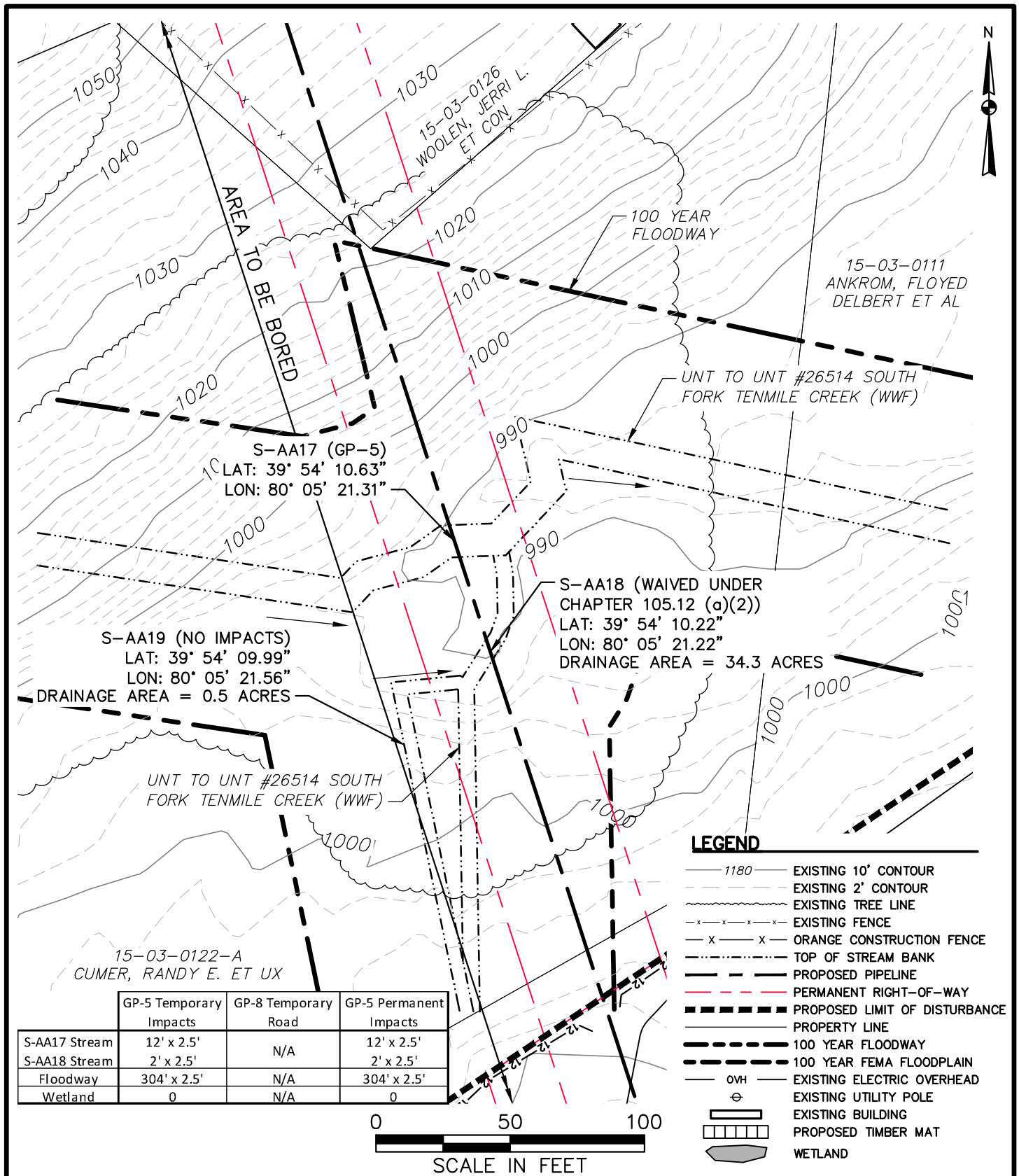
SCALE: AS NOTED

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 3 OF 3

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FIGURE 3

\\nuss010fpi\cadd\$_212 - OGA\OG&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP045.dwg PIT DAVID.WALLNER 3/14/2016 3:11:07 PM



	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
S-AA17 Stream	12' x 2.5'	N/A	12' x 2.5'
S-AA18 Stream	2' x 2.5'	N/A	2' x 2.5'
Floodway	304' x 2.5'	N/A	304' x 2.5'
Wetland	0	N/A	0



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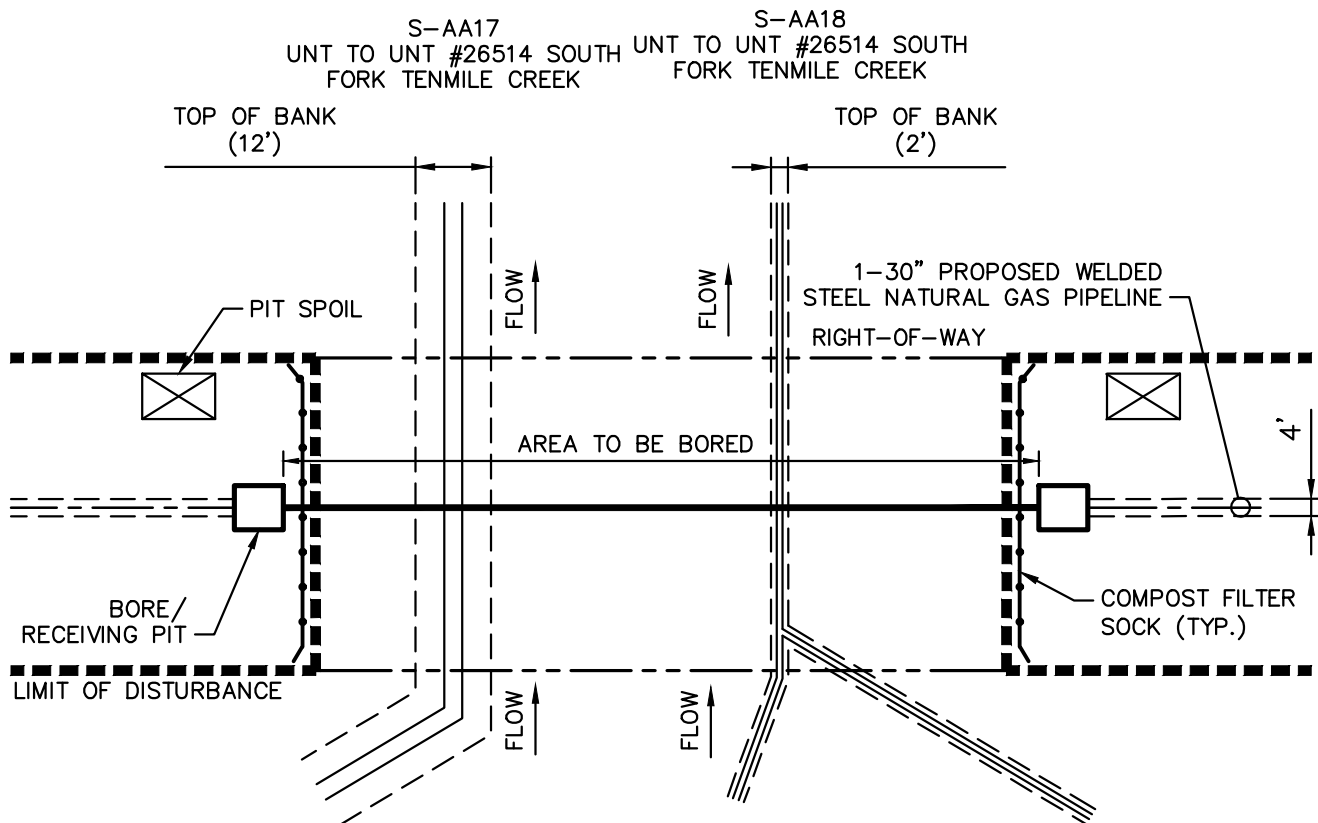
661 ANDERSEN DRIVE — FOSTER PLAZA 7
PITTSBURGH, PA 15220
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
GP-5 FOR S-AA17 — PLAN
WAIVED UNDER CHAPTER 105.12 (a)(2) S-AA18
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
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SHEET: 1 OF 3
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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
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PLAN
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EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA17 & S-AA18
PLAN

SCALE: NOT TO SCALE

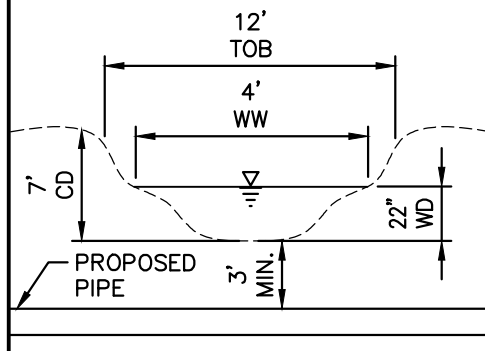
DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 3

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FIGURE 2

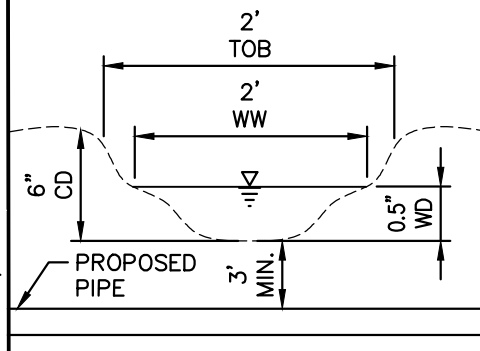
\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP047.dwg PIT DAVID.WALLNER 3/8/2016 2:29:53 PM

S-AA17 CHANNEL WIDTH = 12'
S-AA17 CHANNEL DEPTH = 7'
S-AA17 WATER WIDTH = 4'
S-AA17 WATER DEPTH = 22"



S-AA17
NOT TO SCALE

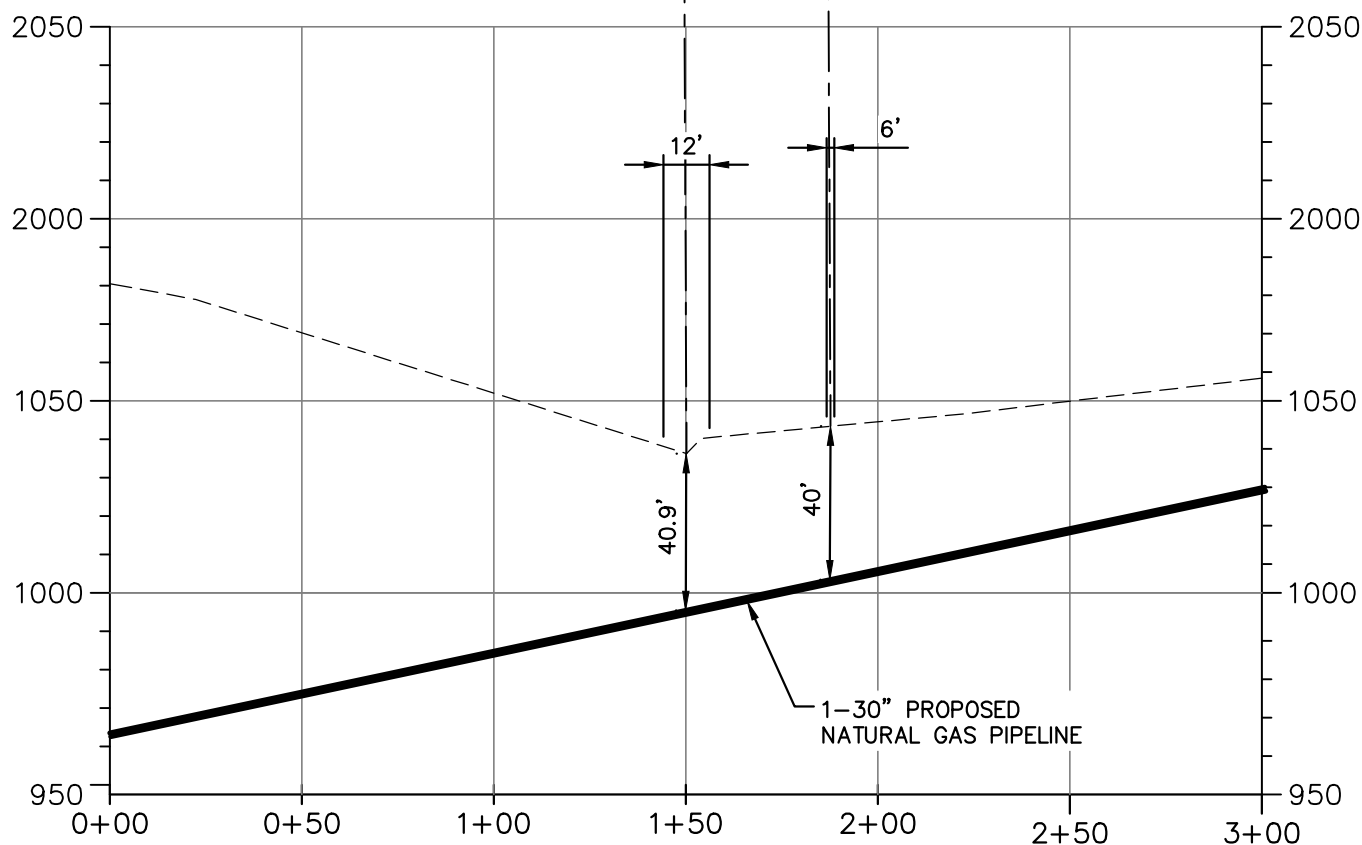
S-AA18 CHANNEL WIDTH = 2'
S-AA18 CHANNEL DEPTH = 6"
S-AA18 WATER WIDTH = 4"
S-AA18 WATER DEPTH = 0.5"



S-AA18
NOT TO SCALE

S-AA17
UNT TO
UNT #26514
SOUTH
FORK
TENMILE
CREEK

S-AA18
UNT TO
UNT #26514
SOUTH
FORK
TENMILE
CREEK



PROFILE FOR S-AA17 & S-AA18 HDD PROFILE

SCALE: HORIZ: 1" = 50'
VERT: 1" = 50'



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EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-5 FOR S-AA17 & S-AA18
PROFILE

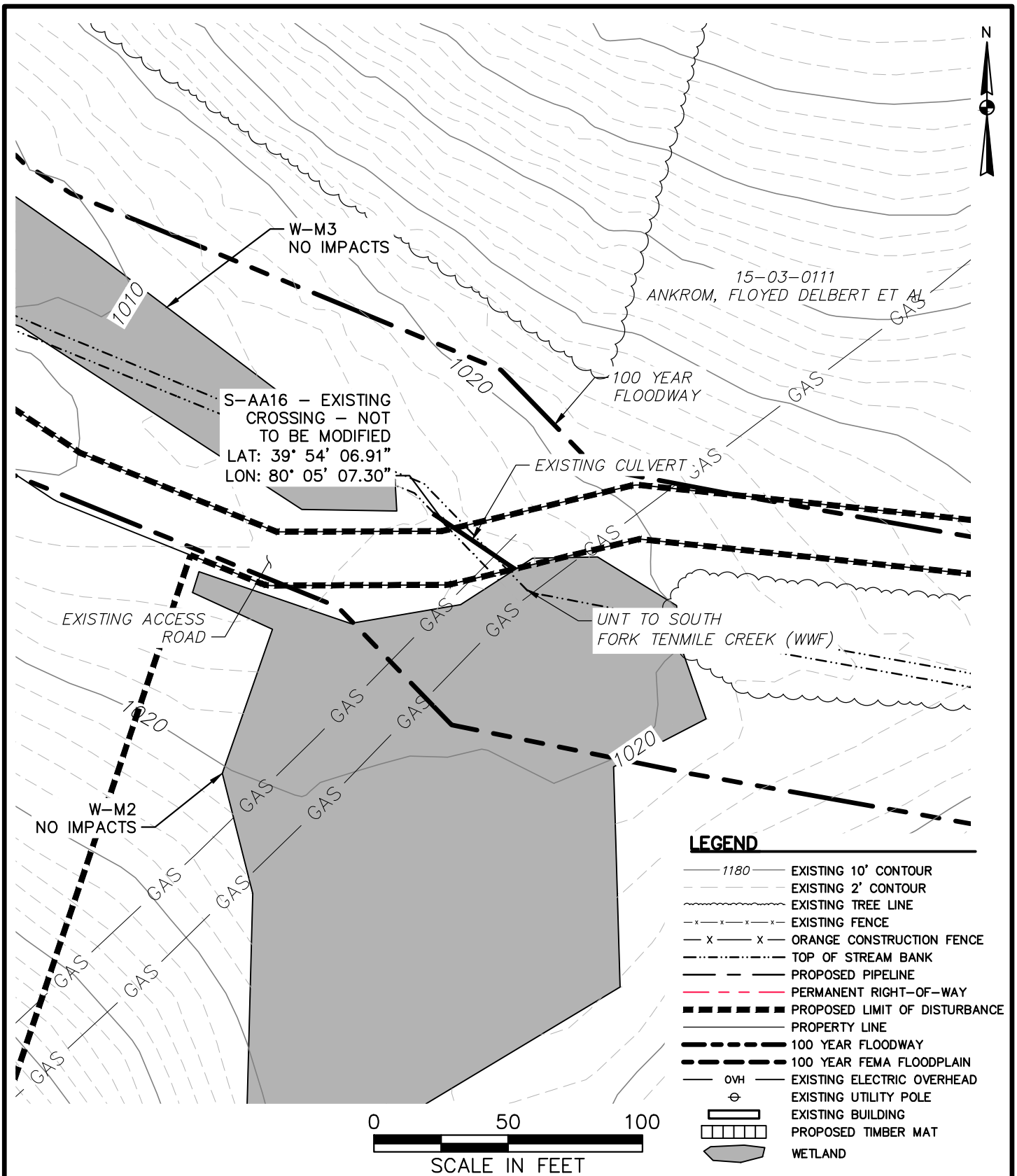
SCALE: AS NOTED

DATE: 03/14/16
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SHEET: 3 OF 3

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FIGURE 3

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP049.dwg PIT DAVID.WALLNER 3/8/2016 5:28:52 PM



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-8 FOR S-AA16

PLAN

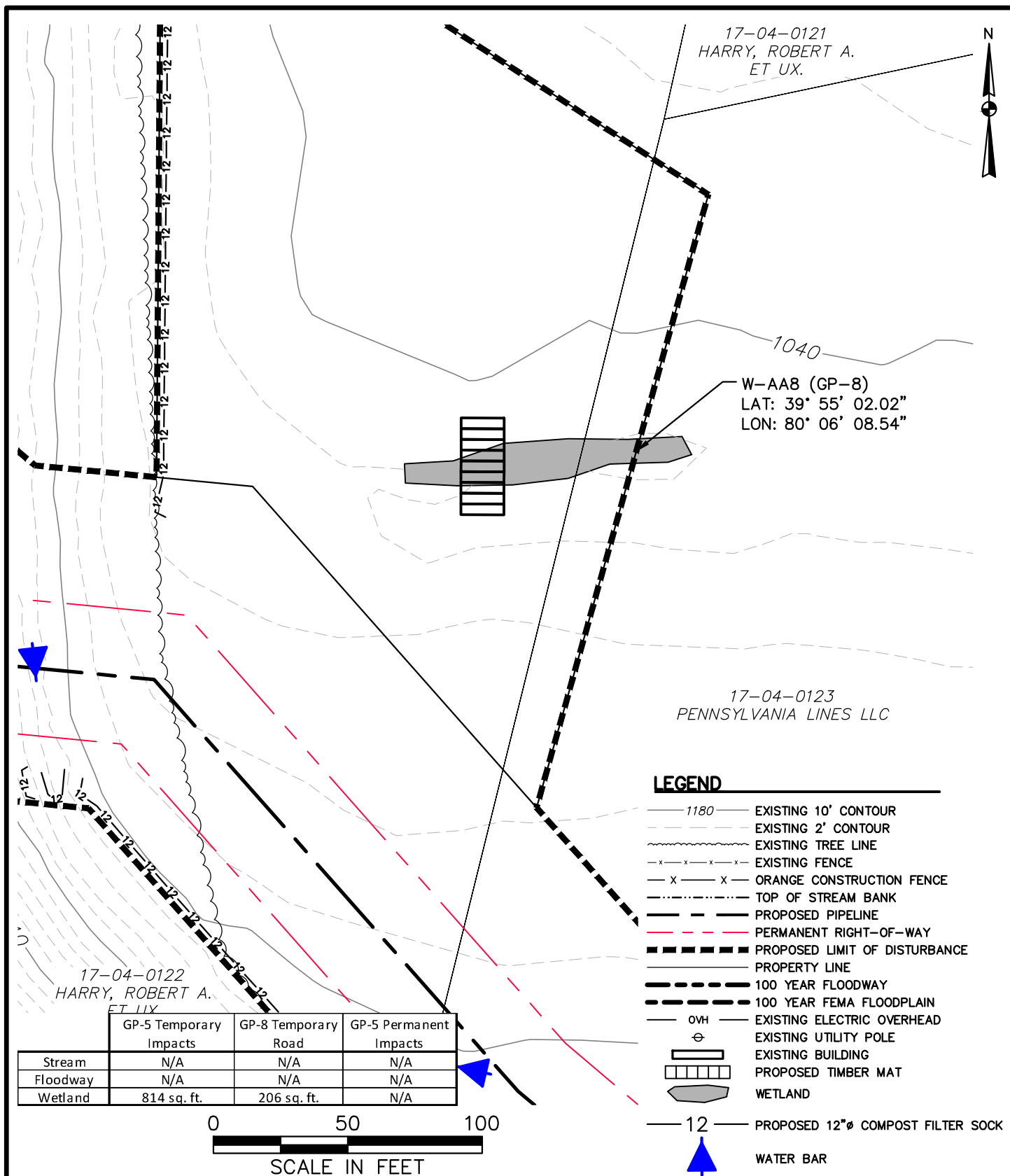
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GP\H316\CCD Comment Responses\H316 - 00176GP053.dwg PIT DAVID.WALLNER 3/14/2016 3:34:46 PM



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
GP-8 FOR W-AA8

PLAN

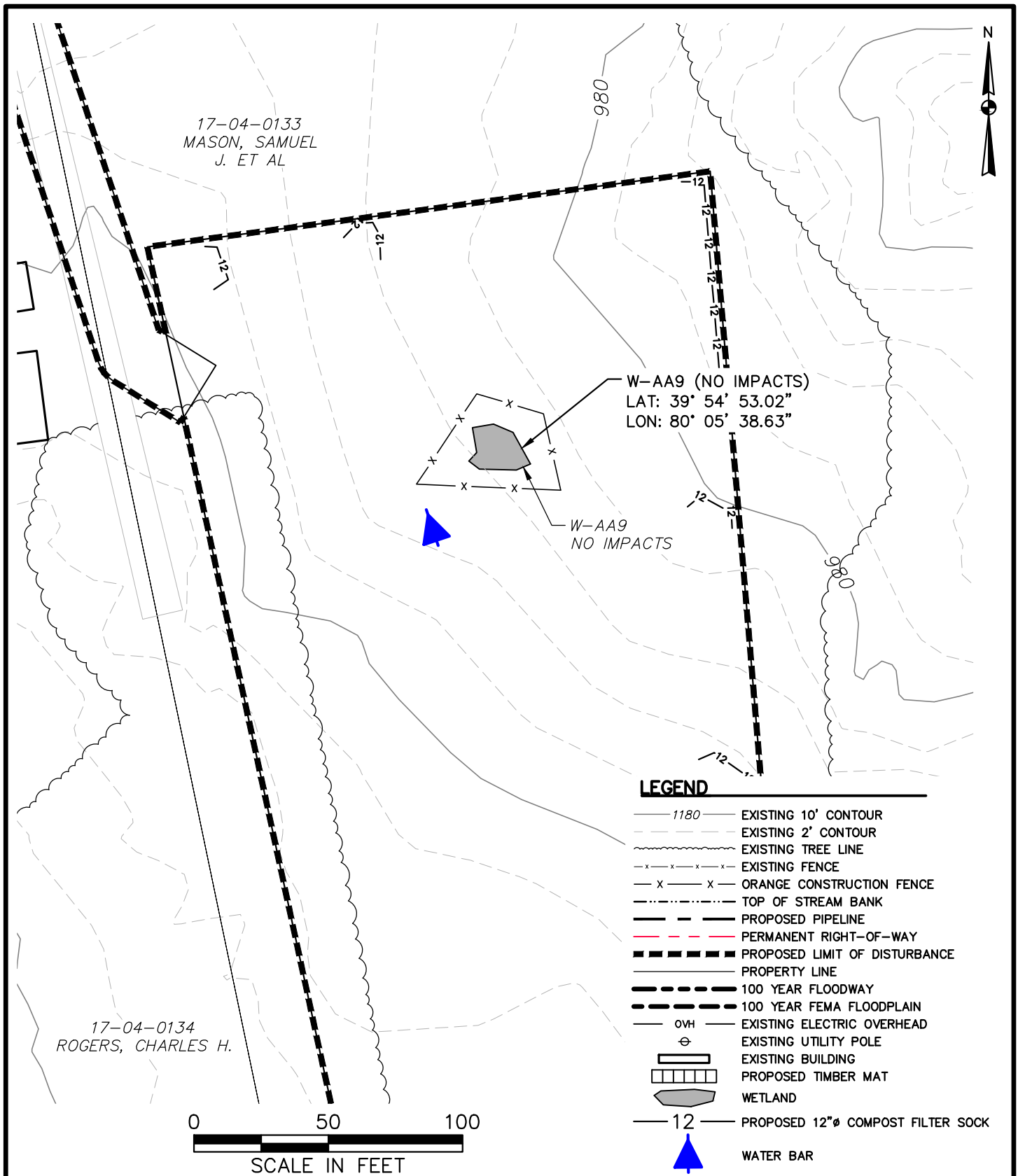
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
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SHEET: 1 OF 1

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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP057.dwg PIT DAVID.WALLNER 3/14/2016 3:37:49 PM



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**EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
NO IMPACTS FOR W-AA9**

PLAN

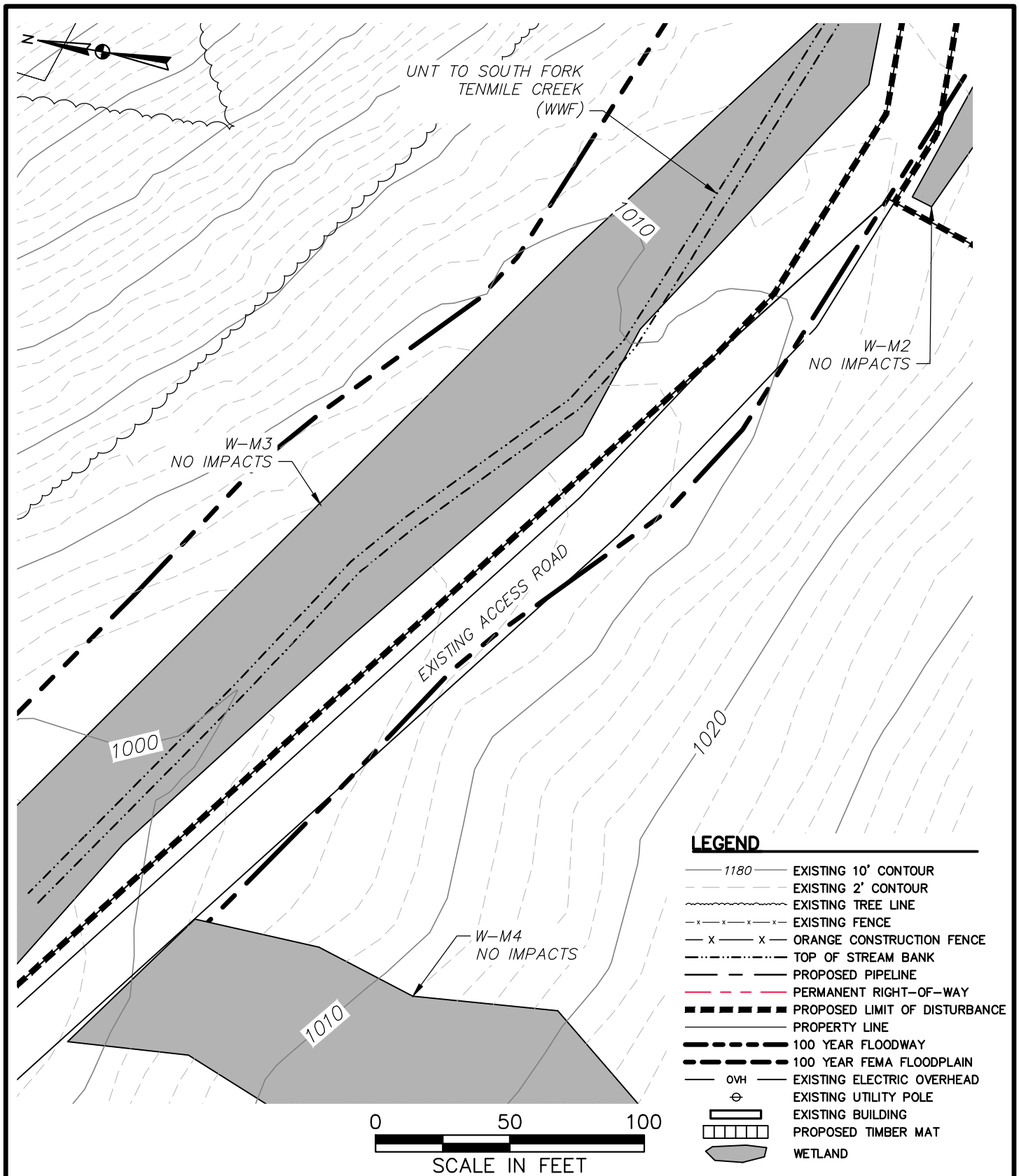
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 1

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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP073.dwg PIT DAVID.WALLNER 3/8/2016 5:42:16 PM



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
W-M2, W-M3, And W-M4
PLAN

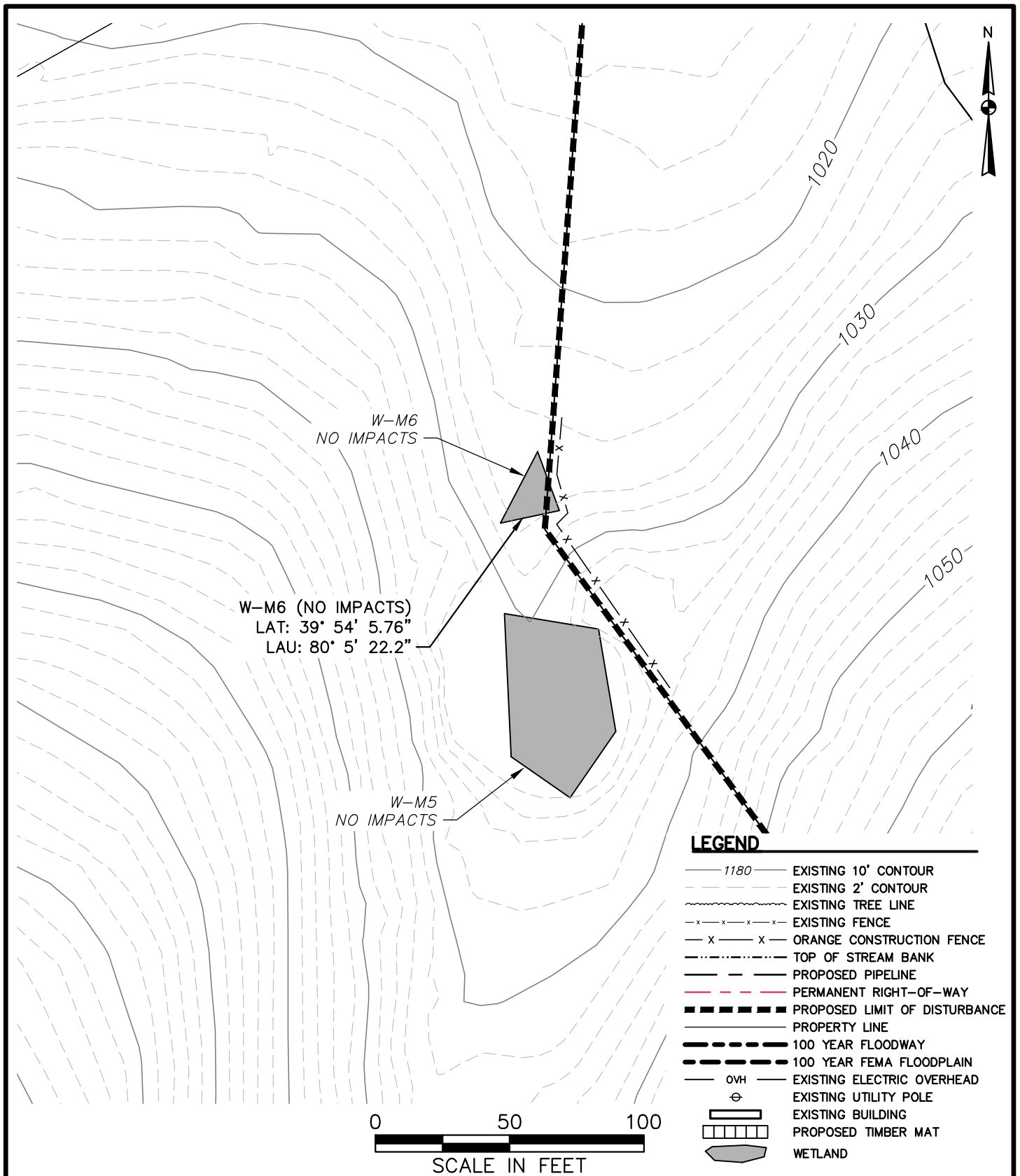
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP069.dwg PIT DAVID.WALLNER 3/8/2016 5:40:10 PM



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE — GREENE COUNTY
W-M5 AND W-M6
PLAN

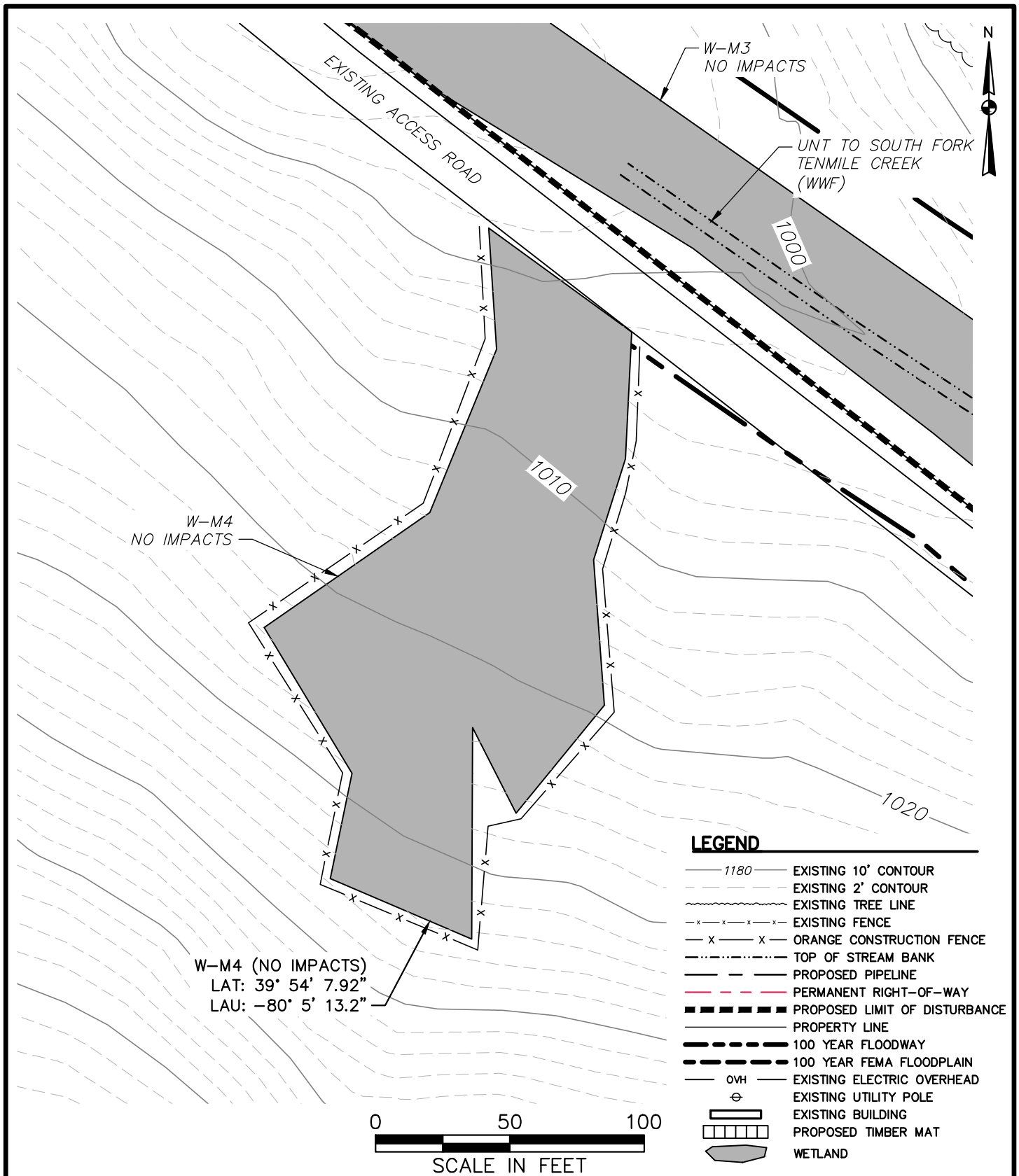
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
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SHEET: 1 OF 1

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FIGURE 1

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H316\CCD Comment Responses\H316 - 00176GP065.dwg PIT DAVID.WALLNER 3/8/2016 5:38:14 PM



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H316 PIPELINE - GREENE COUNTY
W-M3 AND W-M4

PLAN

SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
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FIGURE 1



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

February 18, 2016

Dale Sparks
Environmental Solutions & Innovations, Inc.
4525 Este Avenue
Cincinnati, OH 45232

RE: USFWS Project #2015-0578

Dear Mr. Sparks:

Thank you for your letter of December 17, 2015, which requested our review of mist-net survey results for the Pennsylvania portion of the proposed Equitrans Expansion project. This project is located in Allegheny, Greene, and Washington Counties, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

Indiana bat

The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. Due to proposed forest clearing associated with construction of the pipeline, summer surveys were recommended to determine whether Indiana bats are present. According to the December 2015 survey report, surveys were conducted at 10 sites within the project area between July 26 and August 9, 2015, in accordance with the Fish and Wildlife Service's Indiana bat summer survey guidelines. During these surveys, 94 bats of three species were captured, but this did not include any federally listed bat species. Based on these survey results, we have concluded that Indiana bats are either not present in the project area, or are present in such low densities that they were not detected. In addition, the project is not within an area that is known to be occupied by a maternity colony, or within the fall swarming habitat associated with any known Indiana bat hibernacula. Consequently, we have determined that tree-clearing related to installation of the proposed natural gas pipeline construction project is not likely to adversely affect the Indiana bat.

Northern long-eared bat

The proposed project is located within the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*). No northern long-eared bats were captured during the summer 2015 surveys.

On January 14, 2016, the Service published a final rule that tailors protections for this species under the Endangered Species Act (81 FR 1900; see: <https://www.gpo.gov/fdsys/pkg/FR-2016-01-14/pdf/2016-00617.pdf>). Because your project is not located within 0.25 mile of a known northern long-eared bat hibernaculum or within 150 feet from a known, occupied maternity roost tree, any incidental take that might result from tree removal is not prohibited and no further consultation regarding this species is necessary. More information on the northern long-eared bat and the 4(d) rule can be found here:

<http://www.fws.gov/midwest/endangered/mammals/nleb/>

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Pamela Shellenberger of my staff at 814-234-4090.

Sincerely,

A handwritten signature in black ink, appearing to read "Lora L. Zimmerman", with a stylized flourish at the end.

Lora L. Zimmerman
Field Office Supervisor



Pennsylvania Fish & Boat Commission

Division of Environmental Services

Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

January 5, 2016

IN REPLY REFER TO

SIR# 44257

Environmental Solutions & Innovations, Inc.
John Spaeth
4525 Este Avenue
Cincinnati, Ohio 45232

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
Equitrans Expansion Project.
GREENE County: - WASHINGTON County:**

Dear John Spaeth:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search “potential conflict” or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

On October 11, 2015, you conducted a mussel presence/absence survey at the proposed pipeline crossing of South Fork Tenmile Creek (39.90999 -80.09235). According to the resulting report, timed searches yielded four live individuals of three species: two Fragile Papershell (*Leptodea fragilis*) in the downstream indirect effects area, one Giant Floater (*Pyganodon grandis*) in the upstream indirect effects area, and one Fluted-shell (*Lasmigona costata*) in the direct effects area. I concur with the results of this evaluation. The project proposes to traverse South Fork Tenmile Creek via HDD techniques; therefore, I do not foresee the proposed project resulting in adverse impacts to the mussel species of special concern. If proposed crossing method on the South Fork Tenmile Creek changes, you will need to contact this office for further consultation and we will recommend moving mussels out of the affected areas.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated

Our Mission:

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To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Gary Smith at 814-279-3080 and refer to the SIR # 44257. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

A handwritten signature in dark ink that reads "Heather Smiles". The signature is written in a cursive, flowing style.

Heather A. Smiles, Chief
Natural Gas Section

HAS/GAS/dn



February 17, 2016

Andrea MacDonald, Deputy SHPO

Attention: Kira M. Heinrich, Archaeological Project Reviewer (Western Region)

Pennsylvania State Historic Preservation Office

Commonwealth Keystone Building

400 North Street

Harrisburg, PA 17120

Subject: Equitrans Expansion Project (FERC Docket No. CP16-13-000)
Phase I Archaeological Survey Report, Greene, Allegheny, and Washington Counties,
Pennsylvania
ER No. 2015-1446-042
Request for Comment Pursuant to Section 106 of the National Historic Preservation Act

Dear Ms. MacDonald:

On behalf of Equitrans, LP of Pittsburgh, Pennsylvania, Tetra Tech, Inc., hereby submits one copy of a report, *Equitrans Expansion Project (FERC Docket No. CP16-13-000)—Phase I Archaeological Survey: Jefferson, Morgan, & Franklin Townships, Greene County; Forward Township, Allegheny County; and Union Township, Washington County, Pennsylvania*. The report describes the results of a Phase I archaeological survey for the Pennsylvania elements of the proposed project. An updated Project Review Form is also included with this submittal. Tetra Tech also previously submitted an architectural survey report on this project for your agency's review, which was sent on January 28, 2016.

Equitrans has applied to the Federal Energy Regulatory Commission (FERC) for a Certificate of Public Convenience and Necessity pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed project (FERC Docket No. CP16-13-000). Please review the report in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. We would also specifically like to request comment on the Unanticipated Discoveries Plan for this project, found in Appendix I of the report.

To ensure accurate filing of your review, note that your agency may also have correspondence concerning this project under ER Nos. 2015-2081-042 and 2015-1694-042. The ER number employed here, 2015-1446-042, was provided on July 27, 2015, in response to our initial technical data submittal of July 8, 2015, and is the one we will be using to reference this project moving forward.

Should you require additional information to complete this review, contact me at (973)-630-8358 or by e-mail at chris.borstel@tetrattech.com.

Thank you for your assistance in this matter.

Sincerely yours,

A handwritten signature in blue ink, reading 'Christopher L. Borstel', written over a light blue circular stamp.

Christopher L. Borstel, Ph.D., RPA

Cultural Resources Specialist

Cc: S. Haugh, Tetra Tech

T. Pellerin, Tetra Tech

S. Frazier, Equitrans

Encl.

Tetra Tech, Inc.

1000 The American Road, Morris Plains, NJ 07950
Tel 973.630.8000 Fax 973.630.8025 www.tetrattech.com



PROJECT REVIEW FORM

Request to Initiate SHPO Consultation on
State and Federal Undertakings

SHPO USE ONLY

DATE RECEIVED:

ER NUMBER:

REV: 5/2012

SECTION A: GENERAL PROJECT INFORMATION

Is this a new submittal? ☐ YES ☐ NO OR ☒ This is additional information for ER Number: 2015-1446-042

Project Name Equitrans Expansion Project

County Multiple

Project Address Jefferson, Morgan, and Franklin Twps, Greene Co.; Forward Twp., Allegheny

City/State/ Zip See "Project Address"

Municipality See "Project Address"

SECTION B: PRIMARY CONTACT INFORMATION

Name Christopher L. Borstel, Ph.D., RPA

Phone (973) 630-8358

Company Tetra Tech, Inc.

Fax (973) 630-8025

Street/P.O. Box 1000 The American Road

Email chris.borstel@tetrattech.com

City/State/Zip Morris Plains NJ 07950

SECTION C: PROJECT DESCRIPTION

This project is located on:
(check all that apply) ☐ Federal property ☐ State property ☐ Municipal property ☒ Private property

List all Federal and State agencies and programs (funding, permits, licenses) involved in this project	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)
	Federal	Federal Regulatory Energy Commission	Docket No. CP16-13-000

Proposed Work – Attach project description, scope of work, site plans, and/or drawings

Project includes (check all that apply): ☒ Construction ☒ Demolition ☐ Rehabilitation ☐ Disposition

Total acres of project area: 315

Total acres of earth disturbance: 186

Are there any buildings or structures within the project area? ☒ Yes ☐ No Approximate age: ca. 1839-2015

This project involves properties listed in or eligible for listing in the National Register of Historic Places, or designated as historic by a local government	Yes	No	Unsure	Name of historic property or historic districts	Monongahela River Navigation System (NRE); P&LE RR Corridor (NRE)
	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>		

Please print and mail completed form and all attachments to:

PHMC
State Historic Preservation Office
400 North St.
Commonwealth Keystone Building, 2nd Floor
Harrisburg, PA 17120-0093

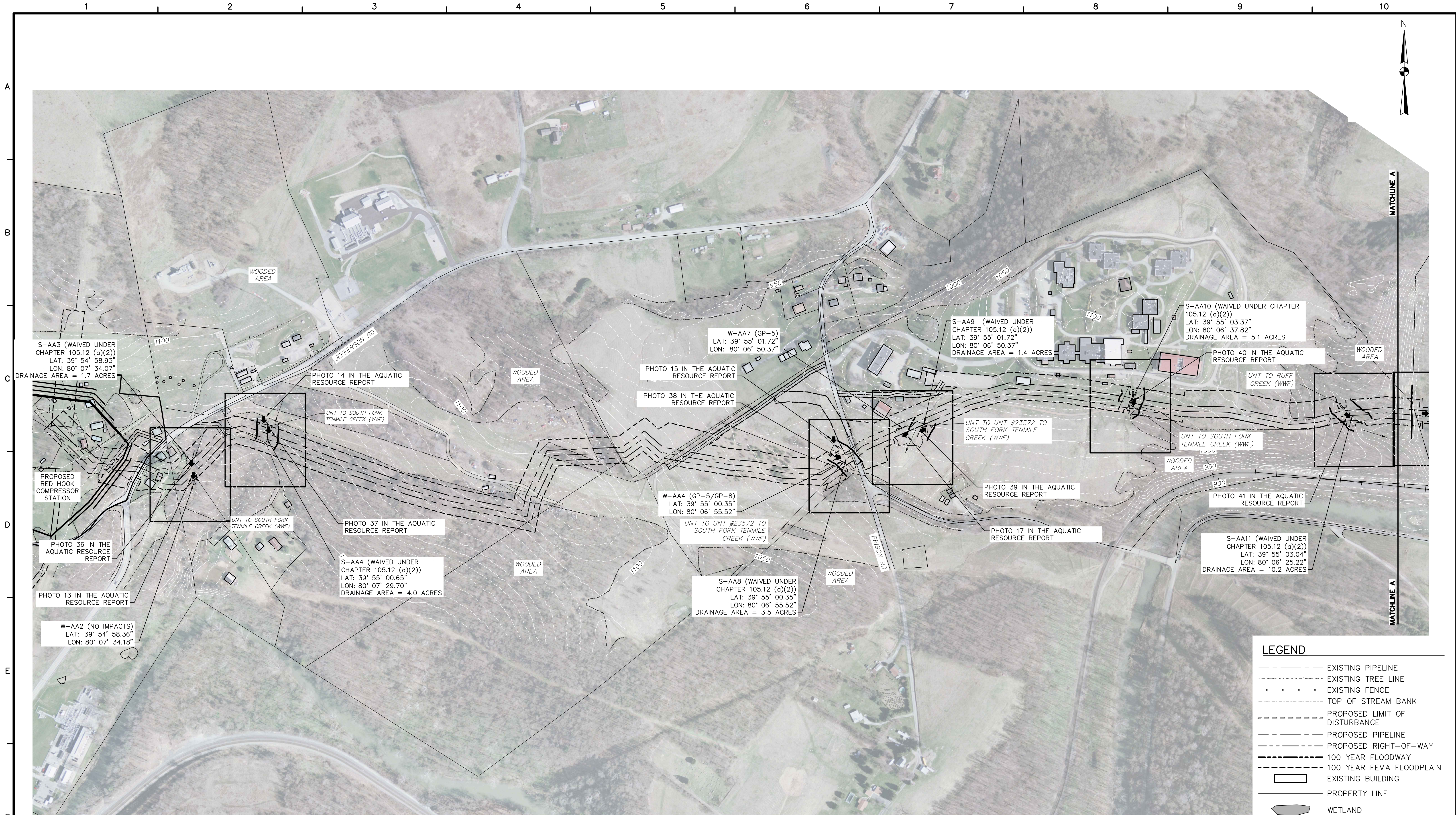
Attachments – Please include the following information with this form

- ☒ Map – 7.5' USGS quad showing project boundary and Area of Potential Effect
- ☒ Description/Scope – Describe the project, including any ground disturbance and previous land use
- ☒ Site Plans/Drawings – Indicate the location and age, if known, of all buildings in the project area
- ☒ Photographs – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan

SHPO DETERMINATION (SHPO USE ONLY)

SHPO REVIEWER:

- ☐ There are NO HISTORIC PROPERTIES in the Area of Potential Effect
- ☐ The project will have NO ADVERSE EFFECTS WITH CONDITIONS (see attached)
- ☐ The project will have NO EFFECT on historic properties
- ☐ SHPO REQUESTS ADDITIONAL INFORMATION (see attached)
- ☐ The project will have NO ADVERSE EFFECTS on historic properties:



0 200 400
SCALE IN FEET

TETRA TECH
www.tetrattech.com
661 ANDERSEN DRIVE - FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

REVISIONS				REMARKS
NO.	BY	DATE		

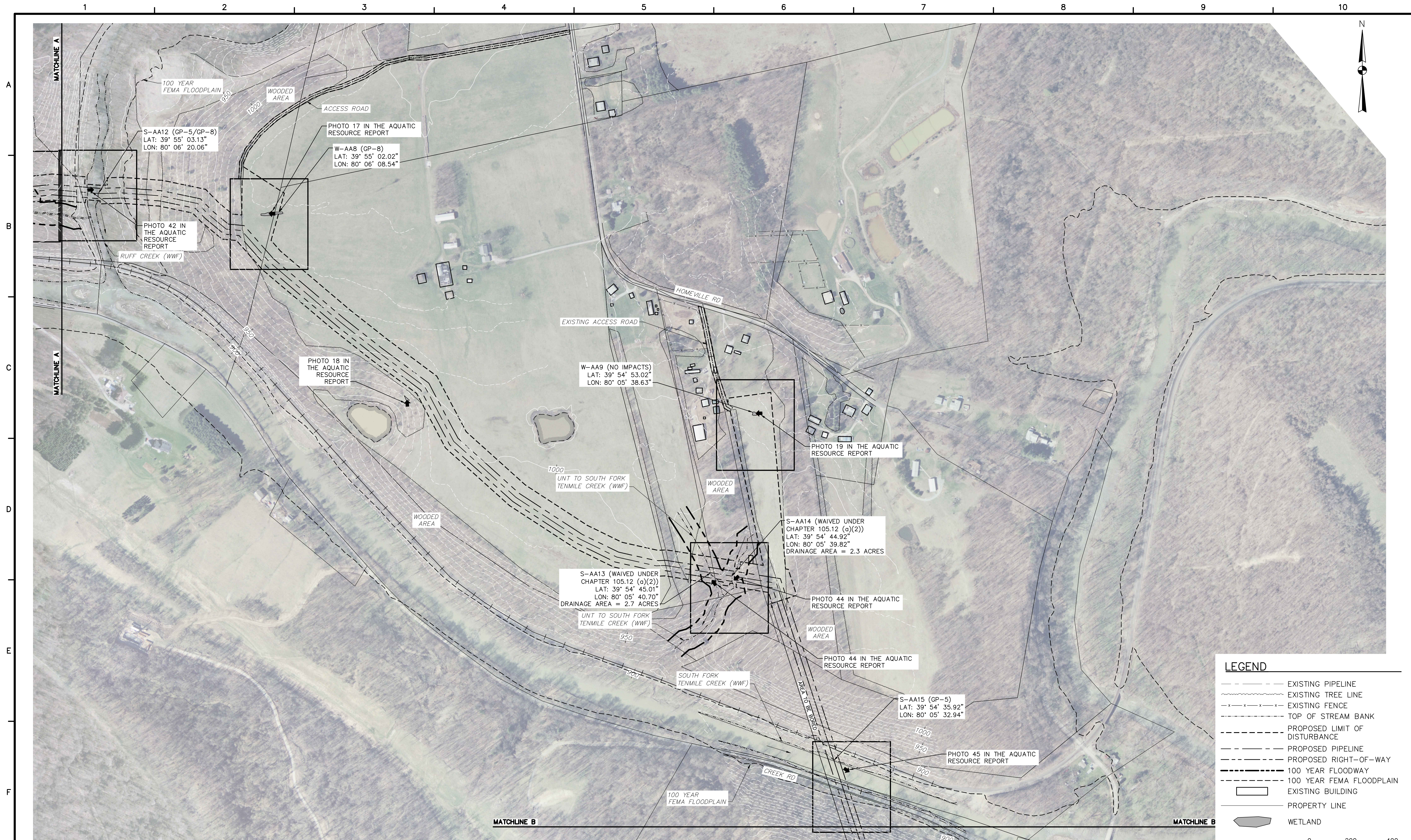
EQUITRANS, LP
EQUITRANS EXPANSION PROJECT

H316 PIPELINE - GREENE COUNTY

1-30" PROPOSED WELDED STEEL NATURAL GAS PIPELINE

SITE PLAN
SCALE: AS NOTED

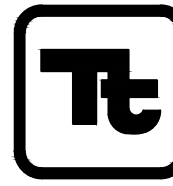
DATE:	3/17/16
PROJECT NO.:	PB-00179
DESIGNED BY:	DZ
DRAWN BY:	DZ
CHECKED BY:	HT
COPYRIGHT TETRA TECH INC.	
FIGURE 1	
SHEET	1 OF 3

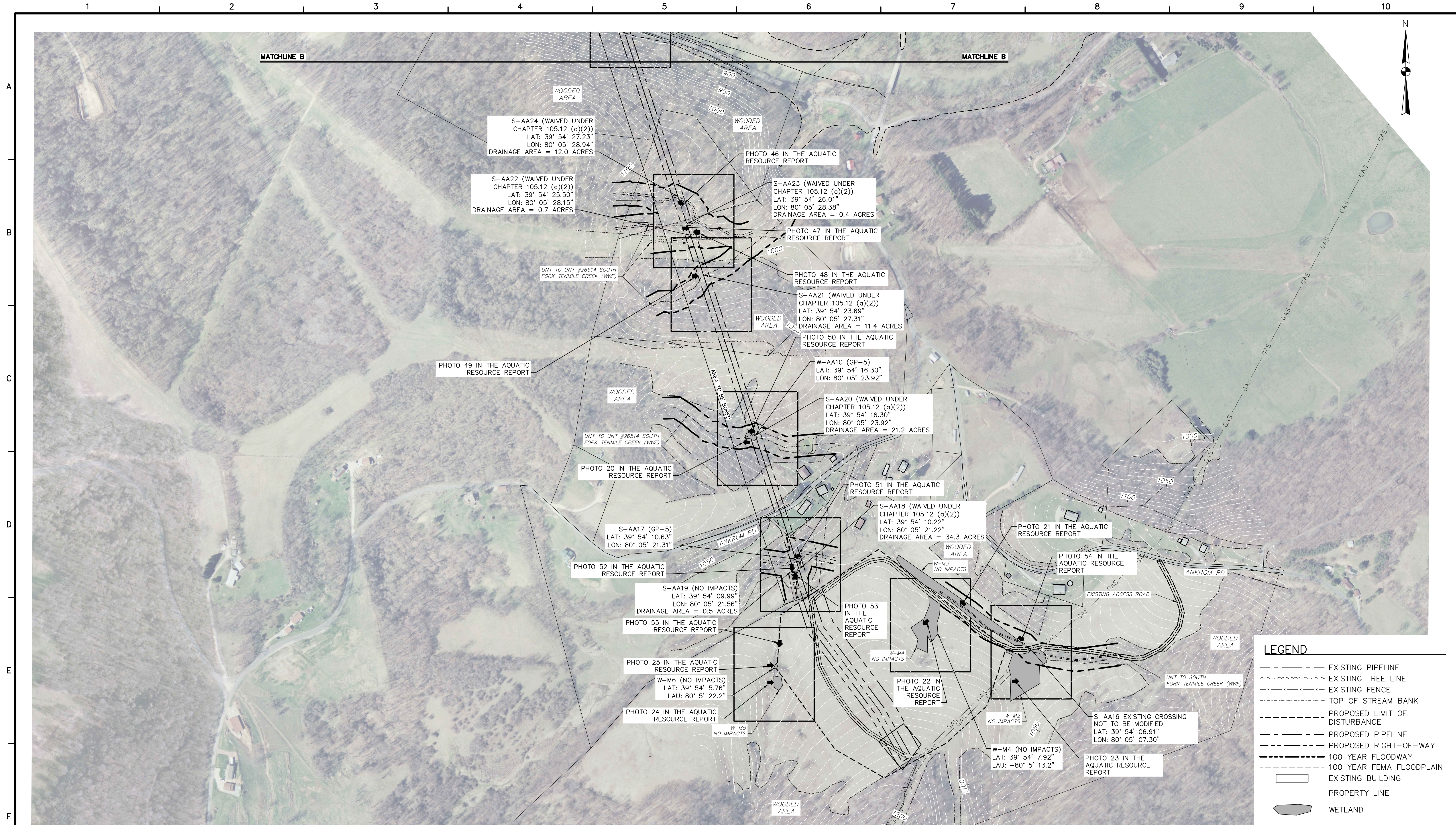


LEGEND

- EXISTING PIPELINE
- EXISTING TREE LINE
- EXISTING FENCE
- TOP OF STREAM BANK
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED PIPELINE
- PROPOSED RIGHT-OF-WAY
- 100 YEAR FLOODWAY
- 100 YEAR FEMA FLOODPLAIN
- EXISTING BUILDING
- PROPERTY LINE
- WETLAND

0 200 400
SCALE IN FEET


 TETRA TECH www.tetrattech.com 661 ANDERSEN DRIVE - FOSTER PLAZA 7 PITTSBURGH, PA 15220 T: (412) 921-7090 F: (412) 921-4040	REVISIONS				EQUITRANS EXPANSION PROJECT H316 PIPELINE - GREENE COUNTY	1-30" PROPOSED WELDED STEEL NATURAL GAS PIPELINE SITE PLAN SCALE: AS NOTED	FIGURE 2	
	NO.	BY	DATE	REMARKS			PROJECT NO.: PB-00179	DATE: 3/17/16
							DESIGNED BY: DZ	
							DRAWN BY: DZ	
							CHECKED BY: HT	
							COPYRIGHT TETRA TECH INC.	
							SHEET 2 OF 3	

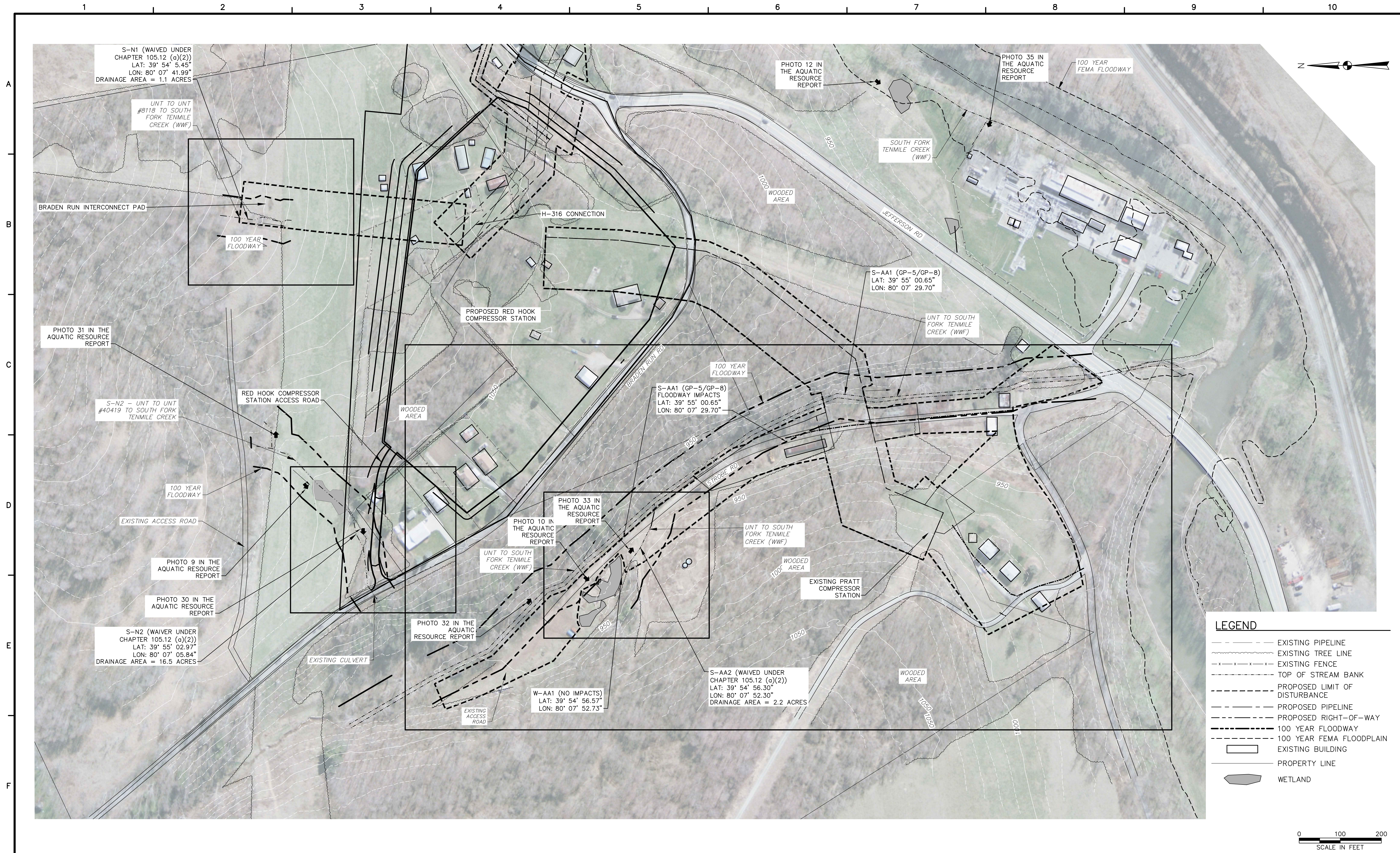



LEGEND

- EXISTING PIPELINE
- EXISTING TREE LINE
- x-x-x-x- EXISTING FENCE
- TOP OF STREAM BANK
- - - - - PROPOSED LIMIT OF DISTURBANCE
- PROPOSED PIPELINE
- - - - - PROPOSED RIGHT-OF-WAY
- 100 YEAR FLOODWAY
- - - - - 100 YEAR FEMA FLOODPLAIN
- [] EXISTING BUILDING
- PROPERTY LINE
- [] WETLAND

0 200 400
SCALE IN FEET

<div>TETRA TECH www.tetrattech.com 661 ANDERSEN DRIVE – FOSTER PLAZA 7 PITTSBURGH, PA 15220 T: (412) 921-7090 F: (412) 921-4040</div>	REVISIONS					EQUITRANS, LP EQUITRANS EXPANSION PROJECT H316 PIPELINE – GREENE COUNTY	1-30" PROPOSED WELDED STEEL NATURAL GAS PIPELINE	SITE PLAN SCALE: AS NOTED	DATE: 3/17/16 PROJECT NO.: PB-00179 DESIGNED BY: DZ DRAWN BY: DZ CHECKED BY: HT COPYRIGHT TETRA TECH INC. FIGURE 3 SHEET 3 OF 3
	NO.	BY	DATE	REMARKS					



 TETRA TECH <small>www.tetrattech.com</small> 661 ANDERSEN DRIVE - FOSTER PLAZA 7 PITTSBURGH, PA 15220 T: (412) 921-7090 F: (412) 921-4040	REVISIONS		EQUITRANS, LP EQUITRANS EXPANSION PROJECT M-80 (6"), H-158 (12"), & H-305 (24") PIPELINES - GREENE COUNTY	SITE PLAN SCALE: AS NOTED	DATE: 3/17/16
	NO.	BY			DATE
					DESIGNED BY: DZ
					DRAWN BY: DZ
					CHECKED BY: HT
					<small>COPYRIGHT TETRA TECH INC.</small>
					FIGURE 1
					SHEET 1 OF 1

Attachment General-1a, Part 2

Pennsylvania Chapter 105 General Permit Application (GP-5/8) Permit Application
Forms and Documentation, Washington County

***Equitrans, LP
Equitrans Expansion Project – Washington County***

***Pennsylvania Chapter 105 General Permit Application
(GP-5/8) Permit Application Forms and Documentation***

***Prepared for: Equitrans, LP
625 Liberty Avenue
Suite 1700
Pittsburgh, PA 15222***

***Prepared By: Tetra Tech, Inc.
661 Andersen Drive, Suite 200
Pittsburgh, Pennsylvania 15220***

October 2015





TETRA TECH

PITT-10-15-053

October 27, 2015

Project Number: 212IC-PB-00176

Washington County Conservation District
Attn: Mr. John Hewitt
2800 North Main St, Suite 105
Washington, PA 15301

RE: Application for Chapter 105 General Permits 5 & 8
Equitrans, LP
Equitrans Expansion Project
Union Township, Washington County

Dear Mr. Hewitt,

Equitrans, L.P. (Equitrans) is seeking a Certificate of Public Convenience and Necessity from the Federal Energy Regulatory Commission (FERC or Commission) pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the Equitrans Expansion Project (Project) located in three counties in Pennsylvania and one county in West Virginia. Equitrans plans to construct approximately 7.87 miles of pipeline (at multiple separate locations), a new compressor station, an interconnect with the proposed Mountain Valley Pipeline (MVP), and ancillary facilities. In addition, Equitrans is seeking authorization pursuant to Section 7(b) of the Natural Gas Act to abandon an existing compressor station following the construction of the new compressor station.

The Project is designed to transport natural gas from the northern portion of the Equitrans system south to the new interconnect with MVP, as well as to existing interconnects with Texas Eastern Transmission, LP (Texas Eastern), Dominion Transmission, Inc., and Columbia Gas Transmission, LLC. The Project will provide shippers with additional flexibility to transport natural gas produced in the central Appalachian Basin to meet the growing demand by local distribution companies, industrial users, and power generation facilities located in local, northeastern, Mid-Atlantic, and southeastern regions of the United States. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers. The Project is designed to add up to 600,000 dekatherms per day of north-south firm capacity on the Equitrans system.

Please see the enclosed application for Chapter 105 General Permits for impacts within Washington County. Please note that the following information will be submitted at a later date:

- Erosion and Sediment Control Plan – The extent of earth disturbance is shown on the figures included in this application. An Erosion and Sediment Control General Permit will be submitted in December 2015.
- PNDI Clearance - A large project PNDI was submitted to the PA Department of Conservation and Natural Resources (DCNR), PA Fish and Boat Commission, PA Game Commission, and US Fish and Wildlife Service (USFWS) on June 24, 2015. Field surveys are currently underway and will be completed Summer 2016. Please refer to the Project Description in Section 8 for a summary of the status of surveys.

Tetra Tech, Inc.

661 Andersen Drive, Pittsburgh, PA 15220-2700
Tel 412.921.7090 Fax 412.921.4040 www.tetrattech.com

- SHPO Clearance – Notifications were submitted to the PA Historical and Museum Commission and reviews of the online Pennsylvania Cultural Resources Geographic Information System (CRGIS) were conducted in April 2015. The CRGIS review found that eight archaeological sites have been inventoried within 0.25 mile of the Project. None of these sites are situated within the direct effects study area. A Phase I survey to identify archaeological cultural resources located within the APE for direct effects was undertaken in August and September 2015. The Phase I archaeological survey report and site forms requesting state site numbers from PHMC are in preparation and will be submitted to PHMC by early November 2015.

In addition, a Submerged Lands License Agreement Request has been prepared for the crossing of the Monongahela River.

Finally, since this is a FERC project, a Water Quality Certification under Section 401 of the Clean Water Act has been prepared for this Project.

Please let me know if you have any questions during your review. I can be contacted directly at 412-921-8051 or via email at heather.trexler@tetrattech.com.

Sincerely,



Heather Trexler, P.G.

HT/clm

Enclosures:

CC: Stephanie Frazier, Equitrans

WASHINGTON COUNTY CONSERVATION DISTRICT

CHAPTER 105 REVIEW APPLICATION

Name of Landowner: Equitrans, LP (Stephanie Frazier)
Complete Address: 625 Liberty Ave, Suite 1700
Pittsburgh, PA 15222
Telephone: Work: 412-553-5798 Mobile: _____
Name of Project: Equitrans Expansion Project
Name of Municipality: Union Township
Total Acres: 20 +/- in Washington Co Total Disturbed: 20 +/- in Washington Co
Receiving Waters: Lobbs Run
Chapter 93 Classification: WWF

NPDES Permit Required: ☐ YES ☒ NO

Will landowner be responsible for earthmoving activities?
☐ YES ☒ NO

If NO, Please provide contractor information:

The contractor will be identified at a later date.

*If a **waste/borrow site** is anticipated for your proposed project, you are required to properly address and submit an erosion control plan for the site(s). DO NOT haul to or from the site(s) unless you have an approval for each waste/borrow area.

The undersigned agree to comply with **ALL** requirements of the Pennsylvania Department of Environmental Protection, Title 25, and Chapter 105, and further agree to obtain **ALL** necessary permits associated with the subject project.


Signature of Landowner / Agent

Stephanie Frazier
Printed Name

10/26/15
Date

Official Use Only

Date Received:		
GP Number:	# of each:	Total each:
1:		
2:		
3:		
4:		
5:		
Processing Fee:		
Total Amount:		
Account:		

WASHINGTON COUNTY CONSERVATION

207693

10/23/2015

1777087

INVOICE NO.	INVOICE DATE	DESCRIPTION	NET AMOUNT
10232015	23-OCT-15	PERMITTING FEES	\$150.00
			***\$150.00

THE FACE OF THIS DOCUMENT CONTAINS A VOID PANTOGRAPH AND MICROPRINTING



TETRA TECH

TETRA TECH, INC.
1000 The American Road
Morris Plains NJ 07950
973-630-8000

WELLS FARGO BANK, N.A.
Positive Pay Protected

56-382/412

VOID AFTER 90 DAYS

1777087

10/23/2015

PAY ***ONE HUNDRED FIFTY DOLLARS AND ZERO CENTS****

***\$150.00*

TO
THE
ORDER
OF

WASHINGTON COUNTY CONSERVATION
DISTRICT
2800 N MAIN ST STE 105
WASHINGTON, PA 15301,

Susan Bender

⑈ 1 7 7 7 0 8 7 ⑈ ⑆ 0 4 1 2 0 3 8 2 4 ⑆ 9 6 0 0 0 4 8 5 0 5 ⑈

WASHINGTON COUNTY CONSERVATION

207693

10/23/2015

1777086

INVOICE NO.	INVOICE DATE	DESCRIPTION	NET AMOUNT
1023215	23-OCT-15	PERMITTING FEES	\$1,275.00
			***\$1,275.00

THE FACE OF THIS DOCUMENT CONTAINS A VOID PANTOGRAPH AND MICROPRINTING



TETRA TECH

TETRA TECH, INC.
1000 The American Road
Morris Plains NJ 07950
973-630-8000

WELLS FARGO BANK, N.A.
Positive Pay Protected

56-382/412

VOID AFTER 90 DAYS

1777086

10/23/2015

PAY ***ONE THOUSAND TWO HUNDRED SEVENTY-FIVE DOLLARS
AND ZERO CENTS*****

***\$1,275.00*

TO
THE
ORDER
OF

WASHINGTON COUNTY CONSERVATION
DISTRICT
2800 N MAIN ST STE 105
WASHINGTON, PA 15301,

⑈ 1 7 7 7 0 8 6 ⑈ ⑆ 0 4 1 2 0 3 8 2 4 ⑆ 9 6 0 0 0 4 8 5 0 5 ⑈

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Section 5.0	Location Map
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Section 8.0	Project Description
Section 9.0	Site-Specific and/or Standard Drawings
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Section 14.0	Registration for a Bog Turtle Habitat Screening Form
Section 15.0	Activities Which Impact Wetlands Attachment 15-1: Wetland Delineation and Stream Identification Documentation
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LIST OF ACRONYMS

E&SCP	Erosion and Sedimentation Control Plan
GP	General Permit
GPR	General Permit Registration
ISO	International Organization for Standardization
HQ	High Quality
LOD	Limits-of-Disturbance
mi	Mile
NAD	North American Datum
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
PASPGP-4	Pennsylvania State Programmatic General Permit #4
PEM	Palustrine Emergent
PFBC	Pennsylvania Fish and Boat Commission
PFO	Palustrine Forested
PNDI	Pennsylvania Natural Diversity Inventory
Project	Equitrans Expansion Project
PSS	Palustrine Scrub-Shrub
PUB	Palustrine Unconsolidated Bottom
Rd.	Road

ROW	Right-of-Way
St.	Street
Tetra Tech	Tetra Tech, Inc.
WWF	Warm Water Fishes

SECTION 1.0
GENERAL PERMIT REGISTRATION FORM



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS

CHAPTER 105

GENERAL PERMIT REGISTRATION

TYPE OF GENERAL PERMIT: ☒ New Permit

PLEASE MARK ("X") ONE: ☐ Transfer of Existing Permit (Complete Section A, C & H below and all of form [3150-PM-BWEW0016](#))

PLEASE MARK ("X") ALL THAT APPLY:

- ☐ GP-1 Fish Habitat Enhancement Structures
☐ GP-2 Small Docks & Boat Launching Ramps
Please mark ("X") the specific type of project:
☐ private recreational dock
☐ public access facility
☐ public service facility
☐ other private or commercial facility
☐ GP-3 Bank Rehabilitation, Bank Protection and Gravel Bar Removal
☐ GP-4 Intake and Outfall Structures

- ☒ GP-5 Utility Line Stream Crossing
☐ GP-6 Agricultural Crossings & Ramps
☐ GP-7 Minor Road Crossings
☒ GP-8 Temporary Road Crossings
☐ GP-9 Agricultural Activities
☐ GP-10 Abandoned Mine Reclamation
☐ GP-11 Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments (reviewed by DEP Regional Office only)
☐ GP-15 Private Residential Construction in Wetlands

☒ Activity Related to Oil and Gas Exploration, Production or Transmission

☒ Activity Subject to FERC approval (Docket number CP16- -000) ☐ FERC Natural Gas Act Facility

SECTION A. APPLICANT INFORMATION

Applicant's Name / Client Equitrans, LP		DEP Client ID# (if known) 163329		Employer ID# (EIN) 251776875	
Client Information - Please select Client Type / Code from drop down box under the correct entity shown to the right (or may be written in) →		Government		Non-Government	
				OTHER Other (Non-G)	
Mailing Address 625 Liberty Avenue, Suite 1700		City Pittsburgh		State PA	ZIP + 4 15222
Contact Person – Last Name First MI Suffix Frazier Stephanie		Telephone (412) 553-5798		Email Address sfrazier@eqt.com	

SECTION B. CONSULTANT INFORMATION (Complete if different than above) ☐ N/A

Contact Person – Last Name First MI Suffix Trexler Heather		Consultant's Title Project Manager		Consulting Firm Tetra Tech, Inc.	
Mailing Address 661 Andersen Drive, Foster Plaza 7		City Pittsburgh		State PA	ZIP + 4 15220
Telephone (412) 921-8051	Fax (412) 921-4040	Email Heather.trexler@tetrattech.com		Employer ID# (EIN) 95-4148514	

SECTION C. PROJECT INFORMATION

Project /Site Name: Equitrans Expansion Project			DEP Site ID# (if known or leave blank)		
Client Relationship - Please select Site-to-Client Relationship / Code from drop down box to the right (or may be written in) →			Double-click on shaded area below to select correct Site-to-Client Relationship / Code ↓		
County Washington	Municipality <input type="checkbox"/> City <input type="checkbox"/> Borough <input checked="" type="checkbox"/> Township Union		OWNOP Owner/Operator		
Site Location / Address Finleyville-Elrama Road, Hartson Tie-in		City Elrama		State PA	ZIP + 4 15038
Collection Method: <input type="checkbox"/> EMAP <input type="checkbox"/> HGIS <input checked="" type="checkbox"/> GISDR* <input type="checkbox"/> ITPMP <input type="checkbox"/> GPS <input type="checkbox"/> WAAS <input type="checkbox"/> LORAN Check the horizontal reference datum (or projection datum) employed in the collection method. EMAP and HGIS (PNDI) have known datum and do not require checking here. <input type="checkbox"/> NAD27 <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> WGS84 (GEO84) Enter the date of collection if coordinates were derived from GPS, WAAS or LORAN. mm dd yyyy					

Applicant's Name Equitrans, LP		GENERAL PERMIT REGISTRATION				
SECTION D. RESOURCE IDENTIFICATION						
Please place an "X" in the appropriate box next to each item to indicate the applicant has identified any of these resources which may be present at the project site.						
Each General Permit (GP) has a specific set of restrictions and some resources may require certain actions or prohibit the project from being eligible to register use of the GP. <i>This list is not all-inclusive, please see GPs for details.</i>						
YES	NO		YES	NO		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	National Register of Historic Places	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Threatened and Endangered Species	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	National Registry of Natural Landmarks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wild or Stocked Trout Streams	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Local historical site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wild and Scenic Rivers	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exceptional Value (EV) Waters	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetlands	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	High Quality (HQ) Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____	
SECTION E. REGISTRATION CHECK LIST AND REQUIREMENTS						
Please place an "X" next to each item (1 - 16) to ensure it is completed and/or provided. Unless otherwise specified, all items are required to ensure a complete Registration package. **Provide ONE (1) ORIGINAL and ONE (1) COPY of the Registration package**					Applicant Entry	DEP Use Only
1. General Permit Registration form properly completed and signed					<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> I have read the terms and conditions of the GP(s) indicated above.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. General Permit Registration Fee and Chapter 105 Fee Calculation Worksheet					<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Notification sent to the Municipality & County (copy of General Permit Registration form)					<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. PASPGP-4 Cumulative Impact Project Screening Form properly completed					<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Location Map (USGS quad map) with project site marked					<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Color Photographs with dates and descriptions (see instructions) <input type="checkbox"/> N/A					<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Stream Name and Chapter 93 Classification (example: UNT to #40637 HOUSE RUN, HQ-WWF/EV) Please refer to Section 7, Stream Name and Chapter 93 Classifications.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Project Description including proposed impacts and PNDI Avoidance Measures (if applicable) Please refer to Section 8, Project Description.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Site Specific and/or Standard Drawings depicting the project's GP activities					<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Site Plan depicting the site of the project's GP activities (see Section F.)					<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Erosion & Sediment Control Plan (E&S Plan) (required for GP-11 only - see instructions)					<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Written Directions to Project Site: Please refer to Section 12, Written Directions to the Project Site.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Pennsylvania Natural Diversity Inventory (PNDI): Please place an "X" next to the appropriate box indicating the information provided:						
<input type="checkbox"/> Completed PNDI Project Planning & Environmental Review Form					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Initialed PNDI Project Environmental Review Search Receipt showing "No Known Impacts"					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Initialed PNDI Project Environmental Review Search Receipt showing "Avoidance Measures" which have ALSO been incorporated into the project description					<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Initialed PNDI Project Environmental Review Search Receipt showing "Potential Impacts" AND documentation of appropriate agency coordination required on PNDI Receipt					<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Bog Turtle Habitat Screening: Please place an "X" next to the appropriate box indicating the information provided:						
<input type="checkbox"/> Completed Request for a Bog Turtle Habitat Screening Form					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> "No Effect" determination from the Army Corp of Engineers					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Documented clearance from the US Fish and Wildlife Services					<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> N/A					<input checked="" type="checkbox"/>	<input type="checkbox"/>

Applicant's Name Equitrans, LP	GENERAL PERMIT REGISTRATION			
--	------------------------------------	--	--	--

15. Activities which impact wetlands:
Please place an "X" next to the appropriate box indicating the information provided:

☐ N/A because no wetland impacts are proposed or no compensatory mitigation is necessary.

☒ A wetland delineation with complete data sheets in accordance with the 1987 Corps of Engineers Wetland Delineation Manual AND the appropriate Regional Supplements to the Corps of Engineers Wetland Delineation Manual for use in Pennsylvania.

☐ If direct or indirect wetland impacts are greater than 0.05 acres, a compensatory mitigation plan in accordance with the Department's Replacement criteria which provides compensation at a minimum one to one acre ratio.

☐ **If compensatory mitigation onsite is determined not feasible:**
A check, number _____, in the amount of \$_____ payable to the National Fish and Wildlife Foundation, N.A. 1237, as compensatory mitigation for _____ acres of impact in wetlands, in accordance with the Pennsylvania Wetland Replacement Project.

☐

☒

☐

☐

☐

16. Registration of a GP-11:
Please place an "X" next to the appropriate box indicating the worksheet(s) provided:

☒ N/A because not registering use of GP-11

☐ E&S Plan

☐ Project Inventory

☐ Bridge and/or Culvert Replacement Projects or Projects That Change the Waterway Opening

☐

☒

☐

☐

☐

SECTION F. SITE PLAN

Please place an "X" next to each item to ensure it is shown on the site plan. Unless otherwise specified in the permit, all items are required to ensure a complete Registration package.

YES	NO		YES	NO	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Name: <u>Please see Section 7.</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	100 year Flood Elevation OR FEMA map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Limits and Flow Direction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Limits of Earth Disturbance Associated with Activity
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Impacts on site (including dimensions)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of Property Lines Relative to the Project
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetlands on site (including acres)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing Utilities, ROWs, Easements
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetland Impacts on site (including acres)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing Buildings, Roadway, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Other Waters (i.e. pond, lakes, wetlands)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proposed Buildings, Roadways, ROW etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site Specific / Standard Drawings location(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Photograph location(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____

SECTION G. IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Please provide the project's total impacts for each category in the table provided below.

Please complete and provide a separate chart detailing the information for each impact to waters and wetlands. Include the identifier developed in Section E.9. for each location. All impact acreages and number of impacts should be totaled on each page and then the project's total impacts provided in the table below.

The [Additional Impacts Associated with Project Work Site \(3150-PM-BWEW0554\)](#) worksheet may be used but is not required.

Total Impacts for the Project	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts	0.36 ac	2 number	0.0 ac	number
Total Impacts to Wetlands	0.05 ac	1 number	0.0 ac	number
Total Impacts for this Project	0.41 ac	3 number	0.0 ac	number



Please complete and provide this chart (as many as is needed) as part of Section G of the [General Permit Registration \(3150-PM-BWEW0500\)](#) for impact locations.

ADDITIONAL IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Provide the unique identifier (from Section E.9.), latitude and longitude, total area and dimensions of impact to waters (including streams, lakes, ponds, etc) and/or wetlands associated with your project for each category below.

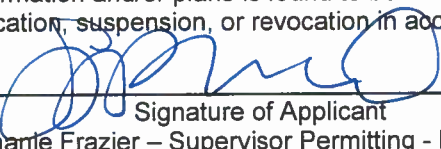
The impacts for each identifier below should be totaled and provided at the bottom of the page, then each page totaled. An account of total impacts for the project is to be provided in the chart found in Section G of the General Permit Registration Form.

Identifier <u>S-BB1</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>40° 15' 13.58" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>79° 57' 44.33" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> N/A	<u>0.009</u> ac	<u>5'</u> x <u>75'</u>	<u>0.00</u> ac	' x '
	Floodway <input type="checkbox"/> N/A	<u>0.181</u> ac	<u>105'</u> x <u>75'</u>	<u>0.00</u> ac	' x '
Total Impacts to Waters (a)		<u>0.181</u> ac		<u>0.00</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> N/A		<u>0.000</u> ac	' x '	<u>0.000</u> ac	' x '
Total Impacts for this location (c)		<u>0.181</u> ac		<u>0.00</u> ac	

Identifier <u>S-BB1 (a)</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>40° 15' 13.44" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>79° 57' 44.28" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> N/A	<u>0.003</u> ac	<u>2'</u> x <u>75'</u>	<u>0.00</u> ac	' x '
	Floodway <input type="checkbox"/> N/A	<u>0.176</u> ac	<u>102'</u> x <u>75'</u>	<u>0.00</u> ac	' x '
Total Impacts to Waters (a)		<u>0.176</u> ac		<u>0.00</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> N/A		<u>0.000</u> ac	' x '	<u>0.000</u> ac	' x '
Total Impacts for this location (c)		<u>0.176</u> ac		<u>0.00</u> ac	

Identifier <u>W-BB3</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>40° 15' 03.10" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>79° 57' 33.79" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input checked="" type="checkbox"/> N/A	ac	x		
	Floodway <input checked="" type="checkbox"/> N/A	<u>0.000</u> ac	' x '	<u>0.000</u> ac	' x '
Total Impacts to Waters (a)		<u>0.000</u> ac		<u>0.000</u> ac	
Impacts to Wetlands (b) <input type="checkbox"/> N/A		<u>0.051</u> ac	<u>33'</u> x <u>67'</u>	<u>0.002</u> ac	' x '
Total Impacts for this location (c)		<u>0.051</u> ac		<u>0.002</u> ac	

Total Impacts for "Page 1 of 1" (same as above)	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts (sum of a)	<u>0.357</u> ac	2 number	<u>0.0</u> ac	number
Total Impacts to Wetlands (sum of b)	<u>0.051</u> ac	1 number	<u>0.00</u> ac	number
Total Impacts for this page (sum of c)	<u>0.408</u> ac	3 number	<u>0.0</u> ac	number

Applicant's Name Equitrans, LP	GENERAL PERMIT REGISTRATION	
SECTION H. CERTIFICATION		
<p>I certify under penalty of law that the information provided in this permit registration is true and correct to the best of my knowledge and information and that I possess the authority to undertake the proposed action. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (If any of the information and/or plans is found to be in error, falsified, and/or incomplete, this authorization/verification may be subject to modification, suspension, or revocation in accordance with applicable regulations.)</p>		
 Signature of Applicant Stephanie Frazier – Supervisor Permitting - Environmental Typed / Printed Name		<u>22 Oct 2015</u> Date
PA Fish and Boat Commission Approval (for GP-1 only)		
_____ Signature of Reviewer		_____ Date
_____ Reviewer's Typed / Printed Name		() Phone Number
_____ Reviewer's Typed / Printed Title		_____ Email Address
<p><i>This General Permit shall not be effective until the owner has had their E&S Plan reviewed by the appropriate Regional Office or District, obtained Federal Authorization and, where required, obtained an SLLA from DEP.</i></p>		
AN ACKNOWLEDGED COPY OF THIS GENERAL PERMIT REGISTRATION PACKAGE (INCLUDING THE ACKNOWLEDGEMENT LETTER AND TERMS AND CONDITIONS), REQUIRED FEDERAL AUTHORIZATION, AND THE E&S PLAN MUST BE AVAILABLE AT THE PROJECT SITE DURING CONSTRUCTION.		
SECTION I. ACKNOWLEDGEMENT – DEP USE ONLY		
Signatures authorizing acknowledgment to use and register:		
A. Completeness Review:		
_____ DEP / District Reviewer Signature	Begin Date: _____ Incomplete Date: _____ Response Date: _____ End Date: _____	Completeness Status <input type="checkbox"/> YES <input type="checkbox"/> NO
_____ Reviewer's Typed / Printed Name		
B. Eligibility Review:		
_____ DEP / District Reviewer Signature	Begin Date: _____ Incomplete Date: _____ Response Date: _____ End Date: _____	<input type="checkbox"/> Deficient - DENIED
_____ Reviewer's Typed / Printed Name		
C. Decision Review:		
_____ DEP / District Manager Signature	Begin Date: _____ End Date: _____	Disposition Status <input type="checkbox"/> WITHDRAWN <input type="checkbox"/> APPROVED <input type="checkbox"/> RETURNED <input type="checkbox"/> DENIED
_____ Reviewer's Typed / Printed Name		
D. Contact Information:		
_____ Typed / Printed Name	() Phone Number	_____ Email Address
E. Permit Tracking:		
Received _____ Acknowledged _____ SLLA required: <input type="checkbox"/> NO <input type="checkbox"/> YES PASPGP-4: <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> CAT 1 <input type="checkbox"/> CAT 3 GP - _____ GP - _____ GP - _____ GP - _____ GP - _____ Notes: _____ _____ _____		

SECTION 2.0

GENERAL PERMIT REGISTRATION FEE AND CHAPTER 105 FEE CALCULATION WORKSHEET

WASHINGTON COUNTY CONSERVATION DISTRICT

Chapter 105 Water Obstruction and Encroachment Fee Schedule

Fees for GP-2, GP-3, GP-4, GP-5, GP-6, GP-7, GP-8 and GP-9 are made payable to:

Washington County Conservation District (WCCD) Clean Water Fund.

A processing fee of \$150.00 per application submitted to the Washington County Conservation District is required. This fee is made payable in a separate check to: Washington County Conservation District.

FEE TITLE / TYPE		FEE
WATER OBSTRUCTION AND ENCROUCHMENT PERMIT APPLICATION FEES		
JOINT APPLICATION	ADMINISTRATIVE FILING FEE (*PLUS APPLICABLE DISTURBANCE REVIEW FEES)	\$1,750
<i>GENERAL PERMIT</i>		<i>REGISTRATION FEES</i>
GP-1	FISH HABITAT ENHANCEMENT STRUCTURES	\$50
GP-2	SMALL DOCKS AND BOAT LAUNCHING RAMPS	\$175
GP-3	BANK REHABILITATION, BANK PROTECTION AND GRAVEL BAR REMOVAL	\$250
GP-4	INTAKE AND OUTFALL STRUCTURES	\$200
GP-5	UTILITY LINE STREAM CROSSINGS	\$250
GP-6	AGRICULTURAL CROSSINGS AND RAMPS	\$50
GP-7	MINOR ROAD CROSSINGS	\$350
GP-8	TEMPORARY ROAD CROSSINGS	\$175
GP-9	AGRICULTURAL ACTIVITIES	\$50
GP-10	ABANDONED MINE RECLAMATION	\$500
GP-11	MAINTENANCE, TESTING, REPAIR, REHABILITATION, OR REPLACEMENT OF WATER OBSTRUCTIONS AND ENCROACHMENTS	\$750
GP-15	PRIVATE RESIDENTIAL CONSTRUCTION IN WETLANDS	\$750

- The Washington County Conservation District **does not process** GP-10, GP-11, GP-15 and Joint Applications. These applications must be applied for through your DEP Regional Office.
- Some Disturbance Fees and Other Fees may apply to those applications processed by DEP. Please contact your Regional DEP Office for verification of fees required.

CHAPTER 105 FEE(S) CALCULATION WORKSHEET

Additional information can be found at [25 PA Code §105.13](#) (relating to regulated activities – information and fees), the General Permit Registration ([3150-PM-BWEW0500](#)), the Joint Permit Application ([3150-PM-BWEW0036](#)) and the Dam Permit Application ([3140-PM-BWEW0001](#))

Federal, State, county or municipal agencies or municipal authorities:

☐ EXEMPT from fees

These entities are exempt from these fees. If the applicant falls into one of these categories, please check the box above and provide only the first page of this worksheet with the project application or registration.

ALL OTHERS:

1. Please place an "X" in the box next to all authorizations that apply to the project and complete the fee information below those authorization(s). Projects may require multiple authorizations and fees, further clarification and examples are included below and at the end of this document.
2. Total each authorization, Section, and Part. Part One is for Water Obstructions and Encroachment authorizations, Part Two is for Dam Safety authorizations.
3. Please provide this completed worksheet (page 1 and page 2 and/or page 3, as is appropriate to the project) and a check for the applicable fee(s) with the project application or registration. The check should be made payable to the "**Commonwealth of Pennsylvania Clean Water Fund**" OR "**_____ Conservation District Clean Water Fund**", whichever is the reviewing entity.

NOTES:

Per 25 PA Code §105.13(c)(2)(iii) Disturbance review fees are calculated by individually adding all of the permanent and temporary impacts to waterways, floodways, floodplains and bodies of water including wetlands to the next highest tenth acre and multiplying the permanent and temporary impacts by the respective fees and then these amounts are added to the other applicable fees.

Entities proposing structures or activities to occupy a Submerged Lands of the Commonwealth must obtain a Submerged Lands License Agreement (SLLA) and pay the appropriate annual charge. The applicant will be contacted if this charge applies to the project.

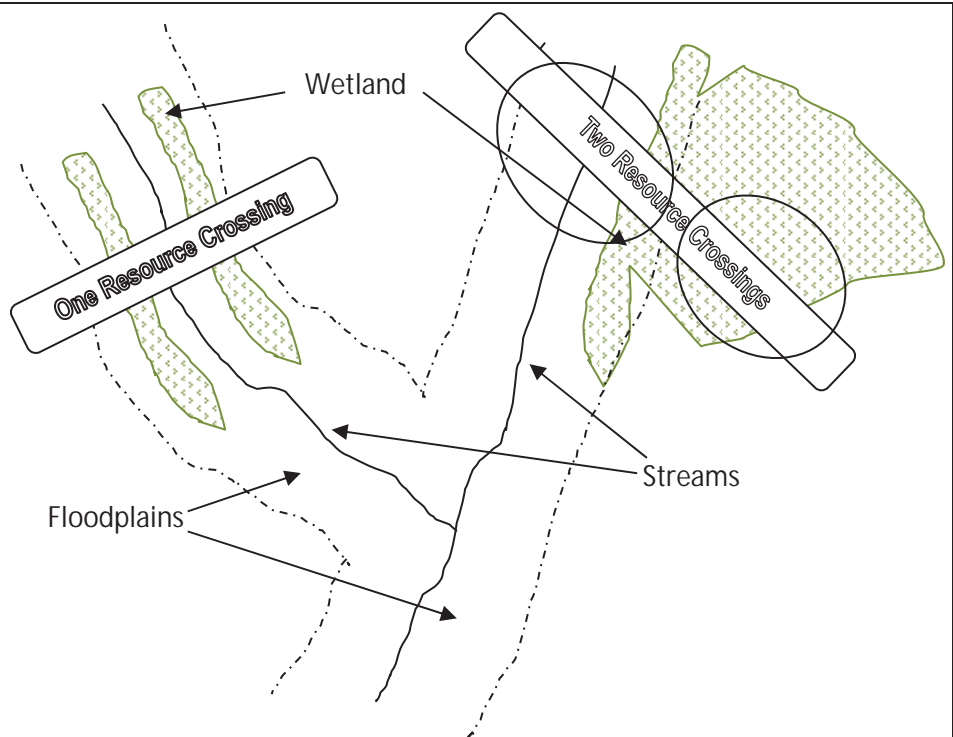
Floodway – The channel of the watercourse and portions of the adjoining floodplains which are reasonably required to carry and discharge the 100-year frequency flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year frequency floodway, it is assumed, absent evidence to the contrary, that the floodway extends from the stream to 50 feet from the top of the bank of the stream.

Wetland and Stream Clarification:

¹ In many instances, wetlands are located within the floodplain of a stream. These resources for the purposes of calculating disturbance fees are considered co-located or overlapping and the area of disturbance would only be used once.

² In the case of GP-5, GP-7 and GP-8 fees are charged per structure per resource crossing and the following also applies to the disturbance fees:

- A crossing of the stream and the floodplain with wetlands present within the floodplain is considered one resource crossing.
- When the crossing traverses a stream and the floodplain and a wetland that is located outside of the floodplain or a wetland that extends out beyond the floodplain, it is considered two resource crossings.



PART ONE: WATER OBSTRUCTIONS AND ENCROACHMENTS**SECTION A. APPLICATION FEES**☐ **WATER OBSTRUCTION AND ENCROACHMENT PERMIT** (Joint Permit Application)

Some activities or structures within a project may also qualify for an accumulation of General Permit fees, please mark the box above indicating an Individual Water Obstruction and Encroachment Permit AND the corresponding fee(s) in the General Permit section below those. Activities or structures not qualifying for a General Permit fee must include a disturbance fee.

<input type="checkbox"/> Administrative Filing Fee ¹		\$ 1,750	+	
<input type="checkbox"/> Temporary Disturbance (\$400/0.1ac)	_____ acres x \$4,000 =	\$ _____	+	
<input type="checkbox"/> Permanent Disturbance (\$800/0.1ac)	_____ acres x \$8,000 =	\$ _____	= \$	_____
WO&E FEE subtotal (a)				\$ _____

☒ **GENERAL PERMIT(S)** (select activity/structure(s) below, see page 4 for “#” explanation)

Some activities or structures within a project requiring an Individual Water Obstruction and Encroachment Permit may qualify for an accumulation of General Permit fees, please mark the corresponding fee(s) below but not the box above indicating a General Permit.

<input type="checkbox"/> GP-1 Fish Habitat Enhancement Structures		\$ 50	= \$	_____
<input type="checkbox"/> GP-2 Small Docks and Boat Launching Ramps.....	_____ (#) X	\$ 175	= \$	_____
<input type="checkbox"/> GP-3 Bank Rehabilitation, Bank Protection and Gravel Bar Removal.....	_____ (#) X	\$ 250	= \$	_____
<input type="checkbox"/> GP-4 Intake and Outfall Structures	_____ (#) X	\$ 200	= \$	_____
<input checked="" type="checkbox"/> GP-5 Utility Line Stream Crossings ²	1 (#) X 3 (#) X	\$ 250	= \$	<u>750</u>
<input type="checkbox"/> GP-6 Agricultural Crossings and Ramps.....	_____ (#) X	\$ 50	= \$	_____
<input type="checkbox"/> GP-7 Minor Road Crossings ²	_____ (#) X	\$ 350	= \$	_____
<input checked="" type="checkbox"/> GP-8 Temporary Road Crossings ²	3 (#) X	\$ 175	= \$	<u>525</u>
<input type="checkbox"/> GP-9 Agricultural Activities		\$ 50	= \$	_____
<input type="checkbox"/> GP-10 Abandoned Mine Reclamation		\$ 500	= \$	_____
<input type="checkbox"/> GP-11 Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments ¹		\$ 750	+	
<input type="checkbox"/> Temporary Disturbance (\$400/0.1ac)	_____ acres x \$4,000 =	\$ _____	+	
<input type="checkbox"/> Permanent Disturbance (\$800/0.1ac)	_____ acres x \$8,000 =	\$ _____	= \$	_____
<input type="checkbox"/> GP-15 Private Residential Construction in Wetlands ¹		\$ 750	+	
<input type="checkbox"/> Temporary Disturbance (\$400/0.1ac)	_____ acres x \$4,000 =	\$ _____	+	
<input type="checkbox"/> Permanent Disturbance (\$800/0.1ac)	_____ acres x \$8,000 =	\$ _____	= \$	_____
GP(s) FEE subtotal (b)				\$ _____

PART ONE: SECTION A. APPLICATION FEE(S) subtotal (a+b=c) **\$ 1275**

SECTION B. OTHER FEES

<input type="checkbox"/> Environmental Assessment for Waived Activities (§105.13(c)(2)(iv)).....		\$ 500	\$	_____
<input type="checkbox"/> Amendment to Water Obstruction and Encroachment Permit				
<input type="checkbox"/> Major Amendment ¹		\$ 500	+	
<input type="checkbox"/> Temporary Disturbance	_____ acres x \$4,000 =	\$ _____	+	\$ _____
<input type="checkbox"/> Permanent Disturbance	_____ acres x \$8,000 =	\$ _____	= \$	_____
<input type="checkbox"/> Minor Amendment		\$ 250	\$	_____
<input type="checkbox"/> Transfer of Water Obstruction and Encroachment Permit				
<input type="checkbox"/> WITH Submerged Lands License Agreement		\$ 200	\$	_____
<input type="checkbox"/> WITHOUT Submerged Lands License Agreement.....		\$ 100	\$	_____

PART ONE: SECTION B. OTHER FEE(S) subtotal (d) **\$ 0**

PART ONE: FEE(S) TOTAL (c+d=e) **\$ 1275**

DEP USE ONLY

FEE TOTAL: _____
 Correct Amount: _____
 Check Amount: _____

Permit / Authorization Number (s): _____
 Check #: _____
 Payable to: _____

PART TWO: DAM SAFETY (USE ONE FEE SHEET PER DAM)**SECTION A. APPLICATION FEES**☐ **DAM PERMIT APPLICATION – NEW DAM**

<input type="checkbox"/> Size A	<input type="checkbox"/> Hazard 1 \$26,500	<input type="checkbox"/> Hazard 2 \$26,500	<input type="checkbox"/> Hazard 3 \$25,500	<input type="checkbox"/> Hazard 4 \$23,500	\$ _____
<input type="checkbox"/> Size B	<input type="checkbox"/> Hazard 1 \$19,000	<input type="checkbox"/> Hazard 2 \$19,000	<input type="checkbox"/> Hazard 3 \$18,500	<input type="checkbox"/> Hazard 4 \$17,000	\$ _____
<input type="checkbox"/> Size C	<input type="checkbox"/> Hazard 1 \$10,500	<input type="checkbox"/> Hazard 2 \$10,500	<input type="checkbox"/> Hazard 3 \$10,000	<input type="checkbox"/> Hazard 4 \$ 8,000	\$ _____

☐ **STAGED CONSTRUCTION**

NO. OF STAGES BEYOND INITIAL STAGE _____ X APPLICATION FEE _____ X 0.90 (90%) \$ _____

☐ **DAM PERMIT APPLICATION – MODIFICATION OF DAM**

<input type="checkbox"/> Size A	<input type="checkbox"/> Hazard 1 \$18,500	<input type="checkbox"/> Hazard 2 \$18,500	<input type="checkbox"/> Hazard 3 \$18,500	<input type="checkbox"/> Hazard 4 \$18,000	\$ _____
<input type="checkbox"/> Size B	<input type="checkbox"/> Hazard 1 \$12,000	<input type="checkbox"/> Hazard 2 \$12,000	<input type="checkbox"/> Hazard 3 \$12,000	<input type="checkbox"/> Hazard 4 \$11,500	\$ _____
<input type="checkbox"/> Size C	<input type="checkbox"/> Hazard 1 \$ 7,500	<input type="checkbox"/> Hazard 2 \$ 7,500	<input type="checkbox"/> Hazard 3 \$ 7,500	<input type="checkbox"/> Hazard 4 \$ 7,500	\$ _____

☐ **STAGED CONSTRUCTION**

NO. OF STAGES BEYOND INITIAL STAGE _____ X APPLICATION FEE _____ X 0.85 (85%) \$ _____

☐ **DAM PERMIT APPLICATION – OPERATION & MAINTANANCE OF EXISTING DAM**

<input type="checkbox"/> Size A	<input type="checkbox"/> Hazard 1 \$12,500	<input type="checkbox"/> Hazard 2 \$12,500	<input type="checkbox"/> Hazard 3 \$12,000	<input type="checkbox"/> Hazard 4 \$10,000	\$ _____
<input type="checkbox"/> Size B	<input type="checkbox"/> Hazard 1 \$10,000	<input type="checkbox"/> Hazard 2 \$10,000	<input type="checkbox"/> Hazard 3 \$ 9,500	<input type="checkbox"/> Hazard 4 \$ 8,500	\$ _____
<input type="checkbox"/> Size C	<input type="checkbox"/> Hazard 1 \$ 7,000	<input type="checkbox"/> Hazard 2 \$ 7,000	<input type="checkbox"/> Hazard 3 \$ 6,500	<input type="checkbox"/> Hazard 4 \$ 6,000	\$ _____

PART TWO: SECTION A. APPLICATION FEE(S) subtotal (a) \$ _____**SECTION B. OTHER FEES**☐ Letter of Amendment or Authorization☐ Major (≥\$250,000)

<input type="checkbox"/> Size A \$14,700	<input type="checkbox"/> Size B \$ 8,700	<input type="checkbox"/> Size C \$ 4,400	\$ _____
--	--	--	----------

☐ Minor (<\$250,000)

<input type="checkbox"/> Size A \$ 1,300	<input type="checkbox"/> Size B \$ 1,000	<input type="checkbox"/> Size C \$ 650	\$ _____
--	--	--	----------

☐ Major Dam Design Revision

<input type="checkbox"/> Size A \$ 4,700	<input type="checkbox"/> Size B \$ 3,200	<input type="checkbox"/> Size C \$ 1,700	\$ _____
--	--	--	----------

☐ Environmental Assessment☐ Environmental Assessment for Dam Removal (§105.12(a)(16)) \$ 500 \$ _____☐ Non-Jurisdictional Dams \$ 900 \$ _____☐ Letter of Amendment or Authorization

<input type="checkbox"/> Size A \$ 1,400	<input type="checkbox"/> Size B \$ 1,000	<input type="checkbox"/> Size C \$ 900	\$ _____
--	--	--	----------

☐ Transfer of Dam Permit

<input type="checkbox"/> No Proof of Financial Responsibility \$ 550	<input type="checkbox"/> Proof of Financial Responsibility \$300	\$ _____
--	--	----------

☐ Annual Registration

<input type="checkbox"/> Hazard 1 \$ 1,500	<input type="checkbox"/> Hazard 2 \$ 1,500	<input type="checkbox"/> Hazard 3 \$ 800	\$ _____
--	--	--	----------

PART TWO: SECTION B. OTHER FEE(S) subtotal (b) \$ _____**PART TWO: FEE(S) TOTAL (a+b=c)** \$ _____**DEP USE ONLY**

FEE TOTAL: _____	Permit / Authorization Number (s): _____
Correct Amount: _____	Check #: _____
Check amount: _____	Payable to: _____

GP Fee Explanation (#):

GP #	Description	Fee	Fee Explanation (#)
GP-1	Fish Habitat Enhancement Structures	\$ 50	Fee is assessed per project not per individual structure.
GP-2	Small Docks and Boat Launching Ramps	\$175	Fee is assessed per individual dock or boat ramp. The fee is the number of docks and ramps totaled times the fee.
GP-3	Bank Rehabilitation, Bank Protection and Gravel Bar Removal	\$250	Fee is assessed per project and not individual bank or gravel bar removal locations. Only one single and complete project along a continuous stream reach not exceeding 500 feet measured down centerline of stream. Additional projects or areas must be separately registered and the fee would apply to each registration.
GP-4	Intake and Outfall Structures	\$200	Fee is assessed per individual intake or outfall structure. The fee is the total number of structures times the fee.
GP-5 ²	Utility Line Stream Crossings ²	\$250	Fee is assessed per individual utility line or conduit crossing (a wetland and stream crossing may be separate crossings even if adjacent). The fee is the total number of utility lines times the number of resource crossings times the fee.
GP-6	Agricultural Crossings and Ramps	\$ 50	Fee is assessed per individual crossing or ramp structure. The fee is the total number of crossings and ramps times the fee.
GP-7 ²	Minor Road Crossings ²	\$350	Fee is assessed per individual minor road crossing (a wetland and stream crossing may be separate crossings even if adjacent). The fee is the total number of road crossings times the fee.
GP-8 ²	Temporary Road Crossings ²	\$175	Fee is assessed per individual temporary road crossing (a wetland and stream crossing may be separate crossings even if adjacent). The fee is the total number of temporary road crossings times the fee.
GP-9	Agricultural Activities	\$ 50	Fee is assessed per project not per individual structure or activity. Multiple projects can be registered under a single registration and as such the fee is applied to each project and then totaled.
GP-10	Abandoned Mine Reclamation	\$500	Fee is assessed per project not per individual activity. Multiple projects can be registered under a single registration and as such the fee is applied to each project and then totaled.
GP-11 ¹	Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments ¹	\$750	Fee is assessed for each registration package (can include multiple activities or structures) and is added to the permanent and temporary disturbance review fees calculated for each registration package respectively.
GP-15 ¹	Private Residential Construction in Wetlands ¹	\$750	Fee is assessed for each registration package (can include multiple activities or structures) and is added to the permanent and temporary disturbance review fees calculated for each registration package respectively.

Water Obstruction and Encroachment Examples:

1. **GP-7 Minor Road Crossing:** Minor road crossing of a stream that qualifies for BDWM GP-07.

☒ **GENERAL PERMIT(S)** (select activity/structure(s) below)

Some activities or structures within a project requiring an Individual Water Obstruction and Encroachment Permit may qualify for an accumulation of General Permit fees, please mark the corresponding fee(s) below but not the box above indicating a General Permit.

☒ GP-7 Minor Road Crossings.....1 (#) x \$ 350 = \$ 350
GP(s) FEE subtotal (b) \$ 350

2. **Joint Permit Application for Individual Water Obstruction Encroachment Permit:** The project proposes to construct an access road requiring the placement of fill in 0.27 acres of wetlands as part of a residential subdivision.

☒ Administrative Filing Fee \$ 1,750 +
☐ Temporary Disturbance (\$400/0.1ac)0.0 acres x \$4,000 = \$ 0 +
☒ Permanent Disturbance (\$800/0.1ac)0.3 acres x \$8,000 = \$ 2,400 = \$ 4,150
WO&E FEE subtotal (a) \$ 4,150

SECTION 3.0

NOTIFICATION TO THE MUNICIPALITY AND COUNTY



TETRA TECH

PITT-10-15-037

October 12, 2015

Project Number 212IC-PB-00176

Washington County Commissioners
Courthouse Square
100 West Beau Street, Suite 702
Washington, Pennsylvania 15301

Reference: Equitrans, LP
Equitrans Expansion Project

Dear Commissioners:

This municipal notice, under the requirements of Acts 14, 67, 68, and 127, is to inform you that our client, Equitrans, LP, intends to submit a Chapter 105 permit application to the Washington County Conservation District for the following proposed project:

Project Name: Equitrans Expansion Project

Applicant Name: Equitrans, LP
625 Liberty Avenue
Suite 1700
Pittsburgh, Pennsylvania 15222

Project Description: Equitrans, L.P. (Equitrans) proposes the Equitrans Expansion Project (Project) is located in Allegheny, Washington and Greene Counties, Pennsylvania and Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of the Equitrans system south to the interconnection with Mountain Valley Pipeline LLC's proposed pipeline, as well as to existing interconnects with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

The purpose of this Project within Washington County is to install one 20" natural gas pipeline (H-318) approximately 1.2 miles long. The pipeline will generally run east-west and will be located in Allegheny and Washington Counties, Pennsylvania in the northern portion of Equitrans' system. The H-318 pipeline will move gas from proposed modifications at the existing Applegate Gathering System, which is operated by EQT Gathering, LLC (EQT Gathering), to Equitrans' existing H-148 pipeline for delivery south. Construction activities will clearing and grubbing within the right of way, trenching, boring, pipe installation, and site restoration. This project will require crossings through numerous streams and wetlands. The pipe will be installed under the streams and wetlands by either excavating a trench or boring beneath the stream or wetland. A temporary timber bridge will be used to move equipment across the streams and wetlands to install the pipeline. Once the pipeline is installed, the trench will be filled to preconstruction elevations. The stream banks will also be restored to their original topographic features and stabilized with erosion control matting. BMPs will be used to minimize erosion during all phases of construction.

Site Location: Project crosses Union Township, Washington County and Forward Township, Allegheny County.

Tetra Tech, Inc.

661 Andersen Drive, Pittsburgh, PA 15220-2700
Tel 412.921.7090 Fax 412.921.4040 www.tetrattech.com

Enclosed find a location map with the site indicated and the General Permit Registration Form. Please submit any comments concerning this project within 30 days from date of receipt of this letter to:

PA DEP
400 Waterfront Drive
Pittsburgh, Pennsylvania 15222
Phone: (412) 442-4000

Should you have questions regarding this matter, please do not hesitate to contact me at (412) 921-8051 or Heather.Trexler@tetrattech.com. In addition, Stephanie Frazier – Supervisor Permitting - Environmental for EQT Corporation can be reached at (412) 553-5798.

Sincerely,



Heather Trexler, P.G.
Project Manager

HT/clm

Enclosure (location map and General Permit Registration Form)
cc: File 212IC-PB-00176



October 21, 2015

Dear Customer:

The following is the proof-of-delivery for tracking number **653569430478**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	.JANSANTE	Delivery location:	COURTHOUSE SQUARE WASHINGTON, PA 15301
Service type:	FedEx Priority Overnight	Delivery date:	Oct 21, 2015 09:43
Special Handling:	Deliver Weekday Adult Signature Required		

Shipping Information:

Tracking number:	653569430478	Ship date:	Oct 20, 2015
		Weight:	0.5 lbs/0.2 kg

Recipient:
WASHINGTON COUNTY COMMISSIONERS
WASHINGTON COUNTY
COURTHOUSE SQUARE
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WASHINGTON, PA 15301 US

Reference

Purchase order number:

Department number

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PITT-10-15-038

October 20, 2015

Project Number 212IC-PB-00176

Union Township Supervisor
3904 Finley-Elrama Road
Finleyville, Pennsylvania 15332

Reference: Equitrans, LP
Equitrans Expansion Project

Dear Supervisor:

This municipal notice, under the requirements of Acts 14, 67, 68, and 127, is to inform you that our client, Equitrans, LP, intends to submit a Chapter 105 permit application to the Washington County Conservation District for the following proposed project:

Project Name: Equitrans Expansion Project

Applicant Name: Equitrans, LP
625 Liberty Avenue
Suite 1700
Pittsburgh, Pennsylvania 15222

Project Description: Equitrans, L.P. (Equitrans) proposes the Equitrans Expansion Project (Project) is located in Allegheny, Washington and Greene Counties, Pennsylvania and Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of the Equitrans system south to the interconnection with Mountain Valley Pipeline LLC's proposed pipeline, as well as to existing interconnects with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

The purpose of this Project within Washington County is to install one 20" natural gas pipeline (H-318) approximately 1.2 miles long. The pipeline will generally run east-west and will be located in Allegheny and Washington Counties, Pennsylvania in the northern portion of Equitrans' system. The H-318 pipeline will move gas from proposed modifications at the existing Applegate Gathering System, which is operated by EQT Gathering, LLC (EQT Gathering), to Equitrans' existing H-148 pipeline for delivery south. Construction activities will clearing and grubbing within the right of way, trenching, boring, pipe installation, and site restoration. This project will require crossings through numerous streams and wetlands. The pipe will be installed under the streams and wetlands by either excavating a trench or boring beneath the stream or wetland. A temporary timber bridge will be used to move equipment across the streams and wetlands to install the pipeline. Once the pipeline is installed, the trench will be filled to preconstruction elevations. The stream banks will also be restored to their original topographic features and stabilized with erosion control matting. BMPs will be used to minimize erosion during all phases of construction.

Site Location: Project crosses Union Township, Washington County and Forward Township, Allegheny County.

Tetra Tech, Inc.

661 Andersen Drive, Pittsburgh, PA 15220-2700
Tel 412.921.7090 Fax 412.921.4040 www.tetrattech.com

Enclosed find a location map with the site indicated and the General Permit Registration Form. Please submit any comments concerning this project within 30 days from date of receipt of this letter to:

PA DEP
400 Waterfront Drive
Pittsburgh, Pennsylvania 15222
Phone: (412) 442-4000

Should you have questions regarding this matter, please do not hesitate to contact me at (412) 921-8051 or Heather.Trexler@tetrattech.com. In addition, Stephanie Frazier – Supervisor Permitting - Environmental for EQT Corporation can be reached at (412) 553-5798.

Sincerely,



Heather Trexler, P.G.
Project Manager

HT/clm

Enclosure (location map and General Permit Registration Form)
cc: File 212IC-PB-00176



October 21, 2015

Dear Customer:

The following is the proof-of-delivery for tracking number **653569430467**.

Delivery Information:

Status:	Delivered	Delivered to:	Receptionist/Front Desk
Signed for by:	D.TAYLOR	Delivery location:	3904 FINLEYVILLE ELRAMA RD FINLEYVILLE, PA 15332
Service type:	FedEx Priority Overnight	Delivery date:	Oct 21, 2015 08:51
Special Handling:	Deliver Weekday		
	Adult Signature Required		

Shipping Information:

Tracking number:	653569430467	Ship date:	Oct 20, 2015
		Weight:	0.5 lbs/0.2 kg

Recipient:
BOARD OF SUPERVISORS
UNION TOWNSHIP
3904 FINLEYVILLE-ELRAMA ROAD
FINLEYVILLE, PA 15332 US

Reference
Purchase order number:
Department number

Shipper:
TETRA TECH
TETRA TECH, INC.
661 ANDERSEN DRIVE
FOSTER PLAZA 7
PITTSBURGH, PA 15220 US
ICPB00176/UNION TWP
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SECTION 4.0

PASPGP-4 CUMULATIVE IMPACTS PROJECT SCREENING FORM



- ☐ Category I
☐ Category II
☐ Category III

Applicant / Project Name: Equitrans, LP/ Equitrans Expansion Project

County(s): Allegheny, Greene, Washington

PASPGP-4 CUMULATIVE IMPACTS PROJECT SCREENING FORM

The following questionnaire must be completed and submitted to determine the appropriate Pennsylvania State Programmatic General Permit-4 (PASPGP-4) review procedure. Incomplete submissions will be returned. An "Overall Project," as defined for this form, includes all regulated activities that are reasonably related and necessary to accomplish the "Overall Project" purpose. An "Overall Project" must have a clear purpose, be able to function, and have independent utility. All regulated activities, including the direct and indirect impacts occurring as a result of the regulated activities, which are associated with the "Overall Project", should be considered cumulatively when completing this form. For linear projects, all impacts to waters and wetlands associated with the "Overall Project" should be added together and cumulatively viewed as impacts associated with the "Overall Project", which must have a defined beginning and end point. For linear projects, the application shall include a plan that depicts the location of the beginning and end points of the overall project, and all proposed crossings. See the PASPGP-4 permit document at: www.nab.usace.army.mil/Wetlands%20Permits and Part II, for the definition of Independent Utility and Single and Complete Project (discussion of "Overall Project").

The PASPGP-4 authorizes the discharge of dredged or fill materials and/or the placement of structures, for a single and complete project, including all attendant features, both temporary and/or permanent, which individually or cumulatively results in impacts to 1.0 acre or less of waters of the United States including jurisdictional wetlands. These discharges and placement of structures must comply with all the terms, conditions, and processing procedures identified in this PASPGP-4. Refer to the definitions and sketches in PASPGP-4, Part II for calculating the 1.0-acre eligibility threshold for linear projects.

Determination of PASPGP-4 eligibility – For Category I and II Activities, PADEP/County Conservation Districts will review the applications, if applicable, and verify if work is authorized by PASPGP-4. For Category III Activities, the Corps reviews applications and makes a case by case determination that work is eligible for authorization under PASPGP-4.

Applications for activities that individually or cumulatively impact more than 1.0 acre of waters of the United States, including jurisdictional wetlands, including all attendant features, both temporary and permanent, for a single and complete project; or that impact greater than 250 linear feet of streams, rivers, or other watercourses, except fish habitat enhancement structures authorized under PADEP GP-1 and bank rehabilitation and protection, authorized under PADEP GP-3 that affect 500 linear feet or less, are sent to the Corps as a Category III Activity, under PASPGP-4, Part IV, C, 2. The 1.0 acre area measurement includes the sum total of all waters of the United States including both jurisdictional wetlands and streams, rivers, other watercourses.

- For linear projects, the 250 linear foot Category III Activity threshold for stream impacts is applied to the total cumulative impacts of all crossings associated with the overall linear project, regardless of the type of PADEP authorization or combination of authorizations used to approve the overall project.
- Overall linear projects that have cumulative permanent and temporary impacts to waters of the United States, including jurisdictional wetlands, which exceed 1.0 acre, may still be eligible for PASPGP-4 authorization through a Category III review, provided no single and complete project exceeds the 1 acre threshold (see PASPGP-4, Part II for definition of single and complete project and acreage calculations). This verification of eligibility will be made by the Corps of Engineers.
- For phased projects, including phased linear projects, an overall project plan depicting all previously authorized or proposed impacts to waters and/or wetland is required as part of the application. A plan depicting phase I of the overall project would be submitted with any applications associated with phase I. At a later date, when applications associated with phase II are submitted, an overall plan that depicts the impacts for phase I and phase II is required. For example, if a utility line was previously authorized to run from point A to point B, and the permittee now wants to expand the utility line to point C, the plan will depict from point A to point C. In such a case, the overall project has been expanded to extend from point A to point C; the portion from point A to point B is needed for the section from point B to point C to function and meet the overall project purpose. If plan is not submitted as part of application, the application for the purposes of PASPGP-4 will be considered incomplete and the application may be sent to the Corps as a Category III Activity.

SECTION A: PROPOSED IMPACTS

Provide the size of impacts to waters and/or wetlands associated with your application, including temporary and/or permanent impacts, and direct and indirect impacts.

Included in this calculation are the areas directly and indirectly affected by the regulated activities, including the area of waters and/or wetlands filled, drained and/or flooded as a result of the regulated activities. See PASPGP-4, Part II, Definitions, for calculation of linear footage of stream impact, and Part IV, C, 2 for thresholds which require a Corps review of application (Category III Activity).

PADEP GP-11 allows for the registration of multiple overall projects at one time through submission of a project/work site table that identifies each of the separate overall projects. For work associated with PADEP GP-11 registrations, impacts associated with each project/work site should be list separately. This can be done through a separate PASPGP-4 Project Screening Form for each project/work site, or submission of a separate document/table that identifies each separate project/work site, the proposed work and impact information, as required by this section.

		square feet	linear feet
Permanent Impacts	to waters:	0	0
	to wetlands:	4181	
Temporary Impacts	to waters:	16038.5	1370.6
	to wetlands:	48472	

SECTION B: OTHER CHAPTER 105/SECTION 10/404 AUTHORIZATIONS

YES NO

- ☐ ☒ 1. If known, has any work associated with the Overall Project been previously authorized by the Corps or DEP? If YES, please complete the table below. If additional space is needed, please attach the applicable information. Include the type of authorization or permit, permit or authorization number(s), date(s) of issuance, and permitted impacts (including square feet and/or linear footage), if applicable, with your application/registration form(s). Types of authorizations or permits may be abbreviated and include: Corps Nationwide Permit, Corps Individual Permit, Corps PASPGP, DEP General Permit, DEP Individual Permit (Dam and/or Encroachment) or DEP Environmental Assessment. See PASPGP-4, Part IV, C, 3 for applications which require a Corps review (Category III Activity).

EXAMPLES:

- If application is associated with the expansion of a residential development, i.e., construction of phase II, the authorizations and impacts, if applicable, associated with construction of phase I are to be identified and listed.
- If application is associated with a linear project, i.e., sewer line, waterline, utility line, etc., and the proposed work is an extension or additional phase being added to a previous segment, the authorizations, and impacts, if applicable, associated with construction of the previous segment(s) are to be identified and listed. For example, if a utility line is constructed from point A to point B, and a year later an extension of the line to point C is proposed, the authorizations and impacts associated with construction of point A to point B should be listed/identified. In this case, the overall project is from point A to point C, as the portion from point A to point B is needed for the section from point B to point C to function and meet the overall project purpose.

Authorization Type	Authorization Number	Date (mm/dd/yyyy)	Permitted Impacts	
			wetlands	waters

YES NO

- ☐ ☒ 2. Are additional Corps and/or DEP authorizations required for your proposed work to function and have independent utility? If YES, please complete the table below. If additional space is needed, please attach the applicable information.

EXAMPLES:

- Development of a residential subdivision may require the filling of waters and/or wetlands for the construction of access roads, utility line crossings, and/or lot development. In such a case, if application is only for the utility lines, the work and impacts associated with the road crossings and lot development need to be identified. For the overall development to function, the road crossings and lot development are needed, not just utilities.
- If widening of a road for construction of a turn lane is needed to facilitate an industrial development, applications associated for the industrial development to construct utility lines and lot development need to include the work and impacts associated with the construction of the turn lane. The construction of the turn lane is needed for the industrial development to function; the two projects are not separate independent projects.

- c. If the application is associated with a linear project, such as an underground electric line or waterline, and additional permits are needed for the utility lines to function, i.e., convey electricity or water from source to user, the additional work and impacts need to be identified. For the overall utility line to function the entire line needs to be constructed; a segment that will not function does not have independent utility.

Authorization Type	Date (if known)	Anticipated Impacts	
		wetlands	waters

SECTION C: ACTIVITIES RELATED TO RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS

The term "Subdivision", for the purposes of this form, is defined as the division or redivision of a lot, tract or parcel of land into two or more lots, tracts, parcels or other divisions of land including changes to existing lot lines.

YES NO

- ☐ ☐ 1. Does the Overall Project involve the construction or expansion of a residential, commercial or institutional subdivision or development? If YES, proceed to question 2. If NO, leave questions 2 and 3 blank.
- ☐ ☐ 2. Does greater than 0.25 acres of wetlands exist within the property boundary (not including those being directly impacted as part of this application)? If YES, provide wetland acreage: _____ acres. If NO, leave question 3 blank.
- ☐ ☐ 3. Are you proposing to protect the wetland area(s) through a deed restriction or conservation easement that follows the Corps' Model Conservation Instruments? If YES, attach a copy of the proposed deed restriction or conservation easement to this form and submit with your application/registration form. Model Conservation Instruments are available at www.nab.usace.army.mil/Wetlands%20Permits/. Failure to submit a proposed deed restriction or conservation easement with permit application/registration form requires a Category III review under PASPGP-4, Part IV, C, 24.

SECTION D: CERTIFICATION

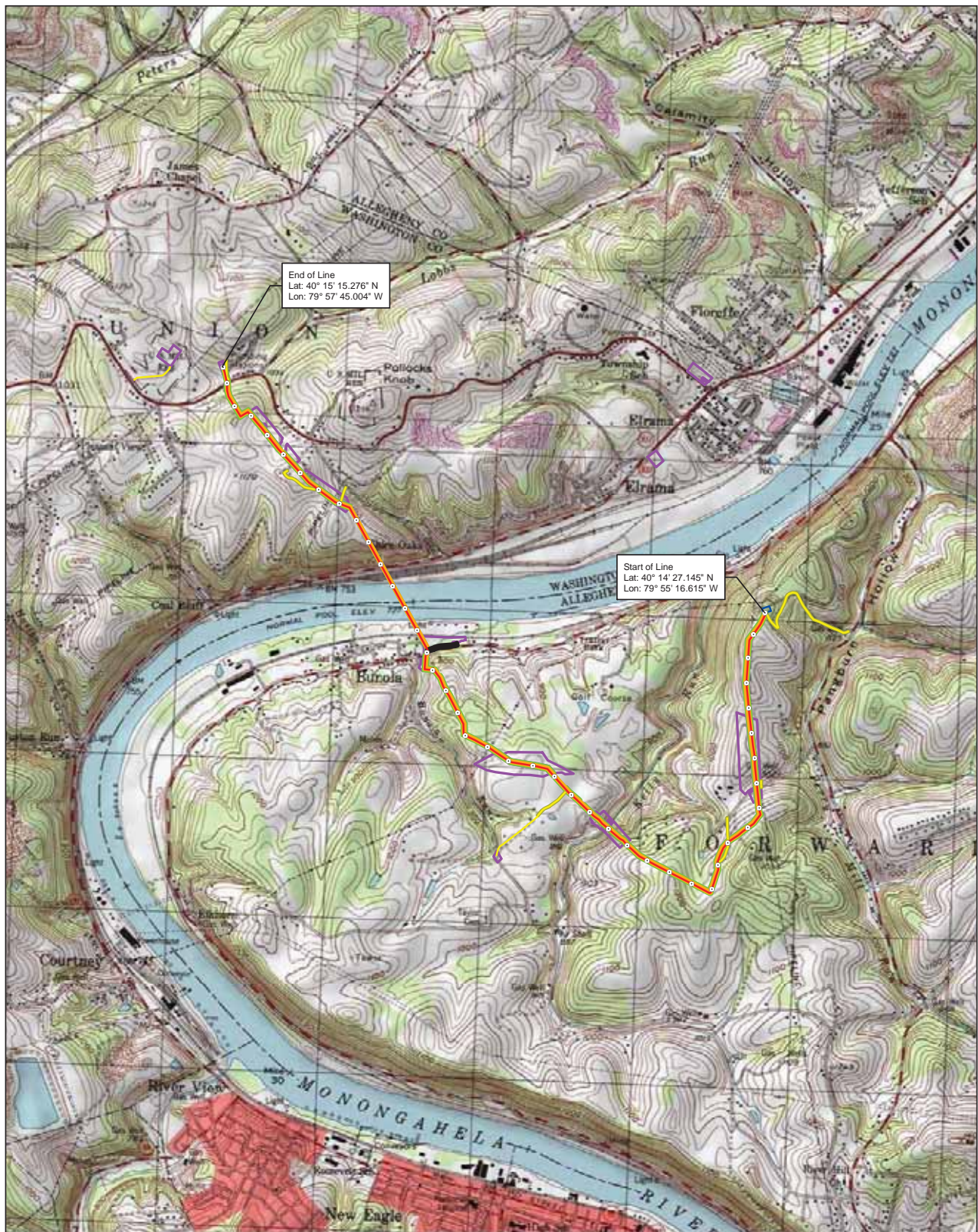
I certify that the information provided on this form is true and correct to the best of my knowledge and information. If any of the information and/or plans is found to be in error, falsified, and/or incomplete, your Chapter 105/PASPGP-4 authorization/verification may be subject to modification, suspension, or revocation in accordance with applicable regulations.


Signature of Applicant


Date

Stephanie Frazier – Supervisor Permitting - Environmental
Name Typed or Printed

SECTION 5.0
LOCATION MAP



Equitrans Expansion Project



1:24,000

0 2,000 4,000 Feet

EQUITRANS

Attachment #: 1-1
USGS Project Location Map
Washington & Allegheny County, PA

October 2015

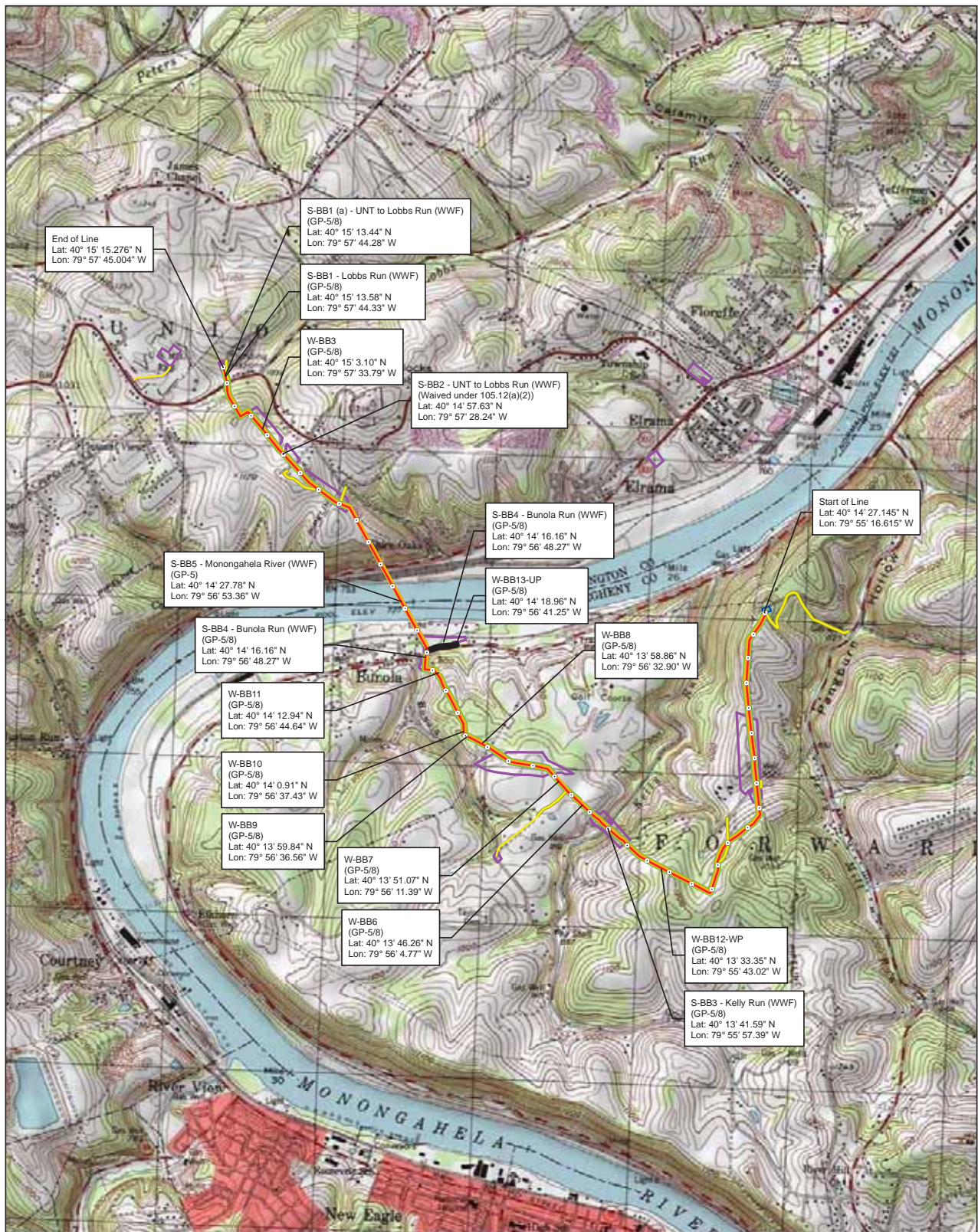
Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site



Document Path: P:\GIS\DOT\MapDoc\deep_pa_washalleghco_usgs.mxd



Equitrans Expansion Project



1:24,000

0 2,000 4,000 Feet

EQUITRANS

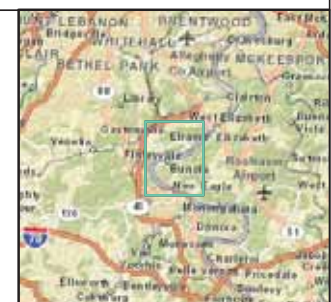
Attachment #: 1
USGS Project Location Map
Washington & Allegheny County, PA

October 2015

Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site



Document Path: P:\GIS\OTMapDoc\exp_pa_washalleghCo_usgsGPR.mxd

SECTION 6.0
COLOR PHOTOGRAPHS

SECTION 6.0 - COLOR PHOTOGRAPHS

Not applicable since General Permit 3 (GP-3) and/or GP-11 registration is not required for Equitrans Expansion Project (Project) activities. Photographs have been provided in the Wetland Identification and Stream Identification Report in Section 15, Attachment 15-A.

SECTION 7.0

STREAM NAME AND CHAPTER 93 CLASSIFICATIONS

**Equitrans Expansion Project - Allegheny and Washington County
Impact Summary Table**

Waters Name	Stream/ Wetland Type	Applicable Permits	Latitude (N)		Longitude (W)		PA Code 25 Chapter 93 Designated Use	Temporary Stream Impact		Installation Method	Wetlands Onsite		Wetland Impact
			DD	MM	SS	DD	MM	SS	SS		Area (ft ²)	Area (ft ²)	
S-BB1 - Lobbs Run	Intermittent	GP-5/8	40	15	13.58	79	57	44.33	WWF	open cut trench and timber mat crossing	N/A	N/A	
S-BB1 (a) - UNT to Lobbs Run	Intermittent	GP-5/8	40	15	13.44	79	57	44.28	WWF	open cut trench and timber mat crossing	N/A	N/A	
W-BB3	PEM	GP-5/8	40	15	3.10	79	57	33.79	WWF	open cut trench and timber mat crossing	2993	2218	
S-BB2 - UNT to Lobbs Run	Ephemeral	Waived under 105.12(a)(2)	40	14	57.63	79	57	28.24	WWF	open cut trench and timber mat crossing	N/A	N/A	
S-BB5 - Monongahela River	Perennial	GP-5	40	14	27.78	79	56	53.36	WWF	HDD Bore	N/A	N/A	
S-BB4 - Bunola Run	Perennial	GP-5/8	40	14	16.16	79	56	48.27	WWF	open cut trench and timber mat crossing	N/A	N/A	
S-BB4 - Bunola Run (workspace in floodplain)	Perennial	GP-8	40	14	16.16	79	56	48.27	WWF	timber mat crossing	N/A	N/A	
W-BB13-UP	PFO/PSS	GP-5/8	40	14	18.96	79	56	41.25	WWF	open cut trench and timber mat crossing	11620	2787	
W-BB11	PFO	GP-5/8	40	14	12.94	79	56	44.64	WWF	open cut trench and timber mat crossing	2492	1168	
W-BB10	PFO	GP-5/8	40	14	0.91	79	56	37.43	WWF	open cut trench and timber mat crossing	1016	1016	
W-BB9	PFO	GP-5/8	40	13	59.84	79	56	36.56	WWF	open cut trench and timber mat crossing	709	669	
W-BB8	PFO	GP-5/8	40	13	58.86	79	56	32.90	WWF	open cut trench and timber mat crossing	1619	1328	
W-BB7	PEM	GP-5/8	40	13	51.07	79	56	11.39	WWF	open cut trench and timber mat crossing	87132	23961	
W-BB6	PEM	GP-5/8	40	13	46.26	79	56	4.77	WWF	open cut trench and timber mat crossing	4031	3067	
S-BB3 - Kelly Run	Perennial	GP-5/8	40	13	41.59	79	55	57.39	WWF	open cut trench and timber mat crossing	N/A	N/A	
W-BB12-WP	PFO/PSS	GP-5/8	40	13	33.35	79	55	43.02	WWF	open cut trench and timber mat crossing	250	221	
Allegheny County Totals (applying for General Permits):									930	167.6	5446	108,869	34,217 sf
Washington County Totals:									8	225	600	2,50	0.79 acre
Project Totals:									7	150	525	2,993	2,218 sf
Washington County Totals (applying for General Permits):									938	392.6	6046	0.07	0.05 acre
Project Totals:									938	392.6	6046	0.07	0.05 acre
Washington County Totals (applying for General Permits):									938	392.6	6046	111,862	36,435 sf
Project Totals:									938	392.6	6046	2,57	0.84 acre

Note:

* As measured transversely from top of bank to top of bank

** As measured along centerline of stream from where water is directed out of the stream to where it is returned to the stream

Washington County

UNT - unnamed tributary

GP - General Permit

WWF - warm water fish

N/A - not applicable

SECTION 8.0
PROJECT DESCRIPTION

SECTION 8.0 - PROJECT DESCRIPTION

8.1 DESCRIPTION

Equitrans, L.P. (Equitrans) proposes the Equitrans Expansion Project (Project) located in Allegheny, Washington and Greene Counties, Pennsylvania and Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of the Equitrans system south to the interconnection with Mountain Valley Pipeline LLC's proposed pipeline, as well as to existing interconnects with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

The portion of the Project within Washington County proposes to install one 20" natural gas pipeline (H-318) approximately 1.2 miles long within a 100' construction right-of-way and 50' permanent right-of-way. The pipeline will generally run east-west and will be located in Forward Township, Allegheny County, and Union Township, Washington County, Pennsylvania, in the northern portion of Equitrans' system. The H-318 pipeline will move gas from new modifications at the existing Applegate Gathering System, which is operated by EQT Gathering, LLC (EQT Gathering), to a new Hartson tie-in at Equitrans' existing H-148 pipeline for delivery south.

8.2 STREAM AND WETLAND CROSSINGS

Construction activities will include clearing and grubbing within the right of way, trenching, boring, pipe installation, and site restoration. This project will require crossings through numerous streams and wetlands.

The Washington County portion of the project will involve crossing 3 streams, Lobbs Run and unnamed tributaries (UNTs) to Lobbs Run, and crossing 1 wetland to install the pipeline. The streams and wetlands will be open cut. Temporary timber bridges will be used to move equipment across the streams and wetlands that are open cut. Construction of the pipeline will result in approximately 150 linear feet and 525 square feet of temporary stream impacts and 2,218 square feet of temporary wetland impacts in Washington County. Once the pipeline is installed, the streams and wetlands will be restored to their original topographic condition. BMPs will be used during all phases of construction.

8.3 PENNSYLVANIA NATURAL DIVERSITY INVENTORY PROJECT ENVIRONMENTAL REVIEW

A large project PNDI was submitted to the PA Department of Conservation and Natural Resources (DCNR), PA Fish and Boat Commission, PA Game Commission, and US Fish and Wildlife Service (USFWS) on June 24, 2015 (Section 13.0).

DCNR responded that based on the PNDI review that there was the potential to impact several plant species. Field surveys to identify these species are planned for late spring and summer 2016, during the appropriate flowering time.

The PA Fish and Boat Commission responded that rare or protected freshwater mussel species are known in the vicinity of the project area in South Fork Tenmile Creek, Greene County. No impacts are proposed since this stream will be crossed by directional bore. A mussel survey of South Fork Tenmile Creek was conducted during October 2015 for the proposed crossing location. Native freshwater mussels were observed (in low abundance), however, no federally listed mussels were located. A report is being prepared for submittal to PA Fish and Boat.

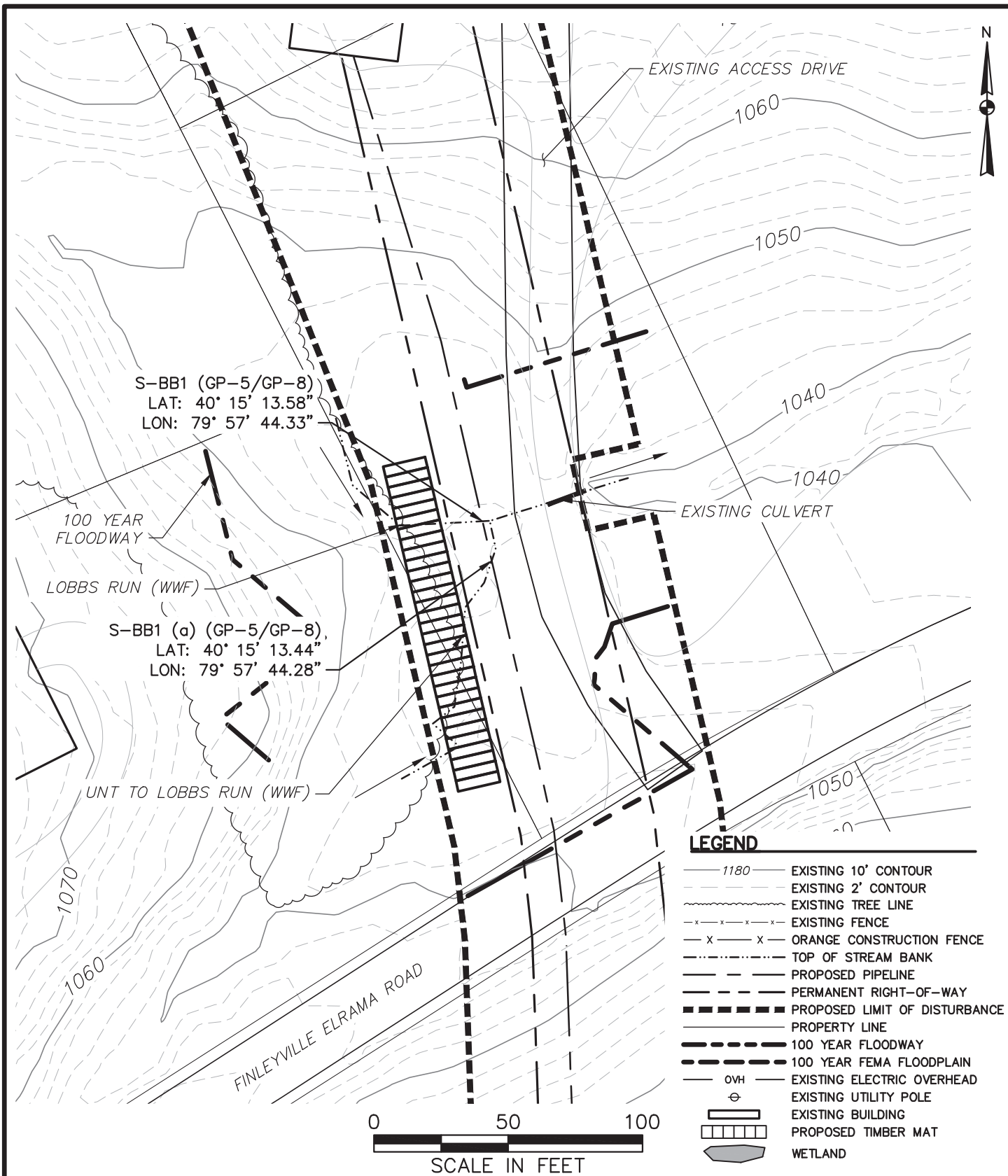
The PA Game Commission responded that they have no records that indicate species or resources of concern are located in the vicinity of the project.

The USFWS responded that the proposed project is located within the range of two bat species. Mist netting was conducted from July 26 to August 9, 2015 at 10 sites for a total of 60 complete net nights. Netting resulted in the capture of 94 bats representing three species: big brown bat (*Eptesicus fuscus*), eastern red bat (*Lasiurus borealis*), and eastern pipistrelle (*Pipistrellus subflavus*). No federally listed or state-listed bats were captured. Searches for summer bat habitat (roost trees) were completed in the Project area. Searches for underground (winter) bat habitat are on-going. Potential habitat (i.e., portals) were identified in the Project area. Portal searches along the project alignment have been completed. A report is being prepared for submittal to USFWS.

SECTION 9.0

SITE-SPECIFIC AND/OR STANDARD DRAWINGS

R:_212 - OGA\OG&C\EQT\00176 - EEP\GP\H318\H318 - 00176GP001.dwg PIT NICOLE.NAJESKI 10/21/2015 11:49:18 AM



LEGEND	
	1180 — EXISTING 10' CONTOUR
	EXISTING 2' CONTOUR
	EXISTING TREE LINE
	EXISTING FENCE
	ORANGE CONSTRUCTION FENCE
	TOP OF STREAM BANK
	PROPOSED PIPELINE
	PERMANENT RIGHT-OF-WAY
	PROPOSED LIMIT OF DISTURBANCE
	PROPERTY LINE
	100 YEAR FLOODWAY
	100 YEAR FEMA FLOODPLAIN
	OVH — EXISTING ELECTRIC OVERHEAD
	EXISTING UTILITY POLE
	EXISTING BUILDING
	PROPOSED TIMBER MAT
	WETLAND

0 50 100
SCALE IN FEET



TETRA TECH

WWW.TETRATECH.COM

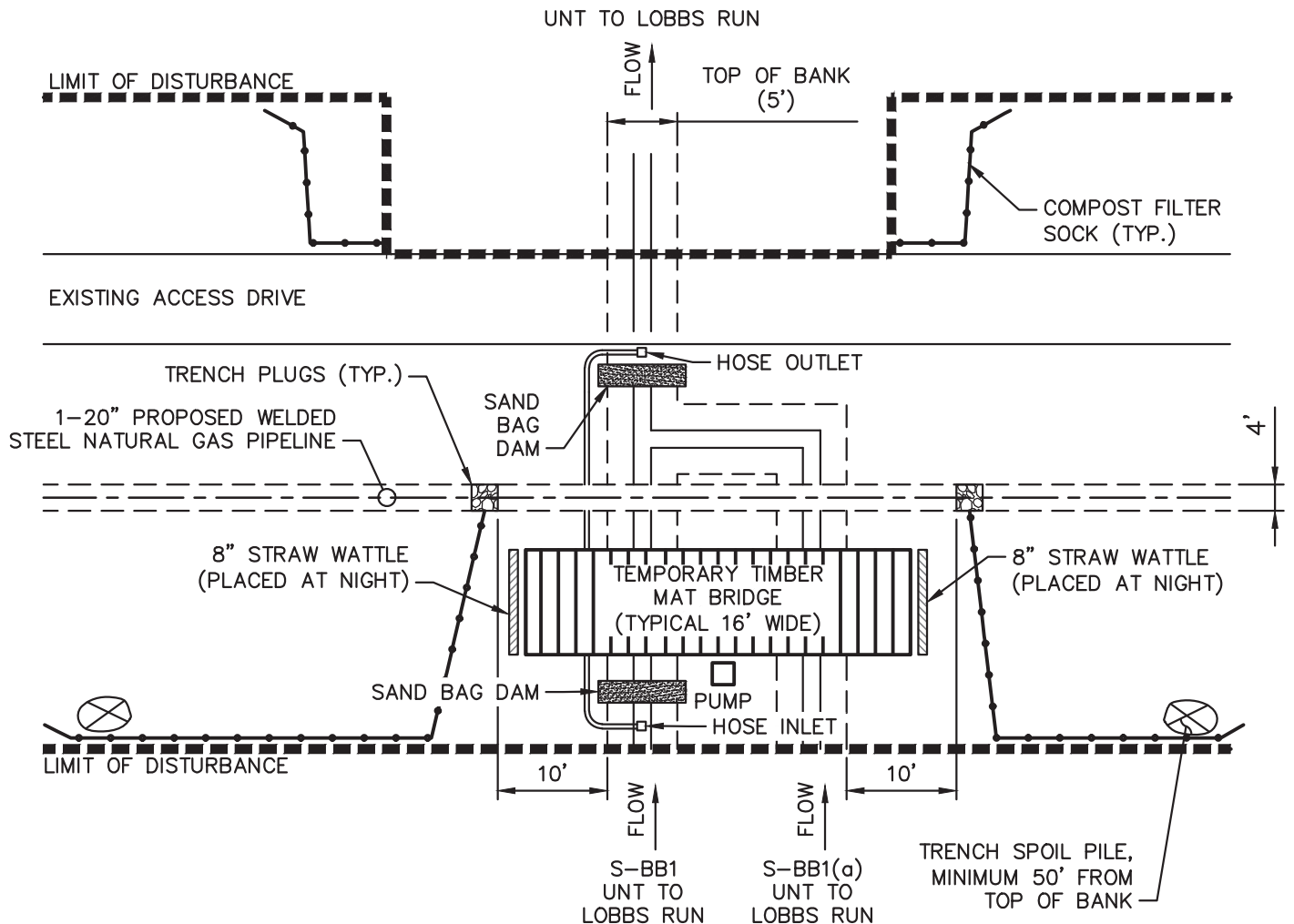
661 ANDERSEN DRIVE — FOSTER PLAZA 7
PITTSBURGH, PA 15220
T: (412) 921-7090 | F: (412) 921-4040

EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE — WASHINGTON COUNTY
GP-5/GP-8 FOR S-BB1/S-BB1(a)
PLAN
SCALE: 1" = 50'

DATE:	10/23/15
PROJECT NO.:	212IC-PB-00176
DESIGNED BY:	JS
DRAWN BY:	NN
CHECKED BY:	JS
SHEET:	1 OF 4
COPYRIGHT TETRA TECH INC.	
FIGURE 1	

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF EQUITRANS, LP TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. BY EQUITRANS, LP. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY EQUITRANS, LP.



STREAM S-BB1 IMPACTS:
 LENGTH: 5'
 WIDTH: 75'
 TOTAL AREA: 375 S.F.

STREAM S-BB1(a) IMPACTS:
 LENGTH: 2'
 WIDTH: 75'
 TOTAL AREA: 150 S.F.

PLAN NOT TO SCALE



TETRA TECH

WWW.TETRATECH.COM

661 ANDERSEN DRIVE - FOSTER PLAZA 7
 PITTSBURGH, PA 15220
 T: (412) 921-7090 | F: (412) 921-4040

EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-5/GP-8 FOR S-BB1/S-BB1(a)
PLAN

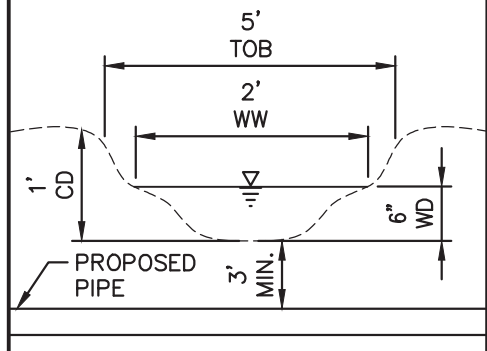
SCALE: NOT TO SCALE

DATE: 10/23/15
 PROJECT NO.: 212IC-PB-00176
 DESIGNED BY: JS
 DRAWN BY: NN
 CHECKED BY: JS
 SHEET: 2 OF 4

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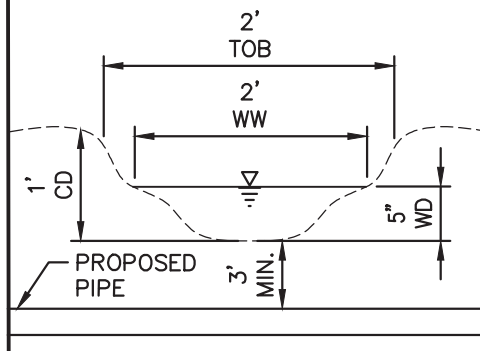
FIGURE 2

S-BB1 CHANNEL WIDTH = 5'
 S-BB1 CHANNEL DEPTH = 1'
 S-BB1 WATER WIDTH = 2'
 S-BB1 WATER DEPTH = 6"

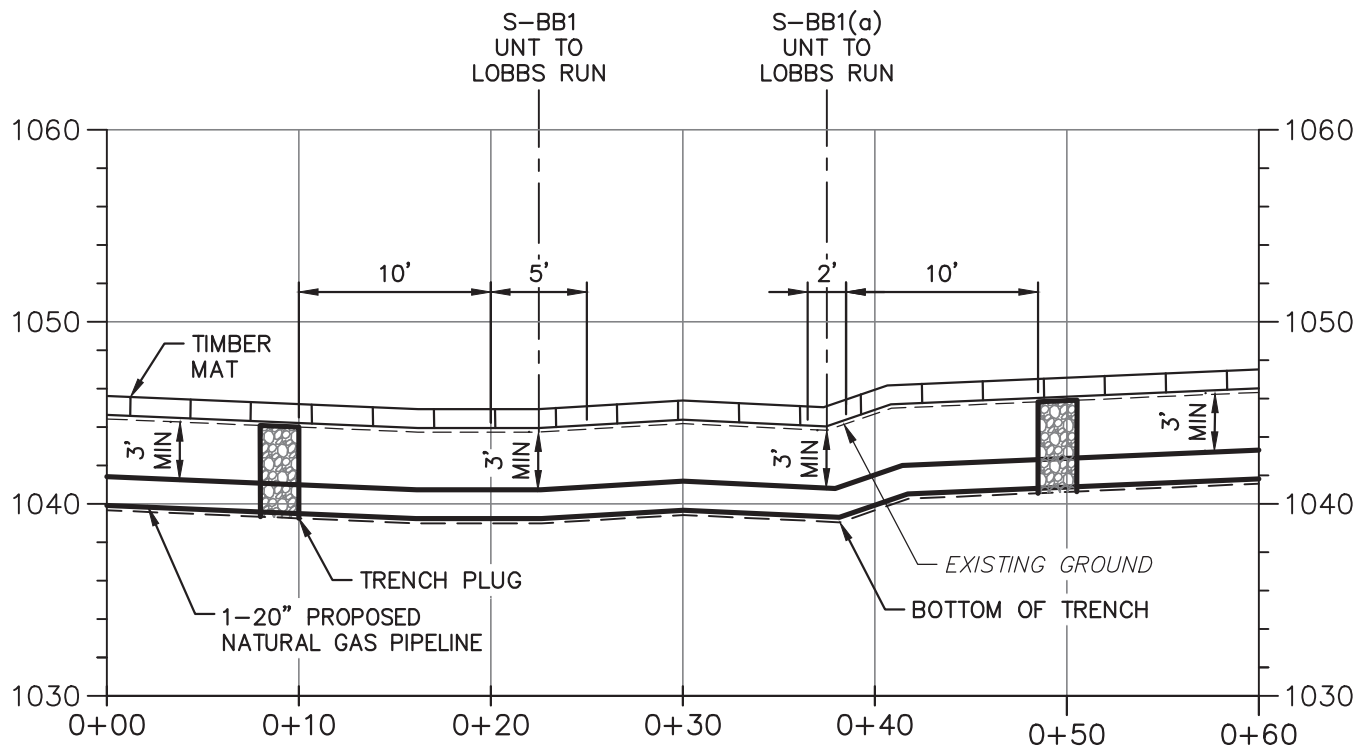


S-BB1
 NOT TO SCALE

S-BB1(a) CHANNEL WIDTH = 2'
 S-BB1(a) CHANNEL DEPTH = 1'
 S-BB1(a) WATER WIDTH = 2'
 S-BB1(a) WATER DEPTH = 5"



S-BB1(a)
 NOT TO SCALE



PROFILE FOR S-BB1/S-BB1(a) OPEN-CUT TRENCH PROFILE

SCALE: HORIZ: 1" = 10'
 VERT: 1" = 10'



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 PITTSBURGH, PA 15220
 T: (412) 921-7090 | F: (412) 921-4040

EQUITRANS, LP
 EQUITRANS EXPANSION PROJECT
 H318 PIPELINE - WASHINGTON COUNTY
 GP-5/GP-8 FOR S-BB1/S-BB1(a)
PROFILE

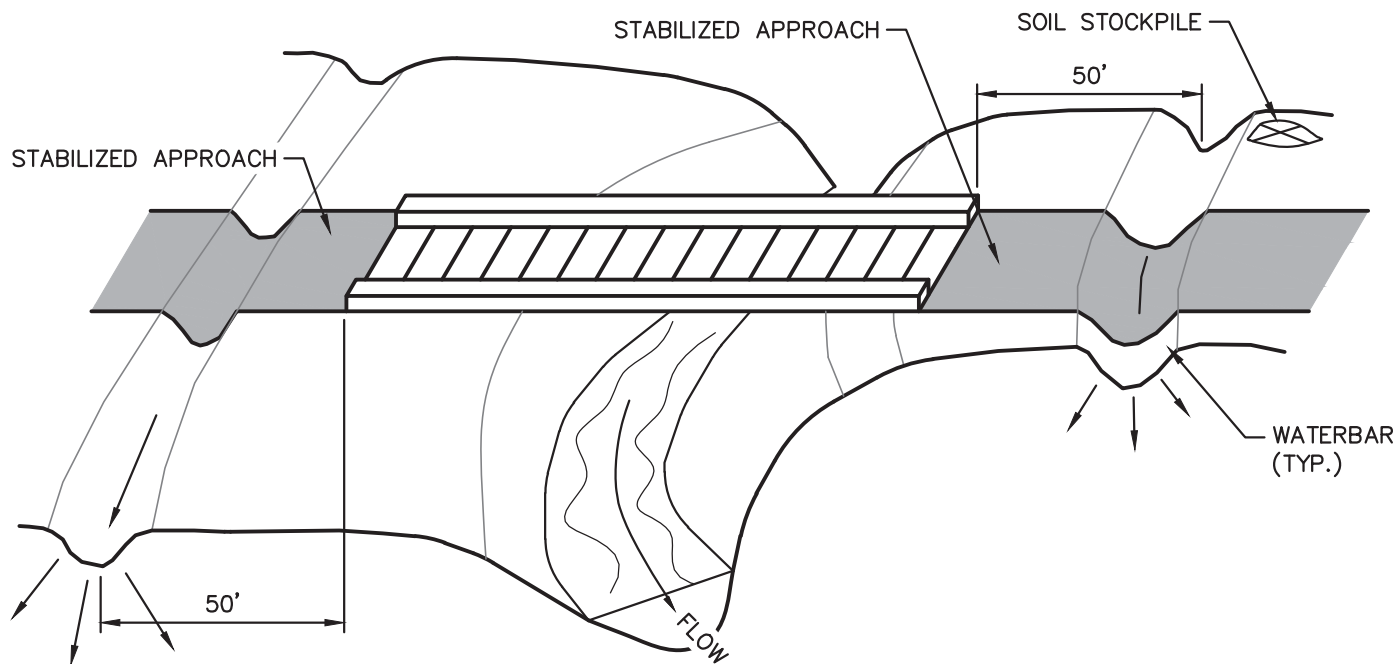
SCALE: AS NOTED

DATE: 10/23/15
 PROJECT NO.: 212IC-PB-00176
 DESIGNED BY: JS
 DRAWN BY: NN
 CHECKED BY: JS
 SHEET: 3 OF 4

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FIGURE 3

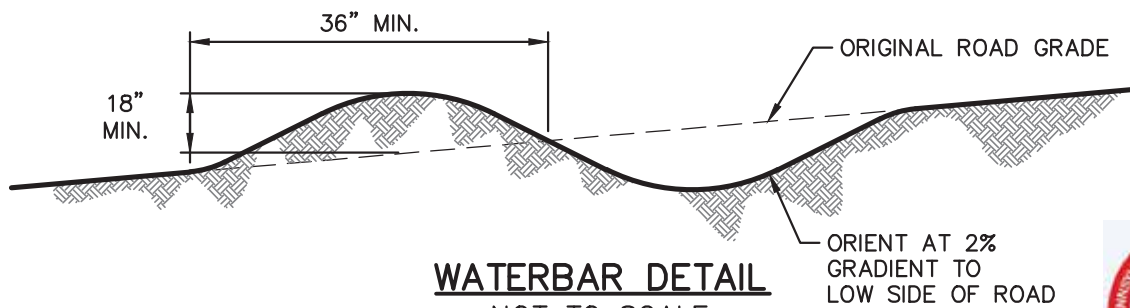
R:_212 - OGA\O&G\DOT\00176 - EEP\GP\H318\H318 - 00176GP004.dwg P1T NICOLE.NAJESKI 10/15/2015 9:45:55 AM



TEMPORARY STREAM CROSSING
NOT TO SCALE



TYPICAL STREAM CROSSING
NOT TO SCALE



WATERBAR DETAIL
NOT TO SCALE

NOTE:
APPROACH TO CROSSING NOT TO
EXCEED A DEPTH OF 6" ABOVE
ORIGINAL GRADE

ORIENT AT 2%
GRADIENT TO
LOW SIDE OF ROAD



TETRA TECH

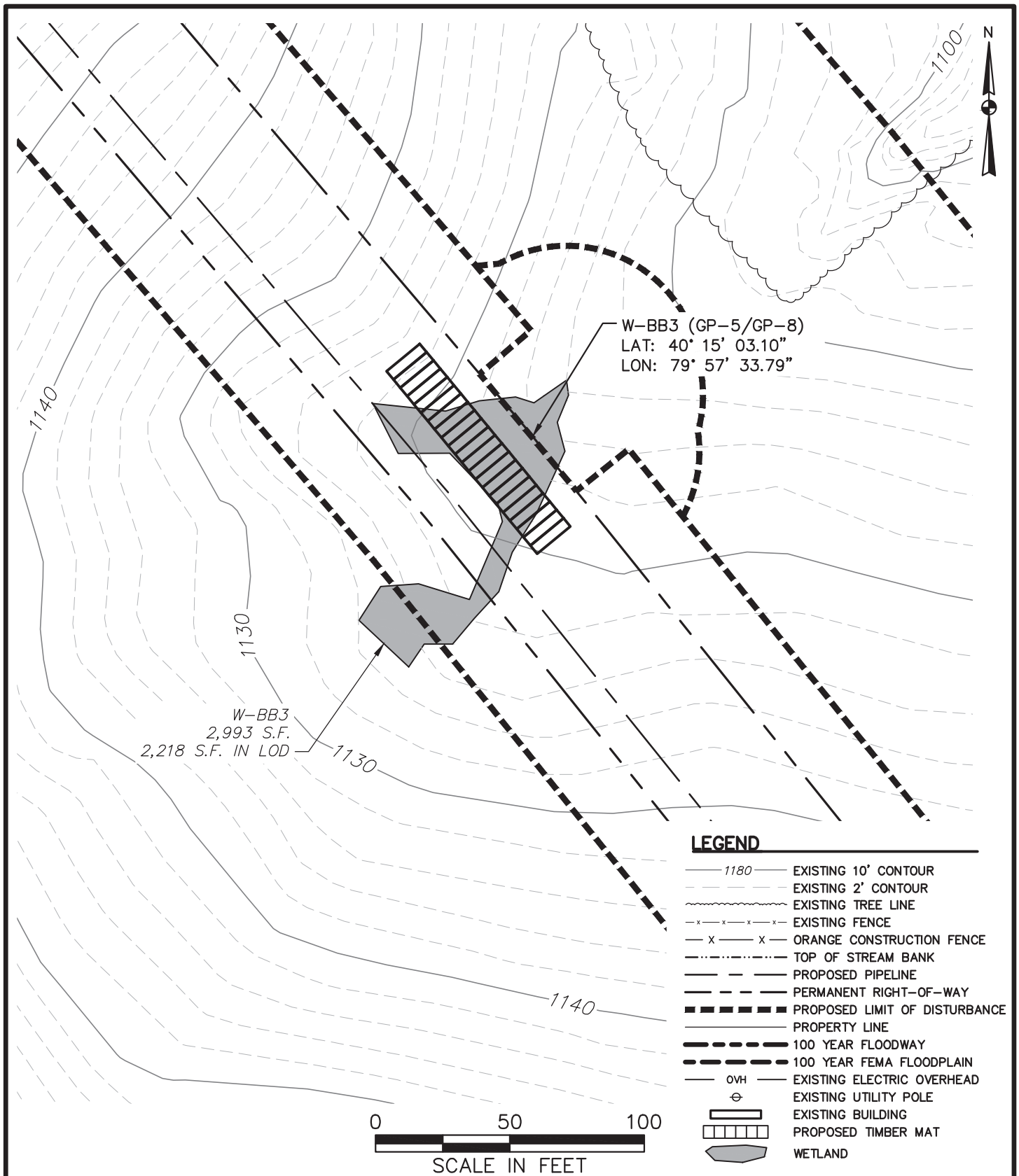
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-8 FOR S-BB1
STREAM CROSSING
SCALE: NOT TO SCALE

DATE: 10/23/15
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 4 OF 4
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FIGURE 4

R:_212 - OGA\OG&C\EQT\00176 - EEP\GPs\H318\H318 - 00176GP005.dwg P1T NICOLE.NAJESKI 10/20/2015 11:42:23 AM



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**EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE — WASHINGTON COUNTY
GP-5/GP-8 FOR W-BB3**

PLAN

SCALE: 1" = 50'

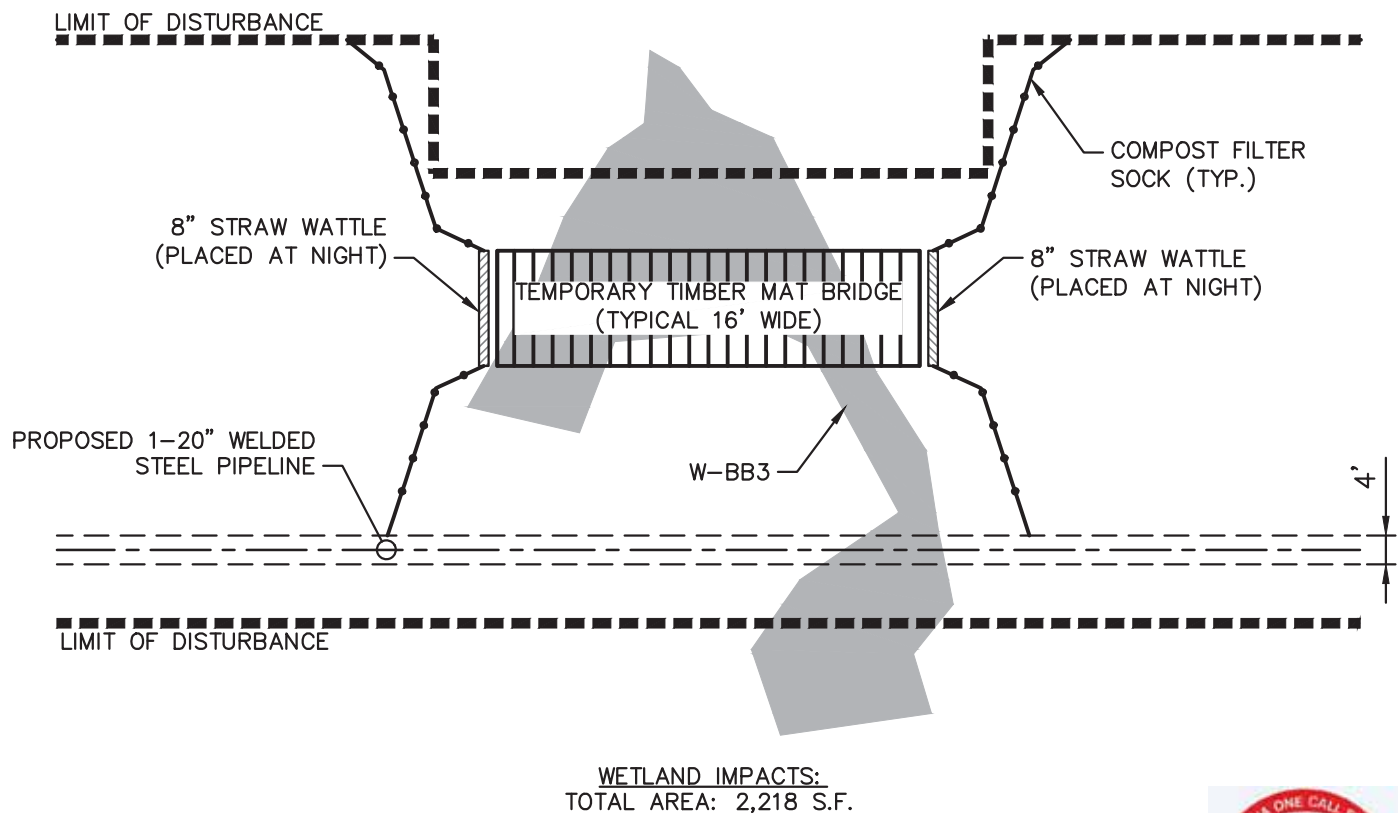
DATE: 10/23/15
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 4

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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF EQUITRANS, LP TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. BY EQUITRANS, LP. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY EQUITRANS, LP.



WETLAND IMPACTS:
TOTAL AREA: 2,218 S.F.

PLAN
NOT TO SCALE



TETRA TECH

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T: (412) 921-7090 | F: (412) 921-4040

EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE – WASHINGTON COUNTY
GP-5/GP-8 FOR W-BB3

PLAN

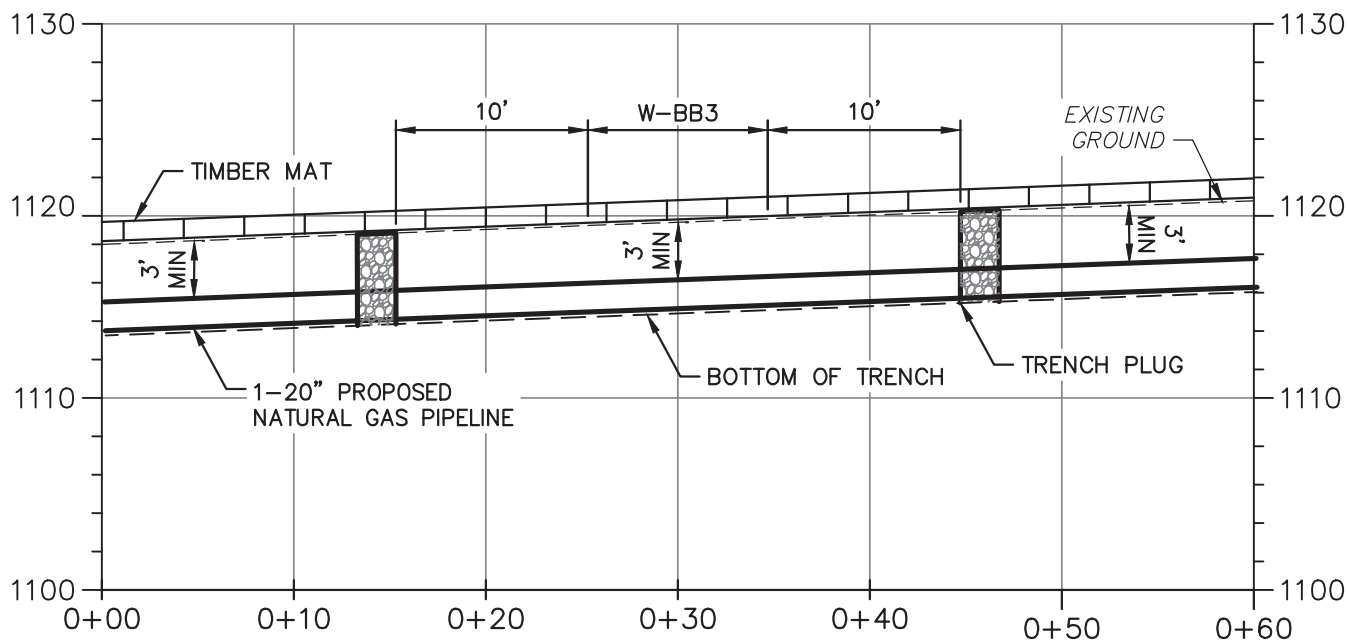
SCALE: NOT TO SCALE

DATE: 10/23/15
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 2 OF 4

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FIGURE 2

R:_212 - OGA\O&G\EQT\00176 - EEP\GP5\H318\H318 - 00176GP007.dwg P1T NICOLE.NAJESKI 10/16/2015 7:28:08 AM



PROFILE FOR W-BB3 OPEN-CUT TRENCH PROFILE

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-5/GP-8 FOR W-BB3
PROFILE

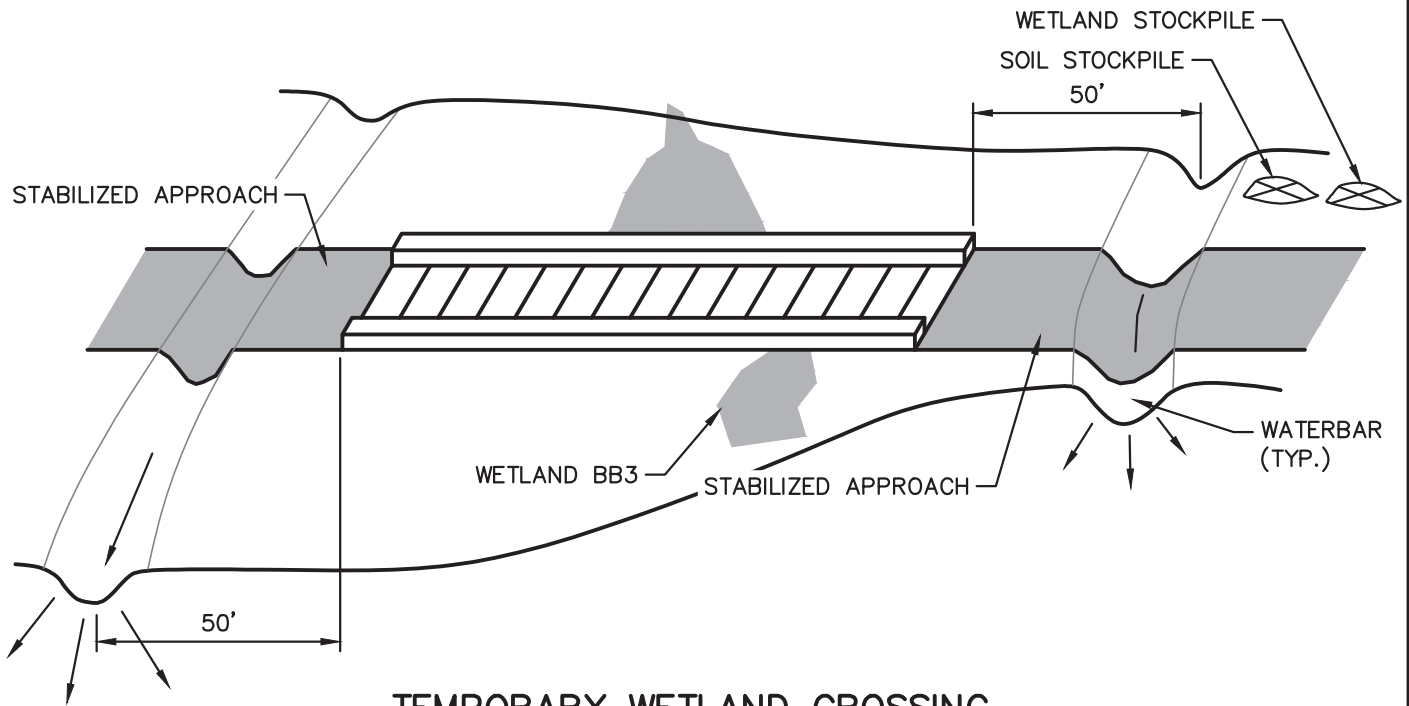
SCALE: AS NOTED

DATE: 10/23/15
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 3 OF 4

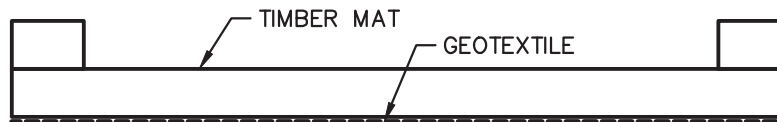
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FIGURE 3

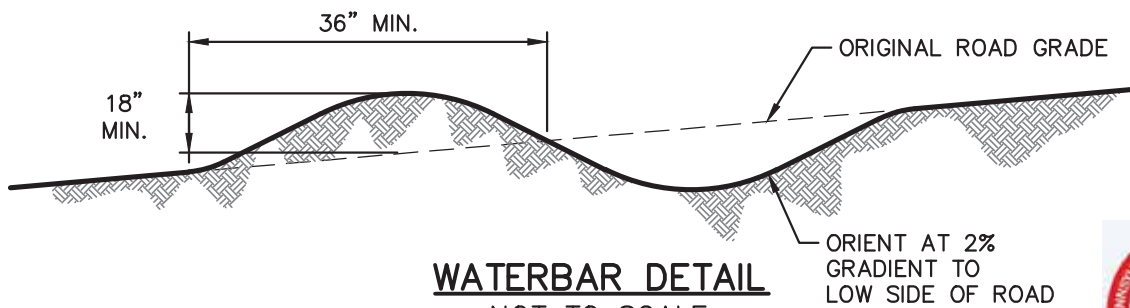
R:_212 - OGA\O&G\DOT\00176 - EEP\GP\H318\H318 - 00176GP008.dwg P1T NICOLE.NAJESKI 10/15/2015 9:48:40 AM



TEMPORARY WETLAND CROSSING
NOT TO SCALE



TYPICAL WETLAND CROSSING
NOT TO SCALE



WATERBAR DETAIL
NOT TO SCALE

NOTE:
APPROACH TO CROSSING NOT TO EXCEED A DEPTH OF 6" ABOVE ORIGINAL GRADE



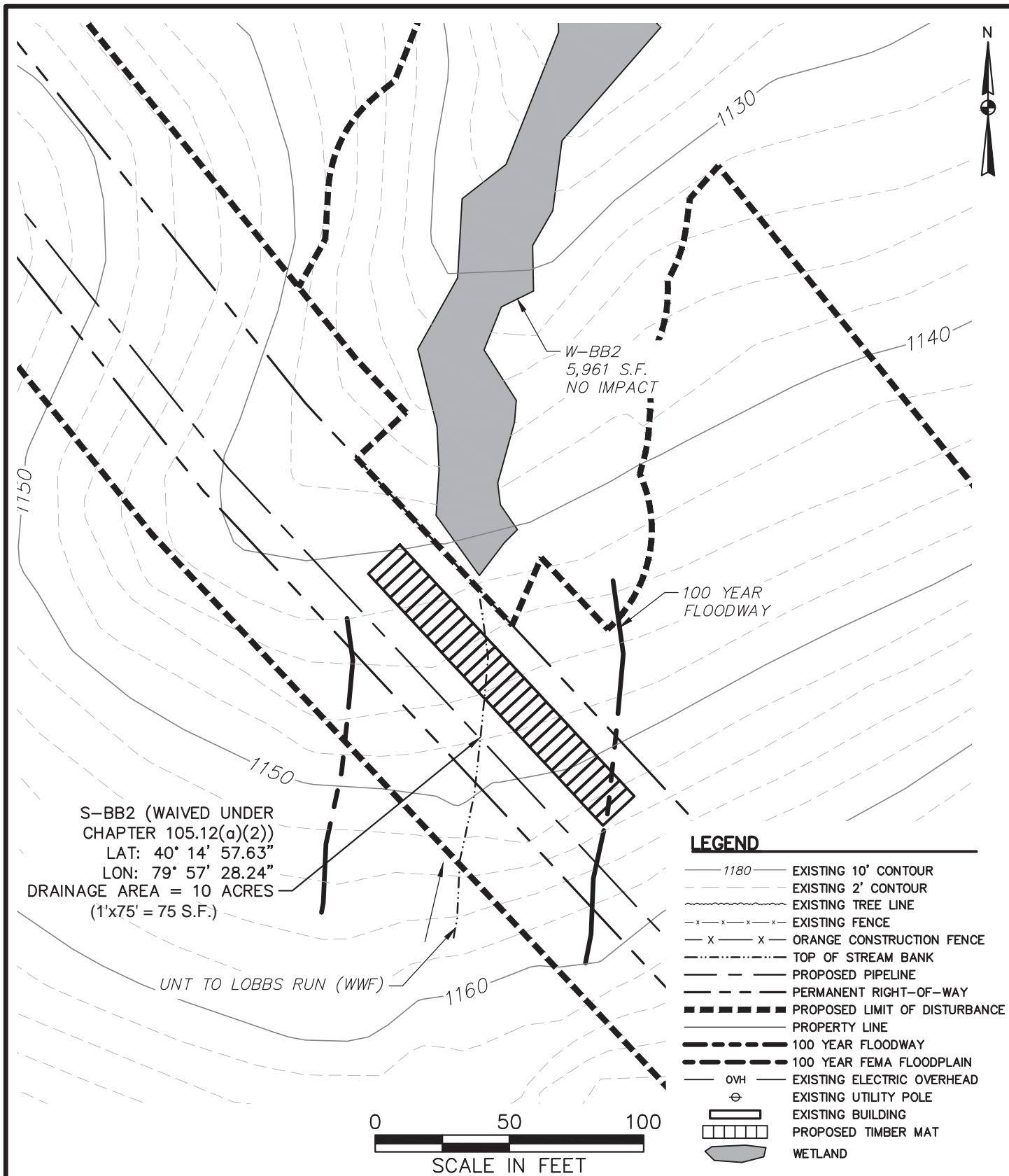
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-8 FOR W-BB3
WETLAND CROSSING
SCALE: NOT TO SCALE

DATE: 10/23/15
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 4 OF 4
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FIGURE 4



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE – WASHINGTON COUNTY
WAIVED UNDER CHAPTER 105.12(a)(2)
FOR S-BB2 PLAN

SCALE: 1" = 50'

DATE:	10/23/15
PROJECT NO.:	212IC-PB-00176
DESIGNED BY:	JS
DRAWN BY:	NN
CHECKED BY:	JS
SHEET:	1 OF 1

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FIGURE 1

SECTION 10.0

SITE PLAN

SECTION 11.0
EROSION AND SEDIMENT CONTROL PLAN

SECTION 11.0 – E&S Plan

Refer to Section 9.0 for site-specific drawings and Best Management Practices. The limits of disturbance shown is the proposed limits of disturbance for the ESCGP-2 which will be submitted at a later date.

SECTION 12.0

WRITTEN DIRECTIONS TO THE PROJECT SITE

SECTION 12.0 - WRITTEN DIRECTIONS TO THE PROJECT SITE

1. From the PA DEP Southwest Regional Office, merge onto PA-28 South.
 2. Take the Interstate 579S/376E exit.
 3. Continue onto I-579 S.
 4. Merge onto Crosstown Blvd.
 5. Continue onto Liberty Bridge and continue onto W Liberty Ave.
 6. Exit onto PA-51 S to Uniontown and merge onto Saw Mill Run Blvd.
 7. Sight right onto Fairhaven Rd, Fairhaven Rd turns slightly right and becomes Provost Rd.
 8. Continue onto Brownsville Rd and continue onto Brownsville Rd Ext.
 9. Take slight left onto McChain Rd
 10. Turn left onto Finleyville-Elrama Rd.
 11. The end of the project, Hartson tie-in, will be on the left. Project center coordinates: 40°
15' 15" N, 79° 57' 45" W.
-

SECTION 13.0

PENNSYLVANIA NATURAL DIVERSITY INVENTORY RECEIPT



ENVIRONMENTAL SOLUTIONS & INNOVATIONS, INC.

4525 Este Avenue
Cincinnati, OH 45232
Phone: (513) 451-1777; Fax: (513) 451-3321

Pesi 639

24 June 2015

Dept. of Conservation and Natural
Resources
Bureau of Forestry, Ecological Services
Section
400 Market St., PO Box 8552
Harrisburg, PA 17105

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning &
Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

PA Fish and Boat Commission
Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823

US Fish and Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801

RE: Large Project PNDI – Equitrans Expansion Project

Dear Reviewer:

EQT proposes to develop the Equitrans Expansion Project (Project) in Allegheny, Washington, and Greene counties, Pennsylvania and Wetzel County, West Virginia. The Project will involve the construction of three individual pipeline segments totaling approximately 7.3 miles of new 24 to 30-inch-diameter natural gas transmission pipelines. In addition, EQT plans to replace an existing compressor station with a newer, larger compressor station, adding approximately 48,000 horsepower of centrifugal compression and 12,600 horsepower of reciprocating compression in Greene County, Pennsylvania. USGS 7.5 minute quadrangle maps illustrating the individual segments of this Project are included as Attachment 1. The completed PNDI Review Form is included as Attachment 2. Shapefiles of the Project are also included on the disc enclosed with this submission.

Though the Project was designed to parallel existing EQT Rights-of-Way whenever possible, review of aerial photography indicates that the current route crosses through farmland and forest of various ages. Based on desktop analysis, the Project crosses multiple streams and waterways, and thus will require permits from the U.S. Army Corps of Engineers. No surveys have been conducted for the Project, so no specific wetland data or site specific photographs are yet available. Land disturbance is estimated at approximately 213 acres. Approximately 50 acres of tree removal is expected.

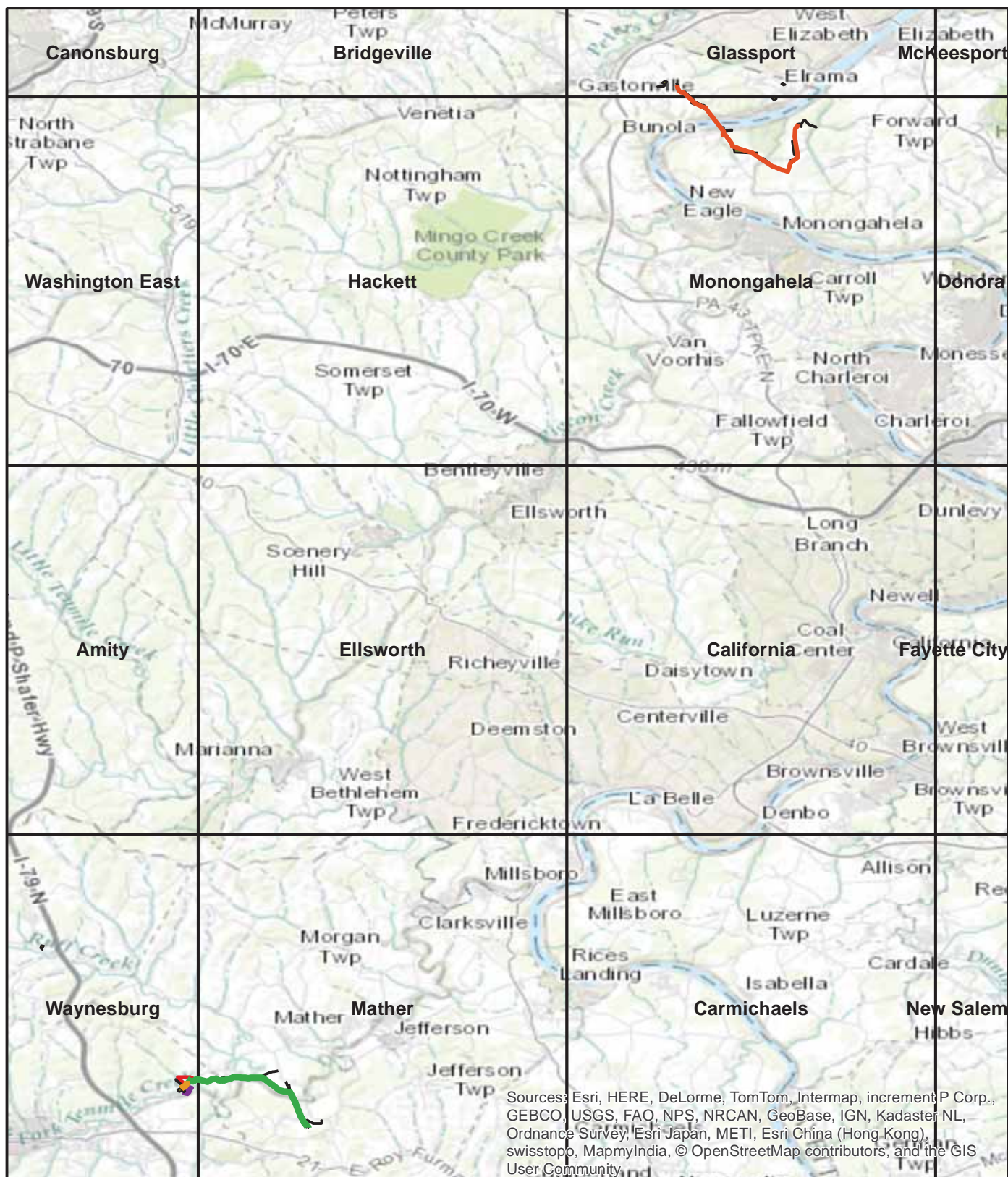
www.ENVSI.com

Thank you for your review. I can be contacted at 513-451-1777 or dsparks@envsi.com.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Dale W. Sparks', with a long horizontal flourish extending to the right.

Dale W. Sparks, Ph.D.
Senior Project Manager



2

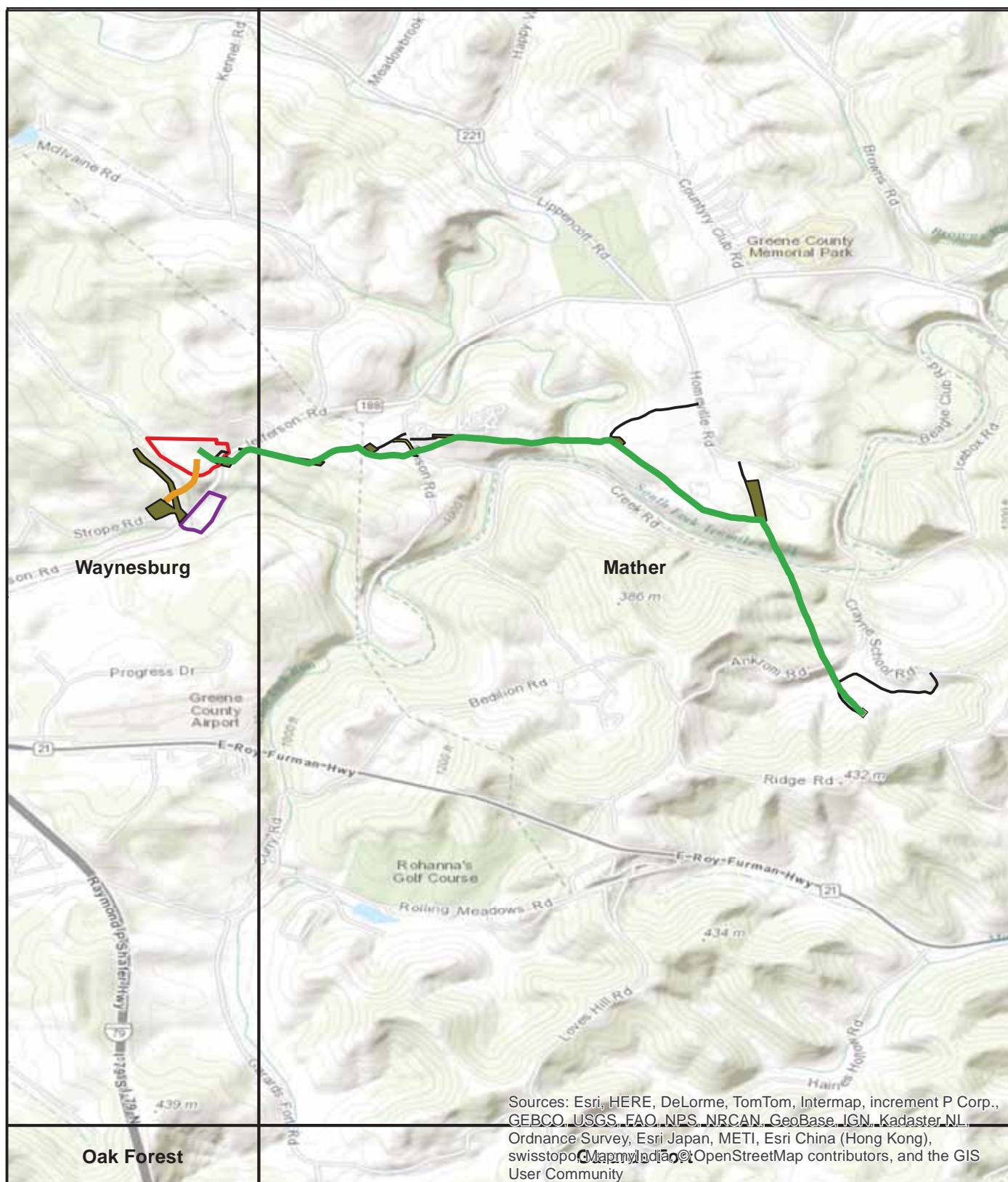
Figure 1. Location of Equitrans Expansion Project in Allegheny, Greene and Washington counties, Pennsylvania; USGS Quadrangles Mather, Waynesburg, Glassport and Monongahela.









Project No.
639

0 2.75 5.5
Mile



ENVIRONMENTAL SOLUTIONS
& INNOVATIONS, INC.



- | | | | |
|--|--|--|--|
|  H158-M80 |  H316 Ground Bed |  H316 Temporary Work Spaces |  Pratt Compressor Station |
|  H316 |  H316 Permanent Work Site |  H316 Access Roads |  Redhook Compressor Station |

2

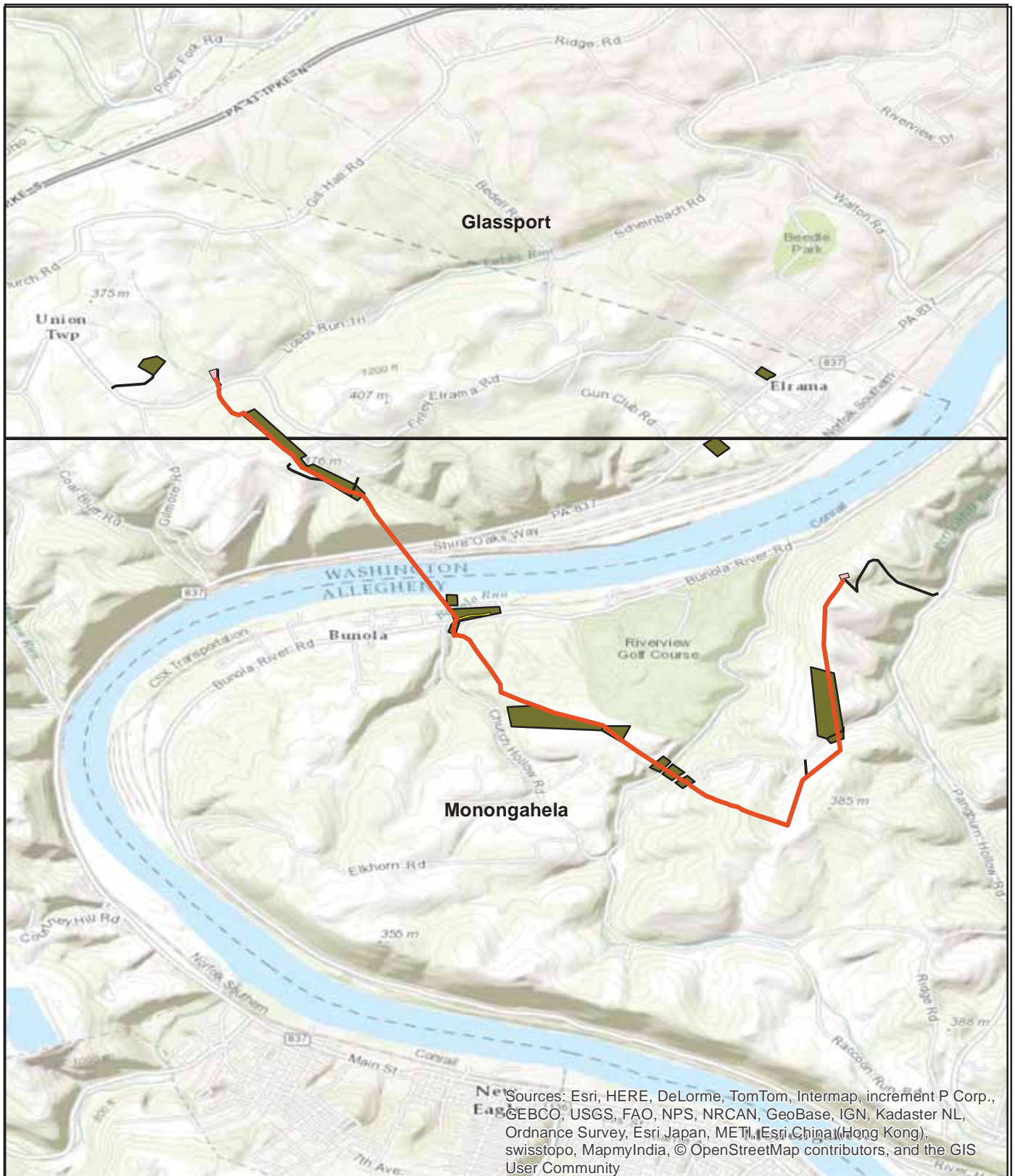
Figure 2. Location of Equitrans Expansion Project in Greene County, Pennsylvania; USGS Quadrangles Waynesburg and Mather.

Project No.
639

0 0.5 1
Mile



ENVIRONMENTAL SOLUTIONS
& INNOVATIONS, INC.



H318

H318 Ground Bed

H318 Temporary Work Spaces

H318 Access Roads

H318 Permanent Work Site

2

Figure 3. Location of Equitrans Expansion Project in Allegheny and Washington counties, Pennsylvania; USGS Quadrangles Glassport and Monongahela.

Project No.
639

0 0.5 1
Mile



ENVIRONMENTAL SOLUTIONS
& INNOVATIONS, INC.

How to Use the PNDI Large Project Form

If your Project is a "Large Project"— too large/long to search on the online system

Projects are considered "Large Projects" when the ENTIRE project is:

- Linear/Large Projects that exceed the PNDI online project size limits of 10 miles in length or 5165 acres
- Township-wide, Countywide or Statewide Projects. Examples: Act 537 Sewage Plans, Wind Farms, Roadway Improvements exceeding map limits above.

Due to system limitations and agency requirements, projects should not be submitted piecemeal. The entire project area including roads and infrastructure should be submitted as a single unit.

What to Send to Jurisdictional Agencies

Send the following information to all of the agencies listed on the Large Project Form.

Check-list of Minimum Materials to be submitted:

☒ Completed Large Project Form

☒ Supplemental project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.

☒ USGS 7.5-minute Quadrangle with project boundary clearly indicated, and quad name on the map

The inclusion of the following information may expedite the review process.

☒ GIS shapefiles depicting the project extent

☒ A basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

___ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)

___ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams

PNDI Large Project Form Definitions

Applicant: Person that owns the property or is proposing the project or activity

Contact Person: Person to receive response if different than applicant (e.g. Consultant)

Project Name: Descriptive title of project (e.g. Twin Pines Subdivision, Miller Bridge Replacement)

Proposed Activity: Include ALL earth disturbance activities for project (e.g. for a timber sale—include stream crossings, cutting areas and new roadway accesses). Also include Current Conditions (e.g. housing, farmland, current land cover), and how Construction/Maintenance Activity is to be accomplished

Total Acres of Property: Entire site acreage (e.g. timber sale property—including road access (200 acres)

Acreage to be Impacted: Disturbance acreage (e.g. timber sale—if the property is 200 acres, but only 100 acres will be disturbed, for example: cutting on 90 acres, a road impacting 10 acres); include all temporary and permanent activities



Pennsylvania Natural Diversity Inventory

LARGE PROJECT FORM

This form provides site information necessary to perform an Environmental Review for special concern species and resources listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, the Pennsylvania Fish and Boat Code or the Pennsylvania Game and Wildlife Code.

Applicant Information

Name: Stephanie Frazier - Eqt

Address: 625 Liberty Avenue, Suite 1700, Pittsburgh, Pa 15222

Phone Number: (412) 553-5798

Fax Number: (412) 395-2156

Contact Person Information - if different from applicant

Name: Environmental Solutions & Innovations, Inc.

Address: 4525 Este Ave., Cincinnati, Oh 45232

Phone Number: (513) 451-1777

Fax Number: (513) 451-3321

Email: dsparks@envsi.

Project Information

Project Name: Equitrans Expansion Project

Project Reference Point (center point of project): Latitude: ^{39 55 5.9 N} Longitude: ^{80 7 12.6 W} Datum:

Municipality: Franklin, Jefferson, Morgan, ^{40 14 23.4 N} ^{79 56 22.4 W}

Forward, Union

County: Allegheny, Washington, Greene

☐ Attach a copy of a U.S.G.S. 7 ½ Minute Quadrangle Map with Project Boundaries clearly marked.

U.S.G.S. Quad Name: Mather, Waynesburg, Glassport, Monongahela

Provide GIS shapefiles showing the project boundary (strongly recommended)

Project Description

Proposed Project Activity (including ALL earth disturbance areas and current conditions)

EQT proposes to develop the Equitrans Expansion Project (Project) in Allegheny, Washington, and Greene counties, Pennsylvania and Whetzel County, West Virginia. The Project will involve the construction of three individual pipeline segments totaling approximately 7.3 miles of new 24 to 30-inch-diameter natural gas transmission pipelines. In addition, EQT plans to replace an existing compressor station with a newer, larger compressor station, adding approximately 48,000 horsepower of centrifugal compression and 12,600 horsepower of reciprocating compression in Greene County, Pennsylvania.

Total Acres of Property: Approx 213 Acreage to be Impacted: Approx 213

1. Will the entire project occur in or on an existing building, parking lot, driveway, road, maintained road shoulder, street, runway, paved area, railroad bed, or maintained lawn? Yes ☐ No ☒
2. Are there any waterways or waterbodies (intermittent or perennial rivers, streams, creeks, tributaries, lakes or ponds) in or near the project area, or on the land parcel? If so, how many feet away is the project? Yes ☒ 0 Feet No ☐
3. Are wetlands located in or within 300 feet of the project area? Yes ☒ No ☐ If No, is this the result of a wetland delineation?
4. How many acres of tree removal, tree cutting or forest clearing will be necessary to implement all aspects of this project? Approx. 50 Acres

Dept. of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market St., PO Box 8552
Harrisburg, PA 17105
fax: 717-772-0271

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection
2001 Elmerton Avenue
Harrisburg, PA 17110-9797

PA Fish and Boat Commission

Natural Diversity Section
450 Robinson Lane
Bellefonte, PA 16823

US Fish and Wildlife Service

Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801
no faxes please



Pennsylvania Fish & Boat Commission

Division of Environmental Services

Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

May 19, 2015

IN REPLY REFER TO

SIR# 44257

Equitrans
Stephanie Frazier
625 Liberty Avenue
Pittsburgh, Pennsylvania 15222

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
Equitrans Expansion Project.
GREENE County: - WASHINGTON County:**

Dear Stephanie Frazier:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search “potential conflict” or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Freshwater Mussels

Rare or protected freshwater mussel species are known from the vicinity of the project area in South Fork Tenmile Creek, Greene County:

Round Pigtoe (*Pleurobema sintoxia*, Rare)
Three-ridge (*Amblema plicata*, Rare)
Wabash Pigtoe (*Fusconaia flava*, Rare)

Freshwater mussels are the most imperiled taxonomic group in North America. Nearly 20% of the species historically known to occur in the Commonwealth are now extirpated (locally extinct). Additionally 60% of Pennsylvania’s remaining species are of conservation concern. We are concerned about direct and indirect (i.e., runoff) effects that the proposed project may have on the species of concern. The freshwater mussel species known from the project area are especially vulnerable to physical (dredging, rip-rap, etc.) and chemical (pH, dissolved oxygen, temperature, heavy metals and organic

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth’s aquatic resources and provide fishing and boating opportunities.

contaminants) changes to their aquatic environment. Therefore, **we recommend using directional boring** rather than open cutting for the South Fork Tenmile Creek crossing. Open cutting will most likely adversely impact the species of concern. Work should be conducted from the bank (e.g., no in-stream disturbance). Likewise, no erosion or sediment should be allowed to enter into the river (e.g., strict erosion and sedimentation control measures need to be employed).

Provided that directional boring methodology is used, in-stream work on South Fork Tenmile Creek is avoided, strict E&S control measures are maintained, and best management practices are employed, we do not foresee any significant adverse impacts from the proposed activity to the mussel species of special concern or any other rare or protected species under Pennsylvania Fish & Boat Commission jurisdiction **provided that the applicant implement the following contingencies to prevent impacts to water quality from drilling/boring operations:**

- Have a designated environmental inspector on site for the duration of the entire crossing operation
 - Stop the bore/drill immediately if anyone on site observes an Inadvertent Return.
 - Have a Vac Truck on site or on call (within three hours) to begin clean-up of the release in the stream channel to prevent downstream migration of drilling fluids
 - Notify PFBC Bureau of Law Enforcement Regional Office within 24 hours
- http://fishandboat.com/dir_regions.htm (NC 814-359-5250; NE 570-477-5717; NW 814-337-0444; SW 814-445-8974)

Additionally, any release of sediment to the stream should be reason to initiate contact with the PFBC Bureau of Law Enforcement to address these issues. Any unauthorized disturbance, unpermitted discharge, or release of sediment(s) that is determined to be a pollution event (generally described <http://www.fish.state.pa.us/fishpub/summary/reporting.html>) per the Pennsylvania Fish and Boat Code will be subject to the appropriate legal enforcement action.

If, however, the work will necessitate any direct (e.g. equipment intrusion) or indirect impacts (e.g. runoff) to South Fork Tenmile Creek, then we request that a mussel survey and mussel relocation be conducted. The mussel survey would examine the proposed right-of-way (ROW) (direct impact area) as well as the indirect area. All live mussels encountered within the area of direct impact would be collected and relocated out of harm's way if the stream crossing is proposed to be open-cut. The mussel survey can be conducted by the PFBC or a qualified malacologist. Mussels are more readily detectible near the substrate surface during appropriate seasons (May 1 to October 15) and water temperatures (generally above 55 °F). In addition, a cursory mussel survey will require appropriate stream conditions, including normal flow and relatively clear water.

If you decide that you would like the PFBC to conduct the mussel survey, please schedule a field meeting with us so that we can complete an evaluation of mussel habitat quality as well as a mussel survey to determine presence/absence, location, and abundance of mussel species within or adjacent to the proposed project area.

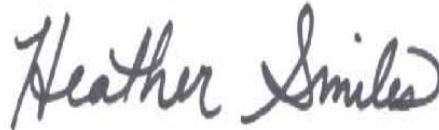
Enclosed is a list of qualified malacologists and a PFBC approved mussel survey protocol if you prefer to arrange for a non-PFBC mussel survey. Prior to conducting a survey, the qualified malacologist should submit a proposed survey and relocation plan to this office. Upon completion of the mussel survey and relocation, please send a copy of the final report to this office for further evaluation. We look forward to receiving this information.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not

necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Gary Smith at 814-279-3080 and refer to the SIR # 44257. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

A handwritten signature in dark ink that reads "Heather Smiles". The signature is written in a cursive, flowing style.

Heather A. Smiles, Chief
Natural Gas Section

HAS/GAS/dn

BUREAU OF FORESTRY

July 22, 2015

PNDI Number: 22453

Dale Sparks**Environmental Solutions & Innovations, Inc.**

4525 Este Avenue

Cincinnati, OH 45232

Email: dsparks@envsi.com (hard copy will not follow)

Re: Equitrans Expansion Project**Allegheny, Washington, and Greene Counties, PA**

Dear Mr. Sparks,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Large Project Number 22453 for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

Potential Impact Anticipated

PNDI records indicate species or resources under DCNR's jurisdiction are located in the project vicinity. Based on a detailed PNDI review, DCNR determined potential impacts to the following threatened or endangered species or species of special concern.

Segment H318

Scientific Name	Common Name	PA Current Status	PA Proposed Status
<i>Baptisia australis</i>	Blue False-indigo	Not Listed	Threatened
<i>Erythronium albidum</i>	White Trout-lily	Not Listed	Rare
<i>Iodanthus pinnatifidus</i>	Purple Rocket	Endangered	Endangered
<i>Scutellaria saxatilis</i>	Rock Skullcap	Undetermined	Endangered
<i>Trillium nivale</i>	Snow Trillium	Rare	Rare

Segments H316/H158-M80

Scientific Name	Common Name	PA Current Status	PA Proposed Status
<i>Erythronium albidum</i>	White Trout-lily	Not Listed	Rare
<i>Scutellaria saxatilis</i>	Rock Skullcap	Undetermined	Endangered
<i>Tipularia discolor</i>	Cranefly Orchid	Rare	Rare
<i>Trillium nivale</i>	Snow Trillium	Rare	Rare

Survey Request

DCNR requests a survey for the following species:

- ***Baptisia australis* (Blue False-indigo):** locally documented on a rich wooded riverine slope; prefers open woods, stream banks, and sandy floodplains; flowers May – June
- ***Erythronium albidum* (White Trout-lily):** locally documented in floodplain forest and on rich wooded slopes along rivers and creeks; prefers moist woods and rich slopes, especially on limestone; flowers April – May

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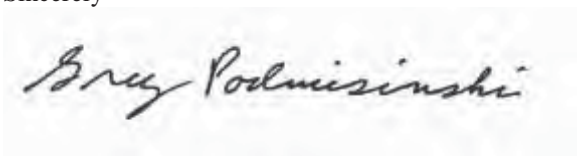
P.O. Box 8552, Harrisburg, PA 17015-8552 717-787-3444 (fax) 717-772-0271

- ***Iodanthus pinnatifidus* (Purple Rocket):** locally documented on a rich wooded riverine slope; prefers moist alluvial woods and wooded slopes; flowers May – June
 - ***Scutellaria saxatilis* (Rock Skullcap):** locally documented in sycamore scrub floodplain; prefers low woods, rocky stream banks, and roadsides; flowers July – August
 - ***Tipularia discolor* (Crane-fly Orchid):** locally documented in red oak mixed hardwood forest; prefers deciduous forest and stream banks; leaf visible fall, winter, and spring
 - ***Trillium nivale* (Snow Trillium):** locally documented on rich stream valley wooded slopes; prefers stream valleys and wooded slopes, especially on limestone; flowers late March – April
- ✓ A survey for the above species should be conducted by a qualified botanist *at the appropriate time of year and then submitted to our office for review. Your botanist should carefully review the new DCNR Botanical Survey Protocols available at <http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx>. These protocols are recommended to ensure that the all necessary information is collected and that survey reports are prepared properly. It is the expectation of DCNR that these protocols will be followed when conducting surveys for species under our jurisdiction.*
 - ✓ Your botanist should *fill out the field survey form while performing their survey: <http://www.gis.dcnr.state.pa.us/hgis-er/hgis/2012%20DCNR%20Field%20Survey%20Form.pdf>. Contact our office prior to the survey for detailed information about the species, or for a list of qualified surveyors.*
 - ✓ Any target and non-target state-listed species found during the site visit should be reported to our office. Mitigation measures and monitoring may be requested if species or communities of special concern are found on or adjacent to site.
 - ✓ If the land type(s) does not exist on site, a survey may not be necessary; please submit a habitat assessment report which describes the current land cover, habitat types, and species found on site.

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an “Update” (including an updated PNDI receipt, project narrative and accurate map). As a reminder, this finding applies to potential impacts under DCNR’s jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth’s other resource agencies for environmental review.

Should you have any questions or concerns, please contact Jason Ryndock, Ecological Information Specialist, by phone (717-705-2822) or via email (c-jryndock@pa.gov).

Sincerely



Greg Podnieszinski, Section Chief
Natural Heritage Section

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

July 27, 2015

Stephanie Frazier
Equitrans, L.P.
625 Liberty Avenue
Suite 1700
Pittsburgh, PA 15222

RE: USFWS Project #2015-0578

Dear Ms. Frazier:

Thank you for your letter of April 27, 2015, regarding information about federally listed and proposed endangered and threatened species within the area affected by Equitrans, L.P., proposed Equitrans Expansion project located in Allegheny, Washington, and Greene counties, Pennsylvania, and Wetzel County, West Virginia. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species and the Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) to ensure the protection of migratory bird species.

The proposed project consists of the replacement and expansion of compressor stations, installation of pipelines, and a new interconnect to deliver natural gas volumes into Mountain Valley Pipeline, LLC's proposed pipeline in West Virginia.

Federally Listed Species

The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered and within the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*). On May 4, 2015, the northern long-eared bat listing became effective; more information on the new listing of this species can be found at: <http://www.fws.gov/midwest/endangered/mammals/nlba/index.html>

Land-clearing associated with the project may result in the death or injury of roosting Indiana bats if tree-cutting is conducted during the time of year when bats may be present (*i.e.*, April 1 to September 30). Due to the potential for these bat species to occur within the project area, the Service recommends that measures be implemented to avoid killing or injuring them. This can be accomplished by carrying out tree-cutting activities from October 1 to March 31, during which time bats are hibernating or concentrated near their hibernacula. This seasonal restriction on tree cutting applies to trees that are greater than or equal to 3 inches in diameter at breast

height (d.b.h). Where possible, retain shagbark hickory trees, dead and dying trees, and large diameter trees (greater than 12 inches d.b.h.) to serve as roost trees for bats. Where possible, also retain forested riparian corridors and forested wetlands.

If you are unable to adopt the tree-cutting restrictions detailed above, a bat survey of the project area should be conducted between May 15 and August 15 by a qualified, Service-approved biologist (see enclosed list) using the 2015 RANGE-WIDE INDIANA BAT SUMMER SURVEY GUIDELINES April 2015, which can be found at the following link:

<http://www.fws.gov/northeast/pafo/surveys.html>.

Survey results should be submitted to the Service for review and concurrence.

Please advise this office as to whether you intend to conduct bat surveys, or assume bats are present and implement a seasonal restriction on tree-cutting.

Assessment of Risks to Migratory Birds

The Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented.

The potential exists for avian mortality from habitat destruction and alteration within the project boundaries. Site-specific factors that should be considered in project siting to avoid and minimize the risk to birds include avian abundance; the quality, quantity and type of habitat; geographic location; type and extent of bird use (e.g. breeding, foraging, migrating, etc.); and landscape features. Please review the enclosed information for general recommendations for avoiding and minimizing impacts to migratory birds within and around the project area. Please be aware that since these are general guidelines, some of them may not be applicable to the current project design or they may have already been included in the project design.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Pamela Shellenberger of my staff at 814-234-4090.

Sincerely,



Lora L. Zimmerman
Field Office Supervisor

Enclosures

cc: USFWS – West Virginia Field Office



Division of Environmental
Planning and Habitat
Protection
717-783-5957

COMMONWEALTH OF PENNSYLVANIA
Pennsylvania Game Commission
2001 ELMERTON AVENUE
HARRISBURG, PA 17110-9797

*"To manage all wild birds, mammals and their habitats
for current and future generations."*

ADMINISTRATIVE BUREAUS:

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HUMAN RESOURCES.....717-787-7836
FISCAL MANAGEMENT.....717-787-7314
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WILDLIFE HABITAT
MANAGEMENT.....717-787-6818
REAL ESTATE DIVISION.....717-787-6568
AUTOMATED TECHNOLOGY
SERVICES.....717-787-4076

www.pgc.state.pa.us

June 30, 2015

PGC ID Number: 201505050202 Update

Dale Sparks
Environmental Solutions & Innocations, Inc.
4525 Este Ave.
Cincinnati, OH 45232
dsparks@envsi.com

Re: EQT – Equitrans Expansion Project (*Update*)
Large Project PNDI Review
Greene, Allegheny & Washington Counties, PA

Dear Mr. Sparks,

Thank you for submitting your Pennsylvania Natural Diversity Inventory (PNDI) Large Project Environmental Review request. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

No Impact Anticipated – PNDI Species

PNDI records indicate species or resources of concern are located in the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, the PGC has determined that no impact is likely. Therefore, no further PNDI coordination with the PGC will be necessary for this project at this time.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to the PGC at the following address as an “Update” (including an updated PNDI receipt, project narrative and accurate map):

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning & Habitat Protection

2001 Elmerton Avenue
Harrisburg, PA 17110-9797

If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements by the PGC for an additional 2 years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Please be sure to include the above-referenced PGC ID Number on any future correspondence with the PGC regarding this project.

Sincerely,



John Taucher
Division of Environmental Planning & Habitat Protection
Bureau of Wildlife Habitat Management
Phone: 717-787-4250, Extension 3632
Fax: 717-787-6957
E-mail: jotaucher@pa.gov

A PNHP Partner



JWT/jwt

cc: H:\OIL&GAS_PNDI_Reviews\Southwest Region

SECTION 14.0

REGISTRATION FOR A BOG TURTLE HABITAT SCREENING FORM

**SECTION 14.0 - REGISTRATION FOR
A BOG TURTLE HABITAT SCREENING FORM**

No Bog Turtle Habitat Screening Form is required since the Project activities occur within Washington County.

SECTION 15.0

ACTIVITIES WHICH IMPACT WETLANDS

Aquatic Resource Report for the
Equitrans Expansion Pipeline Project
Allegheny, Washington, and Greene Counties,
Pennsylvania,
and Wetzel County, West Virginia



Prepared By:
Tetra Tech, Inc.
For
Equitrans, LP
625 Liberty Avenue Suite 1700,
Pittsburgh, Pennsylvania



October 2015

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ACRONYMS

1987 Manual	USACE of Engineers Wetland Delineation Manual
USACE Regional Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region
EQT Gathering	EQT Gathering, LLC
Equitrans	Equitrans, L.P.
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
GIS	Geographic Information Systems
GPS	Global Positioning System
MVP	Mountain Valley Pipeline
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate
PEM	Palustrine Emergent
PFO	Palustrine Forested
ROW	Right-of-way
SF	Square Feet
UNT	Unnamed Tributary
UPL	Upland
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WWF	Warm Water Fishes

1.0 INTRODUCTION

This Aquatic Resource Report for the proposed Equitrans Expansion Project was prepared by Tetra Tech, Inc. on behalf of Equitrans, L.P. (Equitrans). Areas were investigated for the presence of wetlands on site using methodologies enumerated in the *United States Army Corps of Engineers (USACE) Wetland Delineation Manual* (Environmental Laboratory, 1987) (*1987 Manual*), as amended by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region*, April 2012 (*USACE Regional Supplement*).

The subject of this report is a proposed project involving multiple proposed natural gas pipeline right-of-ways (ROW), associated access roads, above ground facilities and workspaces located in Allegheny, Greene and Washington Counties, Pennsylvania. The purpose of this proposed project is to add capacity to bring natural gas from the central Appalachian Basin into the interstate pipeline grid or existing Equitrans markets.

1.1 Washington/Allegheny Counties, PA (H-318 pipeline)

The portion of the project in Allegheny and Washington Counties (the H-318 pipeline) will include the installation of 1, 20" natural gas transmission pipeline, approximately 4.6 miles long, within a 100'-wide construction ROW and a 50'-wide permanent ROW. This portion of the project also involves the installation of permanent aboveground facilities including the Applegate and Hartson Launcher/Receiver Facilities. The H-318 pipeline will move gas from the EQT Gathering, LLC (EQT Gathering) Applegate Gathering System, in Forward Township, Allegheny County, to Equitrans' existing H-148 pipeline, in Union Township, Washington County, for delivery south.

The proposed project area in Allegheny and Washington County would require crossing the Monongahela River. The Monongahela River and its associated UNTs are listed as Warm Water Fishes (WWF), as designated in Chapter 93 of Title 25 of the PA Code. The proposed project would also require crossing Lobbs Run, Bunola Run, Kelly Run and several UNTs to each. These water features and the associated UNTs are listed as Warm Water Fishes (WWF), as designated in Chapter 93 of Title 25 of the PA Code.

1.2 Greene County, PA (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

The portion of the project in Greene County will include the installation four pipelines and new above ground facilities. The H-316 natural gas pipeline will be a 30" natural gas transmission pipeline, approximately 2.9 miles long, within a 125'-wide construction ROW and 50'-wide

permanent ROW. The H-316 pipeline will move gas from the proposed Redhook Compressor Station to Equitrans' existing H-302 pipeline for delivery to Texas Eastern infrastructure, or south on Equitrans' existing H-302 pipeline to the Mountain Valley Pipeline (MVP). The proposed project in Greene County also involves the installation of three shorter pipelines: the M-80, the H-158, and the H-305 pipelines. Each of these proposed pipelines will be located within a 100'-wide construction ROW and a 50'-wide permanent ROW. The M-80 pipeline is an existing 6" pipeline to the Pratt Compressor Station that will be extended to move gas to the Redhook Compressor Station once it is commissioned. The H-158 pipeline is an existing 12" pipeline to the Pratt Compressor Station that will be extended to move gas to the Redhook Compressor Station once it is commissioned. The H-305 pipeline is a proposed 24" pipeline extension, approximately 540' in length, that will move gas from the Redhook Compressor Station to Equitrans' existing H-305 pipeline located at the existing Braden Run Interconnect with Texas Eastern. New above ground facilities for this portion of the project include the Redhook Compressor Station and the H-302 tie-in. The pipeline projects spans Jefferson and Morgan Townships, Greene County, PA.

The project area in Greene County would require crossing South Fork Tenmile Creek and several UNTs to it. The South Fork Tenmile Creek and its associated UNTs are listed as WWF, as designated in Chapter 93 of Title 25 of the PA Code. The proposed project would also require crossing Ruff Creek and several UNTs. These water features and the associated UNTs are listed as WWF, as designated in Chapter 93 of Title 25 of the PA Code.

1.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

In Wetzel County, West Virginia, the project involves the installation of the Webster Interconnect, Mobley Tap and the H-319 pipeline, a new 16-inch pipeline, approximately 200 feet in length that will connect the existing Equitrans H-306 pipeline to the proposed Webster Interconnect with MVP.

The project area in Wetzel County, West Virginia is located within the Mobley Run and North Fork Fishing Creek watersheds. UNT to North Fork Fishing Creek will be crossed by this project.

The content of this report presents the results of wetland delineation and stream identification activities completed for the pipeline ROW, associated access roads, above ground facilities and workspaces for the proposed project.

2.0 METHODOLOGY

USACE requires the use of the procedures enumerated in the *1987 Manual* (Environmental Laboratory, 1987) and the *USACE Regional Supplement* (Environmental Laboratory, 2012) for making jurisdictional determinations. According to the *1987 Manual*, an area is defined as a wetland if, under normal circumstances, it meets all three of the following criteria:

1. Predominance of hydrophytic vegetation (plants adapted for life in saturated soil conditions);
2. Hydric soils (soils formed under water, or in saturated conditions); and
3. Wetland hydrology (presence of inundated or saturated soils at some time during the growing season).

Wetlands identified in the field were classified in accordance with the U.S. Fish and Wildlife Service's (USFWS) *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979), *A Hydrogeomorphic Classification for Wetlands* (Brinson 1993) and USACE Waters Type. Dominant vegetation was identified and classified according to The National Wetland Plant List: 2014 Update of Wetland Ratings (Lichvar, 2014). Plant classifications are as follows:

- Obligate (OBL) - essentially always found in wetlands; estimated probability >99%
- Facultative Wetland (FACW) - usually found in wetlands; estimated probability 67%-99%
- Facultative (FAC) - equally likely to occur in wetlands and non-wetlands; estimated probability 34%-66%
- Facultative Upland (FACU) - usually occurs in non-wetlands; estimated probability 1%-33%
- Upland (UPL) - essentially always found in non-wetlands; estimated probability >99%

The field investigations for the proposed Project were performed during numerous field visits: June 9th 2015, July 8th - 12th 2015, and October 8th 2015. The study area was focused on the proposed pipeline corridor, proposed access roads, and specific areas identified for proposed workspaces, ancillary sites, and compressor stations. Study areas were investigated for the presence of potential wetlands and streams. The final study area is illustrated on the project mapping (Figures).

Preliminary site reconnaissance of the study area was conducted through a review of available Geographic Information Systems (GIS) resources. Existing information reviewed included the following:

- U.S. Geological Survey (USGS) topographic mapping (Figure 1-1 to 1-4)

- Natural Resources Conservation Service (NRCS) National Cooperative Soil Survey (Figure 2-1 to 2-4)
- USFWS National Wetland Inventory (NWI) Mapping (Figure 3-1 to 3-4)

Wetland delineation in the field involved establishment of the wetland/upland margin with flagging hung at intervals that accurately depicted the outline of the boundary. The individual flags were then located using a Global Positioning System (GPS) receiver with sub-meter accuracy and later added to the project area mapping. Wetland flagging was limited to the bounds of the investigated study area and wetlands are shown as closed or partially closed systems on the detail map (Figure 4).

All wetlands and streams identified were given unique identification names (i.e. Wetland ID, Stream ID). For streams, the National Hydrography Dataset (NHD) mapped stream names (USGS 2015) are also provided in the results. For identified streams without a NHD name, the identified stream was given the name, "Unidentified Tributary (UNT)", of the first named receiving waterbody.

Data concerning soils, hydrology, and vegetation were collected and recorded on USACE Wetland Determination Data Forms at wetlands and at upland point locations associated with each wetland. USACE Wetland Determination Forms and stream data sheets detailing stream characteristics are provided in Appendix A. Photographs depicting wetland topography and vegetation are included in Appendix B. Appendix C contains photographs of streams identified within the study area. Appendix D provides a list of hydric soils known to occur within the counties of the study area. Resumes of Project field personnel, summarizing professional experience, qualifications, and education, are included in Appendix E.

3.0 RESULTS

Thirty-three areas within the Equitrans Expansion Project study area met the wetland criteria outlined in the *1987 Manual*, as amended by the *USACE Regional Supplement*. Additionally, 37 streams were identified within the evaluated study area. A narrative summary of field data collected within the study area for this Project is presented below. The detail maps (Figure 4-1 to 4-22) illustrate the wetland and watercourse locations in relation to the proposed ROW.

3.1 Wetland Identification and Delineation

This section is a summary of the wetland delineation for the individual projects within the Equitrans Expansion Project. USACE wetland determination data forms detailing the existing vegetation, soil characteristics, and hydrology were prepared for each wetland and its associated upland point (Appendix A).

3.1.1 Washington/Allegheny Counties (H-318 pipeline)

Based on field evidence and best professional judgment, it was determined that 13 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the *USACE Regional Supplement*.

A review of the NRCS Soil Survey and hydric soil list indicated that seven soils mapped within the Allegheny and Washington county study area are classified as hydric or as containing hydric components (Figure 2-1 to 2-4): Cavode silt loam, 2 to 8 percent slopes (CaB), Cavode silt loam, 8 to 15 percent slopes (CaC), Fluvaquents, loamy (Fa), Glenford silt loam 3 to 8 percent slopes (GdB), Udorthents, smoothed gently sloping (UdB), Udorthents, smoothed, moderately steep (UdD), and Urban land-Rainsboro complex, gently sloping (URB).

No NWI wetlands are mapped within the study area (Figure 3-1 to 3-4).

Wetland BB1

Wetland BB1 (W-BB1) is a palustrine emergent (PEM) wetland 867-square foot (SF) in size located in the northwestern portion of the study area (Figure 4-1). Indicators of wetland hydrology include surface water, algal mat or crust, and crayfish burrows. Dominant vegetation consisted of curly dock (*Rumex crispus*), Pennsylvania smartweed (*Polygonum pennsylvanicum*), and Kentucky blue grass (*Poa pratensis*). The soil between 0-14 inches exhibited a low-chroma matrix color (2.5Y 3/2) with a clay loam texture. The soil between 14-18 inches exhibited a low-chroma matrix color (10YR 4/2) with a clay loam texture.

Wetland BB3

Wetland BB3 (W-BB3) is a PEM wetland 2,993-SF in size located in the northwestern portion of the study area (Figure 4-2). Indicators of wetland hydrology include surface water, saturation, hydrogen sulfide odor, crayfish burrows, geomorphic position, and FAC neutral test. Dominant vegetation consisted of common fox sedge (*Carex vulpinoidea*), dark-green bulrush (*Scirpus atrovirens*), short-awn meadow-foxtail grass (*Alopecurus aequalis*), and spreading bent grass (*Agrostis stolonifera*). The soil between 0-12 inches exhibited a low-chroma matrix color (7.5Y 3/2) with a clay loam texture. The soil between 12-18 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture.

Wetland BB2

Wetland BB2 (W-BB2) is a PEM wetland 5,961-SF in size located in the northwestern portion of the study area (Figure 4-2). Indicators of wetland hydrology include surface water, a high water table, saturation, hydrogen sulfide odor, drainage patterns, geomorphic position, and FAC neutral test. Dominant vegetation consisted of curly dock, common fox sedge, and dark-green bulrush. The soil between 0-1 inches exhibited a low-chroma matrix color (2.5Y 3/1) with a muck texture. The soil between 1-5 inches exhibited a low-chroma matrix color (2.5Y 3/1) with a clay loam texture.

Wetland BB13

Wetland BB13 (W-BB13) is a palustrine forested (PFO) wetland 11,621-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include surface water, saturation, water stained leaves, aquatic fauna, crayfish burrows, and geomorphic position. Dominant vegetation consisted of ashleaf maple (*Acer negundo*), red maple (*Acer rubrum*), Chinese privet (*Ligustrum sinense*), Canadian clearweed (*Pilea pumila*), may-apple (*Podophyllum peltatum*), stinging nettle (*Urtica dioica*), Japanese stilt grass (*Microstegium vimineum*), pale touch-me-not (*Impatiens pallida*), and poison ivy (*Toxicodendron radicans*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture. The soil between 3-16 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam texture.

Wetland BB11

Wetland BB11 (W-BB11) is a PFO wetland 2,493-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include water marks and water stained leaves. Dominant vegetation consisted of red maple, American beech (*Fagus grandifolia*), an unidentified honeysuckle species (*Lonicera* sp.), and Canadian clearweed. The soil between 0-1 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam muck texture. The soil between 1-18 inches exhibited a 10YR 4/3 matrix color with a clay loam texture.

Wetland BB10

Wetland BB10 (W-BB10) is a PFO wetland 1,016-SF in size located in the central portion of the study area (Figure 4-4). Indicators of wetland hydrology include surface water, water marks, water stained leaves, and crayfish burrows. Dominant vegetation consisted of red maple, American beech, an unidentified honeysuckle species, Japanese stilt grass, Canadian clearweed, deer-tongue rosette grass (*Dichanthelium clandestinum*), and Pennsylvania blackberry (*Rubus pensilvanicus*). The soil between 0-6 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 6-18 inches exhibited a 10YR 5/4 matrix color with a clay loam texture.

Wetland BB9

Wetland BB9 (W-BB9) is a PFO wetland 709-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include surface water, water marks, water stained leaves, aquatic fauna, crayfish burrows, and microtopographic relief. Dominant vegetation consisted of red maple, American beech, an unidentified honeysuckle species, may-apple (*Podophyllum peltatum*), sensitive fern (*Onoclea sensibilis*), and Japanese stilt grass. The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 4/1) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 8-18 inches exhibited a 10YR 5/6 matrix color with a loamy clay texture.

Wetland BB8

Wetland BB8 (W-BB8) is a PFO wetland 1,619-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include water stained leaves, hydrogen sulfide odor, and FAC neutral test. Dominant vegetation consisted of red maple, an unidentified honeysuckle species, Canadian clearweed, and Pennsylvania blackberry. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a clay loam texture. The soil between 8-16 inches exhibited a 10YR 5/6 matrix color with a clay loam texture.

Wetland BB7

Wetland BB7 (W-BB7) is a PEM wetland 94,073-SF in size located in the central portion of the study area (Figure 4-5). Indicators of wetland hydrology include surface water, saturation, hydrogen sulfide odor, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of spreading bent (*Agrostis stolonifera*), stalk-grain sedge (*Carex stipata*), lesser poverty rush (*Juncus tenuis*), poison ivy, and Pennsylvania blackberry. The soil between 0-6 inches exhibited a 10YR 4/3 matrix color with a clay loam texture. The soil between 6-18 inches exhibited a 10YR 5/4 matrix color with a loamy clay texture that contained redoximorphic features (2.5YR 4/6).

Wetland BB6

Wetland BB6 (W-BB6) is a PEM wetland 4,031-SF in size located in the central portion of the study area (Figure 4-6). Indicators of wetland hydrology include surface water, saturation, algal mat or crust, hydrogen sulfide odor, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of spreading bent and poison ivy. The soil between 0-5 inches exhibited a 10YR 4/3 matrix color with a clay loam texture. The soil between 5-20 inches exhibited a low-chroma matrix color (10YR 4/2) with a loamy clay texture that contained redoximorphic features (2.5YR 4/6).

Wetland BB12

Wetland BB12 (W-BB12) is a PEM wetland 250-SF in size located in the central portion of the study area (Figure 4-7). Indicators of wetland hydrology include surface water, algal mat or crust, and sparsely vegetated concave surface, and crayfish burrows. Dominant vegetation consisted of dark-green bulrush. The soil between 0-6 inches exhibited a low-chroma matrix color (2.5Y 4/2) with a clay loam texture that contained redoximorphic features (7.5YR 5/4). The soil between 6-12 inches exhibited a low-chroma matrix color (2.5Y 4/1) with a loamy clay texture that contained redoximorphic features (7.5YR 5/4). The soil between 12-18 inches exhibited a low-chroma matrix color (2.5Y 4/2) with a loamy clay texture.

Wetland BB5

Wetland BB5 (W-BB5) is a PEM wetland 24,440-SF in size located in the northern portion of the study area (Figure 4-11). Indicators of wetland hydrology include surface water, water stained leaves, crayfish burrows, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of dark-green bulrush, lesser poverty rush, and deer-tongue rosette grass. The soil between 0-6 inches exhibited low-chroma (2.5Y 4/2) and gleyed (Gley 4/10Y) matrix colors with a clay loam texture. The soil between 6-12 inches exhibited a 2.5Y 5/4 matrix color with a clay loam texture.

Wetland BB4

Wetland BB4 (W-BB4) is a PEM wetland 1,725-SF in size located in the northern portion of the study area (Figure 4-11). Indicators of wetland hydrology include surface water, aquatic fauna, crayfish burrows, and FAC neutral test. Dominant vegetation consisted of stalk-grain sedge and lesser poverty rush. The soil between 0-5 inches exhibited a low-chroma matrix color (10YR 3/2) with a clay loam texture that contained redoximorphic features (7.5YR 4/6). The soil between 5-18 inches exhibited a 10YR 4/3 matrix color with a clay loam texture.

3.1.2 Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

Based on field evidence and best professional judgment, it was determined that 17 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the *USACE Regional Supplement*. The vegetative community was dominated by hydrophytic plant species, the soils exhibited hydric characteristics, and the area contained wetland hydrology indicators.

A review of the NRCS Soil Survey and hydric soil list indicated that six soils mapped within the Green County study area are classified as hydric or as containing hydric components these are Dumps, mines (Du), Fluvaquents, loamy (Fa), Glenford silt loam, 3 to 8 percent slopes (GdB), Newark silt loam (Nw), Udorthents, smoothed gently sloping (UdB), and Udorthents, smoothed, moderately steep (UdD) (Figure 2-1).

Three NWI wetlands are mapped within the study area (Figure 3).

Wetland N1

Wetland N1 (W-N1) is a PEM wetland 3,401-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology includes saturation and geomorphic position. Dominant vegetation consisted of lamp rush (*Juncus effusus*). The soil between 0-17 inches exhibited a low-chroma matrix color (10YR 5/2) with a sandy clay texture that contained redoximorphic features (10YR 6/8, 10YR 6/1).

Wetland AA1

Wetland AA1 (W-AA1) is a PEM wetland 5,275-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, microtopographic relief, and FAC neutral test. Dominant vegetation consisted of American sycamore (*Platanus occidentalis*), common fox sedge, and American hog peanut (*Amphicarpaea bracteata*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 4/2) with a silty clay loam texture. The soil between 3-10 inches exhibited low-chroma matrix colors (10YR 5/1, 10YR 4/2) with a silty clay loam texture that contained redoximorphic features (10YR 3/6). The soil between 10-20 inches exhibited a 10YR 5/6 matrix color with a silty clay loam texture.

Wetland AA5

Wetland AA5 (W-AA5) is a PEM wetland 855-SF in size located in the central portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table and geomorphic position. Dominant vegetation consisted of an unidentified grass species (*Poa* sp.). The soil

between 0-17 inches exhibited low-chroma matrix colors (2.5YR 5/1, 7.5YR 3/1) with a silty clay texture that contained redoximorphic features (10YR 5/6).

Wetland AA6

Wetland AA6 (W-AA6) is a PEM wetland 3,083-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include a high water table, saturation, oxidized rhizospheres on living roots, geomorphic position and FAC neutral test. Dominant vegetation consisted of reed canary grass (*Phalaris arundinacea*), and narrow-leaf cattail (*Typha angustifolia*). The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 5/2) with a silty clay loam texture that contained redoximorphic features (10YR 3/6).

Wetland AA2

Wetland AA2 (W-AA2) is a PEM wetland 293-SF in size located in the western portion of the study area (Figure 4-12). Indicators of wetland hydrology include surface water, a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of green ash (*Fraxinus pennsylvanica*) and shallow sedge (*Carex lurida*). The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 4/1) with a silty clay texture. The soil between 9-19 inches exhibited a low-chroma matrix color (10YR 4/1) with a silty clay texture that contained redoximorphic features (10YR 5/6).

Wetland AA3

Wetland AA3 (W-AA3) is a PEM wetland 353-SF in size located in the western portion of the study area (Figure 4-13). Indicators of wetland hydrology include surface water and a high water table. Dominant vegetation consisted of rough-stalk blue grass (*Poa trivialis*) and narrow-leaf cat-tail. The soil between 0-16 inches exhibited a low-chroma matrix color (10YR 6/1) with a silty clay loam texture that contained redoximorphic features (10YR 5/3, 10YR 4/6).

Wetland AA4

Wetland AA4 (W-AA4) is a PEM wetland 9,655-SF in size located in the central portion of the study area (Figure 4-14). Indicators of wetland hydrology include surface water, high water table, hydrogen sulfide odor, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge and common fox sedge. The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture. The soil between 3-19 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture that contained redoximorphic features (10YR 3/6).

Wetland AA7

Wetland AA7 (W-AA7) is a PEM wetland 12,464-SF in size located in the central portion of the study area (Figure 4-14). Indicators of wetland hydrology include surface water, a high water table, hydrogen sulfide odor, oxidized rhizospheres on living roots, and FAC neutral test. Dominant vegetation consisted of common fox sedge and fowl blue grass (*Poa palustris*). The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 3/1, 10YR 5/1) with a silty clay texture that contained redoximorphic features (10YR 5/8).

Wetland AA8

Wetland AA8 (W-AA8) is a PEM wetland 1,186-SF in size located in the central portion of the study area (Figure 4-15). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge, lamp rush, and common fox sedge. The soil between 0-9 inches exhibited a low-chroma matrix color (10YR 5/2) with a silty clay loam texture that contained redoximorphic features (10YR 4/6).

Wetland M1

Wetland M1 (W-M1) is a PEM wetland 235-SF in size located in the central portion of the study area (Figure 4-16). Indicators of wetland hydrology included oxidized rhizospheres on living roots and FAC neutral test. Dominant vegetation consisted of reed canary grass. The soil between 0-2 inches exhibited a low-chroma matrix color (10YR 2/1) with a clay loam texture. The soil between 2-8 inches exhibited a low-chroma matrix color (2.5Y 5/2) with a gravelly clay loam texture that contained redoximorphic features (7.5YR 5/6).

Wetland AA9

Wetland AA9 (W-AA9) is a PEM wetland 275-SF in size located in the central portion of the study area (Figure 4-16). Indicators of wetland hydrology include a high water table, saturation, geomorphic position, and FAC neutral test. Dominant vegetation consisted of rough-stalk blue grass and common fox sedge. The soil between 0-19 inches exhibited a low-chroma matrix color (10YR 5/1) with a silty clay loam texture that contained redoximorphic features (10YR 5/8).

Wetland AA10

Wetland AA10 (W-AA10) is a PEM wetland 1,344-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology include a high water table, saturation, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black tupelo (*Nyssa sylvatica*), rice cut grass (*Leersia oryzoides*), and harvestlice (*Agrimonia parviflora*). The soil between 0-3 inches exhibited a low-chroma matrix color (10YR 2/2) with a sandy loam texture. The soil between 3-19 inches exhibited low-chroma matrix

colors (10YR 2/2, 10YR 5/1) with a sandy loam texture that contained redoximorphic features (10YR 3/6).

Wetland M3

Wetland M3 (W-M3) is a PEM wetland 28,129-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black walnut (*Juglans nigra*), black willow (*Salix nigra*), wingstem (*Verbesina alternifolia*), and narrow leaf cat-tail. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture that contained redoximorphic features (7.5YR 4/4).

Wetland M4

Wetland M4 (W-M4) is a PEM wetland 17,194-SF in size located in the western portion of the study area (Figure 4-18). Indicators of wetland hydrology included surface water, a high water table, saturation, iron deposits, and FAC neutral test. Dominant vegetation consisted of reed canary grass and narrow leaf cat-tail. The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 3/1) with a clay loam texture that contained redoximorphic features (10YR 4/4).

Wetland M2

Wetland M2 (W-M2) is a PEM wetland 27,784-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included surface water, saturation, oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black willow, narrow leaf cat-tail, and reed canary grass. The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/1) with a clay loam texture that contained redoximorphic features (7.5YR 4/4).

Wetland M5

Wetland M5 (W-M5) is a PEM wetland 2,094-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included geomorphic position and FAC neutral test. Dominant vegetation consisted of black willow and narrow leaf cat-tail. The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 5/2) with a clay loam texture that contained redoximorphic features (5YR 5/4).

Wetland M6

Wetland M6 (W-M6) is a PEM wetland 259-SF in size located in the western portion of the study area (Figure 4-19). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of narrow leaf cat-tail

(*Typha angustifolia*) and soft-stem bulrush (*Schoenoplectus tabernaemontani*). The soil between 0-12 inches exhibited a low-chroma matrix color (10YR 5/2) with a clay loam texture that contained redoximorphic features (5YR 4/4).

3.1.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Based on field evidence and best professional judgment, it was determined that 3 wetlands were present within the study area. These areas demonstrated the presence of all three wetland parameters required by the *1987 Manual* and the *USACE Regional Supplement*.

A review of the NRCS Soil Survey and hydric soil list indicated that five soils mapped within the Wetzel county study area are classified as hydric or as containing hydric components (Figure 2): Elk silt loam, 3 to 8 percent slopes (EkB), Glenford silt loam, 3 to 8 percent slopes (GsB), Huntington silt loam (Hn), Nolin loam (No), Skidmore gravelly loam (Sk).

No NWI wetlands are mapped within the study area (Figure 3).

Wetland Z1

Wetland Z1 (W-Z1) is a PEM wetland 176-SF in size located in the southern portion of the study area (Figure 4-22). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of black walnut (*Juglans nigra*), ash-leaf maple (*Acer negundo*), deertongue rosette grass (*Dichanthelium clandestinum*), and reed canary grass (*Phalaris arundinacea*). The soil between 0-8 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture. The soil between 8-20 inches exhibited a low-chroma matrix color (10YR 4/2) with a silt loam texture that contained redoximorphic features (10YR 5/8).

Wetland Z3A and B

Wetland Z3 (W-Z3A and B) is a PEM wetland 7,720-SF in size located in the southern portion of the study area (Figure 4-21). Indicators of wetland hydrology included oxidized rhizospheres on living roots, geomorphic position, and FAC neutral test. Dominant vegetation consisted of shallow sedge (*Carex lurida*), common fox sedge (*Carex vulpinoidea*), and small carp grass (*Arthraxon hispidus*). The soil between 0-8 inches exhibited low-chroma matrix colors (10YR 4/2 and 2.5Y 6/8) with a silty clay loam texture that contained redoximorphic features (7.5YR 5/8).

Wetland Z2

Wetland Z2 (W-Z2) is a PEM wetland 4,025-SF in size located in the southern portion of the study area (Figure 4-21). Indicators of wetland hydrology included oxidized rhizospheres on living roots,

geomorphic position, and FAC neutral test. Dominant vegetation consisted of common fox sedge (*Carex vulpinoidea*). The soil between 0-10 inches exhibited a low-chroma matrix color (10YR 4/2) with a silty clay loam texture that contained redoximorphic features (7.5YR 5/8).

3.2 Stream Identification and Evaluation

Thirty-seven streams were identified within the evaluated study area. Data sheets that detail the bank and channel characteristics, substrate composition, aquatic habitat, and hydrology were prepared at each stream (Appendix A).

3.2.1 Washington/Allegheny Counties (H-318 pipeline)

Six streams were identified within the evaluated study area in Washington and Allegheny counties.

Stream BB1

Stream BB1 (S-BB1), which flows west, is the perennial stream Lobbs Run (Figure 4-1). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 2 feet in width and 1 foot in height. The channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 5 inches.

Stream BB2

Stream BB2 (S-BB2), which flows north, is an ephemeral UNT to Lobbs Run (Figure 4-2). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 1 foot in width and 1 foot in height. The channel contained a silt and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream BB5

Stream BB5 (S-BB5), which flows east, is a perennial known as the Monongehela River (Figure 4-3). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 860 feet in width and 70 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the river. The stream exhibited a heavy flow at the time of the field investigations. Water depth was unable to be documented as the investigators were unable to access the river to determine depth.

Stream BB4

Stream BB4 (S-BB4), which flows east, is the perennial stream Bunola Run (Figure 4-4). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 20 feet in width and 3 foot in height. The channel contained a boulder, cobble, gravel, sand, silt, and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 12 inches.

Stream BB6

Stream BB6 (S-BB6), which flows north, is a perennial UNT to Bunola Run (Figure 4-4). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 3 feet in width and 2 feet in height. The channel contained a cobble, gravel, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 7 inches

Stream BB3

Stream BB3 (S-BB3), which flows northeast, is the perennial stream Kelly Creek (Figure 4-6). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 30 feet in width and 3 foot in height. The channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 18 inches.

3.2.2 Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

Twenty seven streams were identified within the evaluated study area in Greene County.

Stream N1

Stream N1 (S-N1), which flows south, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 7 feet in width and 6 feet in height. The channel contained a cobble, gravel, and sand substrate. The stream exhibited a no flow at the time of the field investigations.

Stream N2

Stream N2 (S-N2), which flows southwest, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 1 foot in height. The

channel contained a cobble, gravel, sand, and silt substrate. The stream exhibited a no flow at the time of the field investigations.

Stream N3

Stream N3 (S-N3), which flows southwest, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 3 feet in width and 6 inches in height. The channel contained a boulder, cobble, sand, and silt substrate. The stream exhibited a no flow at the time of the field investigations.

Stream AA1

Stream AA1 (S-AA1), which flow south is a perennial UNT to South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 10 feet in width and 16 inches in height. The channel contained a bedrock, boulder, cobble, and gravel substrate. The stream exhibited heavy a flow at the time of the field investigations with a water depth of approximately 3 inches.

Stream AA2

Stream AA2 (S-AA2), which flows southeast, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 1.5 feet in width and 6 inches in height. The channel substrate is comprised of sand, silt, and clay. The stream exhibited standing water at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA5

Stream AA5 (S-AA5), which flows southwest, is the perennial stream South Fork Tenmile Creek (Figure 4-12). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 70 feet in width and 15 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 4 feet.

Stream AA7

Stream AA7 (S-AA7), which flows west, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 8 feet in width and 2 feet in height. The channel substrate

is comprised of boulder cobble, and gravel substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 4 inches.

Stream AA3

Stream AA3 (S-AA3), which flows south, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-12). The stream bank is approximately 4 feet in width and 14 inches in height. The channel substrate is comprised of gravel and sand. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA4

Stream AA4 (S-AA4), which flows south, is a perennial UNT to South Fork Tenmile Creek (Figure 4-13). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 5 feet in width and 21 inches in height. The channel contained a cobble, gravel and sand substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream AA8

Stream AA8 (S-AA8), which flows southeast, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-14). The stream bank is approximately 3 feet in width and 1.5 feet in height. The channel substrate is comprised of silt and clay substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA9

Stream AA9 (S-AA9), which flows southwest, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-14). The stream bank is approximately 4 feet in width and 18 inches in height. The channel substrate is comprised of silt and clay substrate. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA10

Stream AA10 (S-AA10), which flows south, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-14). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 5 feet in width and 2 feet in height. The channel contained a bedrock, boulder, gravel, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 3 inches.

Stream AA11

Stream AA11 (S-AA11), which flows southeast, is an ephemeral UNT to Ruff Creek (Figure 4-15). The stream bank is approximately 6.5 feet in width and 60 inches in height. The channel substrate is comprised of boulder, cobble, sand, silt, and clay substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA12

Stream AA12 (S-AA12), which flows south, is the perennial stream Ruff Creek (Figure 4-15). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 75 feet in width and 12 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 26 inches.

Stream AA13

Stream AA13 (S-AA13), which flows south, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-17). The stream bank is approximately 3 feet in width and 15 inches in height. The channel substrate is comprised of boulder, cobble, gravel, sand, silt, and clay substrate. The stream exhibited standing water at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA14

Stream AA14 (S-AA14), which flows southwest, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-17). The stream bank is approximately 3 feet in width and 18 inches in height. The channel substrate is comprised of sand and clay substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA15

Stream AA15 (S-AA15), which flows southeast, is the perennial stream South Fork Tenmile Creek (Figure 4-17). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 100 feet in width and 17 feet in height. The substrate was not documented as the investigators were unable to see the bottom of the stream. The stream exhibited a heavy flow at the time of the field investigations with a water depth of approximately 3 feet.

Stream AA24

Stream AA24 (S-AA24), which flows southeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 6 feet in width and 2 feet in height. The channel contained a bedrock, cobble, gravel, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA23

Stream AA23 (S-AA23), which flows east, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-18). The stream bank is approximately 9 feet in width and 3 feet in height. The channel substrate is comprised of boulder, gravel, and sand substrate. The stream exhibited a moist channel with no flow at the time of the field investigations.

Stream AA22

Stream AA22 (S-AA22), which flows east, is an ephemeral UNT to South Fork Tenmile Creek (Figure 4-18). The stream bank is approximately 7 feet in width and 3 feet in height. The channel substrate is comprised of gravel, sand, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately .5 inches.

Stream AA21

Stream AA21 (S-AA21), which flows east, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 4 feet in width and 4 feet in height. The channel contained a cobble, gravel, sand, silt, and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA20

Stream AA20 (S-AA20), which flows east, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 1 foot in width and 1 foot in height. The channel contained a sand, silt, and clay substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 1 inch.

Stream AA17

Stream AA17 (S-AA17), which flows east, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands,

groundwater, and upstream tributaries. The stream channel is approximately 12 feet in width and 4 feet 9 inches in height. The channel contained a bedrock boulder, cobble, gravel, sand, and silt substrate. The stream exhibited a moderate flow at the time of the field investigations with a water depth of approximately 22 inches.

Stream AA18

Stream AA18 (S-AA18), which flows northeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 6 inches in height. The channel contained a gravel, sand silt and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA19

Stream AA19 (S-AA19), which flows northeast, is an intermittent UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, and groundwater. The stream channel is approximately 2 feet in width and 3 feet in height. The channel contained a sand silt and clay substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 0.5 inches.

Stream AA16

Stream AA16 (S-AA16), which flows northwest, is a perennial UNT to South Fork Tenmile Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 11 feet in width and 57 inches in height. The channel contained a boulder, cobble, and gravel substrate. The stream exhibited a low flow at the time of the field investigations with a water depth of approximately 7 inches.

Stream M1

Stream M1 (S-M1), which flows north, is an ephemeral UNT to Muddy Creek (Figure 4-18). This watercourse is supported by precipitation, surficial runoff from adjacent uplands. The stream channel is approximately 10 feet in width and 4 feet in height. The channel contained a clay, silt, gravel, and cobble, substrate. The stream exhibited a dry channel with no flow at the time of the field investigations.

3.2.3 Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Four streams were identified within the evaluated study area in Wetzel County.

Stream A2A

Stream A2A (S-A2A), which flows north, is an ephemeral UNT to North Fork Fishing Creek (Figure 4-21). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 12 feet in width and 4 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream A3A

Stream A3A (S-A3A), which flows east, is an ephemeral UNT to North Fork Fishing Creek (Figure 4-21). This watercourse is supported by precipitation, surficial runoff from adjacent uplands. The stream channel is approximately 5 feet in width and 1.5 feet in height. The channel contained cobble, gravel, and sand substrate. The stream exhibited no flow at the time of the field investigations.

Stream J63

Stream J63 (S-J63), which flows west, is a perennial UNT to Mobley Run (Figure 4-22). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 7 feet in width and 3.5 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 2 inches.

Stream Z1

Stream Z1 (S-Z1), which flows south, is a perennial known as Mobley Run (Figure 4-22). This watercourse is supported by precipitation, surficial runoff from adjacent uplands, groundwater, and upstream tributaries. The stream channel is approximately 15 feet in width and 3.5 feet in height. The channel contained cobble, gravel, and silt substrate. The stream exhibited low flow at the time of the field investigations with a water depth of approximately 1 inch.

4.0 CONCLUSIONS

Thirty-three areas within the Equitrans Expansion Pipeline Project study area exhibited all three criteria listed below that are necessary to be classified as wetlands in accordance with the 1987 *Manual* and the *USACE Regional Supplement*:

1. Predominance of hydrophytic vegetation (plants which are adapted for life in saturated soil conditions);
2. Hydric soils (soils which were formed under water, or in saturated conditions); and
3. Wetland hydrology (or the presence of inundated or saturated soils at some time during the growing season).

Additionally, 37 streams were identified in the Project study area during the investigation.

Washington/Allegheny Counties (H-318 pipeline)

Based on field evidence and best professional judgment, it was determined that 13 wetlands were present within the study area. Six streams were identified within the evaluated study area in Washington and Allegheny counties.

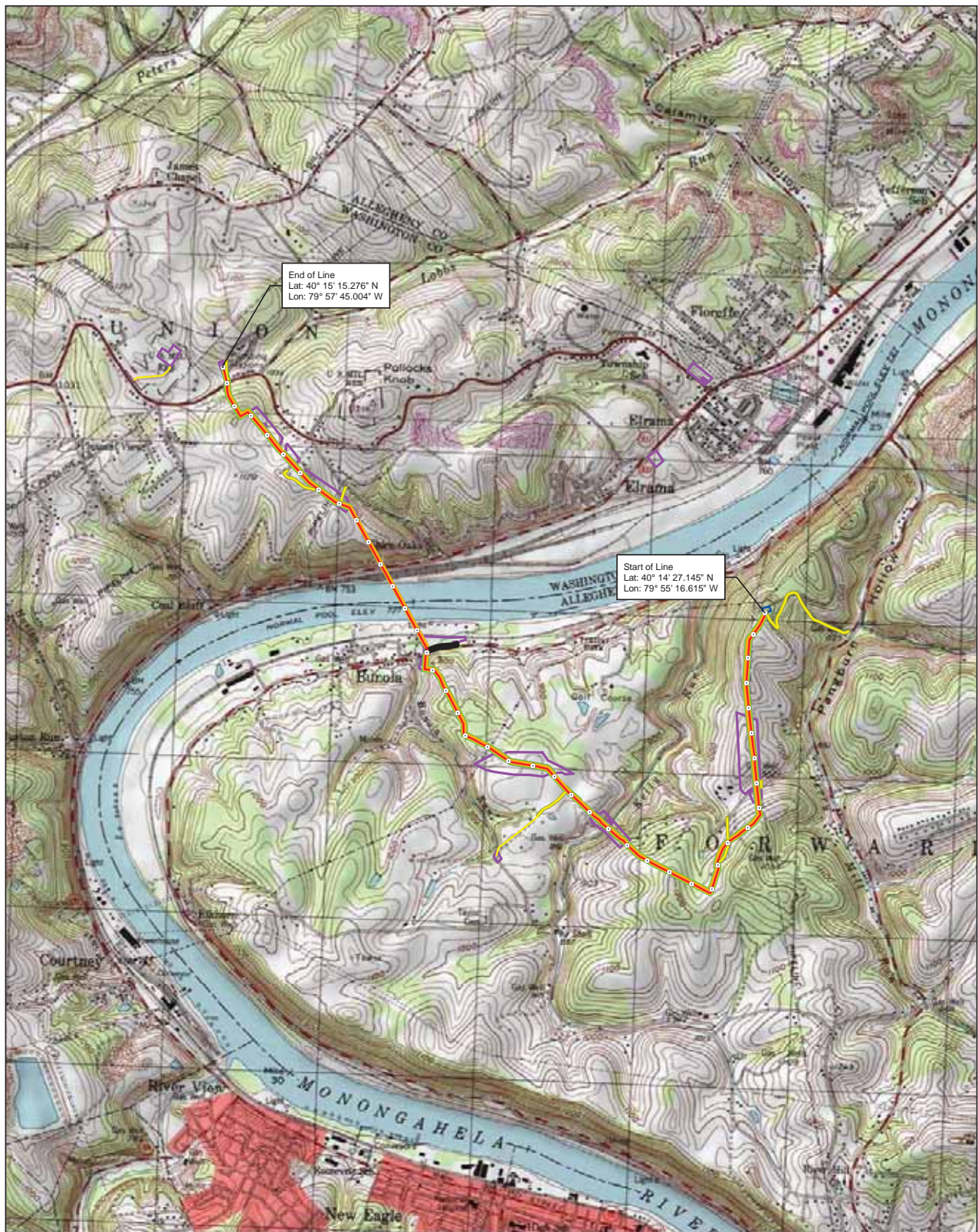
Greene County (H-316, M-80, H-158, H-305, and the Redhook Compressor Station)

Based on field evidence and best professional judgment, it was determined that 17 wetlands were present within the study area. Twenty seven streams were identified within the evaluated study area in Greene County.

Wetzel County, WV (Webster Interconnect, Mobley Tap, and H-319)

Based on field evidence and best professional judgment, it was determined that 3 wetlands were present within the study area. Four streams were identified within the evaluated study area in Wetzel County.

FIGURES



Equitrans Expansion Project



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EQUITRANS

**Attachment #: 1-1
USGS Project Location Map
Washington & Allegheny County, PA**

October 2015

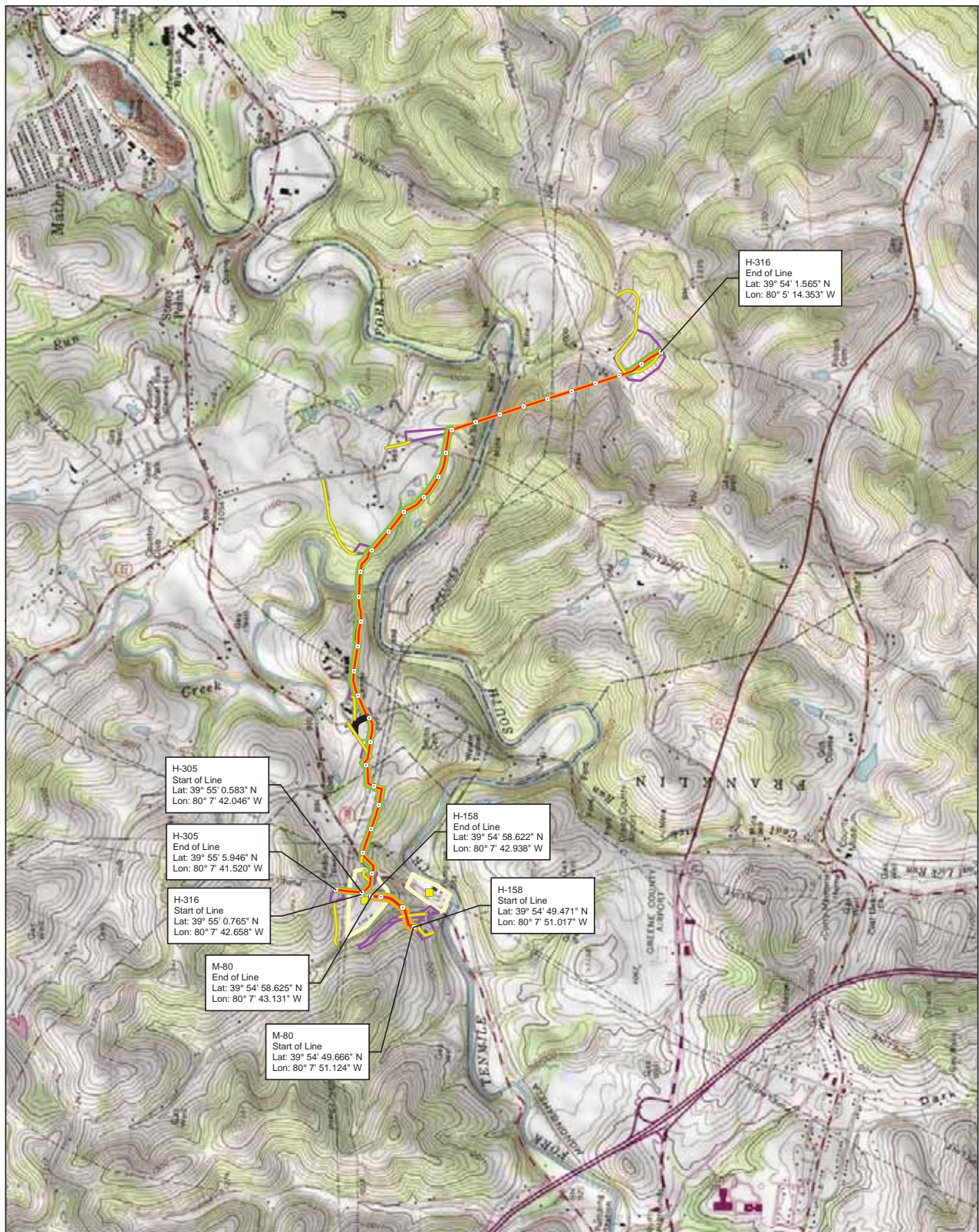
Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- Milepost
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- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site



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Equitrans Expansion Project



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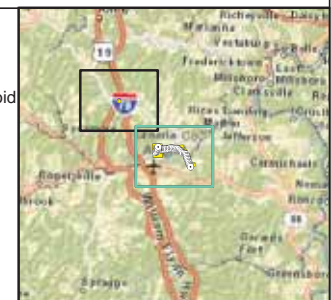
Attachment #: 1-2 USGS Project Location Map Greene County, Pennsylvania

October 2015

Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
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- Compressor Station



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**Attachment #: 1-3
USGS Project Location Map
Greene County, Pennsylvania**

October 2015

Data Sources: Topographic map provided by ESRI's ArcGIS Online USA Topo Maps map service (© 2013 National Geographic Society, i-cubed).

Legend

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- Access Road
- Right-of-Way (Access Road)
- Groundbed
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- Workspace
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- Compressor Station



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Attachment #: 1-4
USGS Project Location Map
Wetzel County, West Virginia

October 2015

Data Sources: Topographic map provided by ESRI's ArcGIS
Online USA Topo Maps map service (© 2013 National
Geographic Society, i-cubed).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- Workspace
- Temporary Right-of-Way
- Permanent Right-of-Way
- Compressor Station
- Study Area



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Attachment #: 2-1 NRCS Soils and Codes Map Washington & Allegheny County, PA

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- NRCS Soil & Codes



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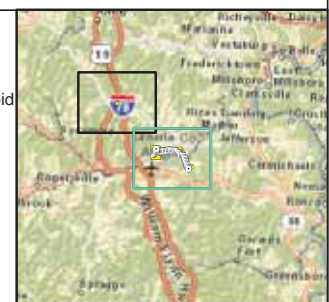
Attachment #: 2-2 NRCS Soils and Codes Map Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

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- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Compressor Station Centroid
- Compressor Station
- NRCS Soil & Codes



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Attachment #: 2-3 NRCS Soils and Codes Map Greene County, Pennsylvania

October 2015

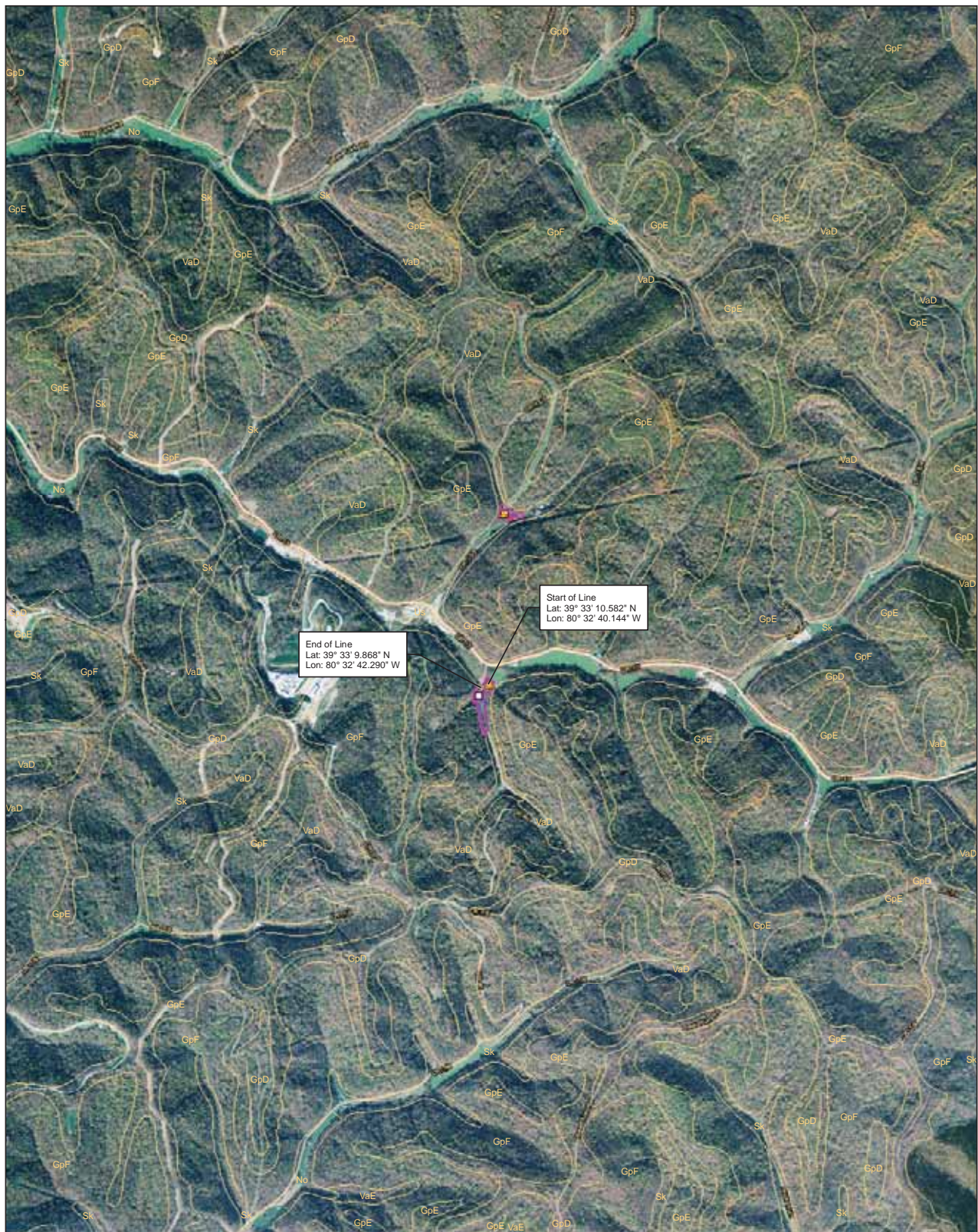
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- Groundbed
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- Temporary Right-of-Way
- Workspace
- Permanent Site
- Compressor Station Centroid
- Compressor Station
- NRCS Soil & Codes



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Attachment #: 2-4 NRCS Soils and Codes Map Wetzell County, West Virginia

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- ▭ Workspace
- ▭ Temporary Right-of-Way
- ▭ Permanent Right-of-Way
- ▭ Compressor Station
- ▭ Study Area
- ▭ NRCS Soil & Codes



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Attachment #: 3-1 NWI Wetlands and Codes Map Washington & Allegheny County, PA

October 2015

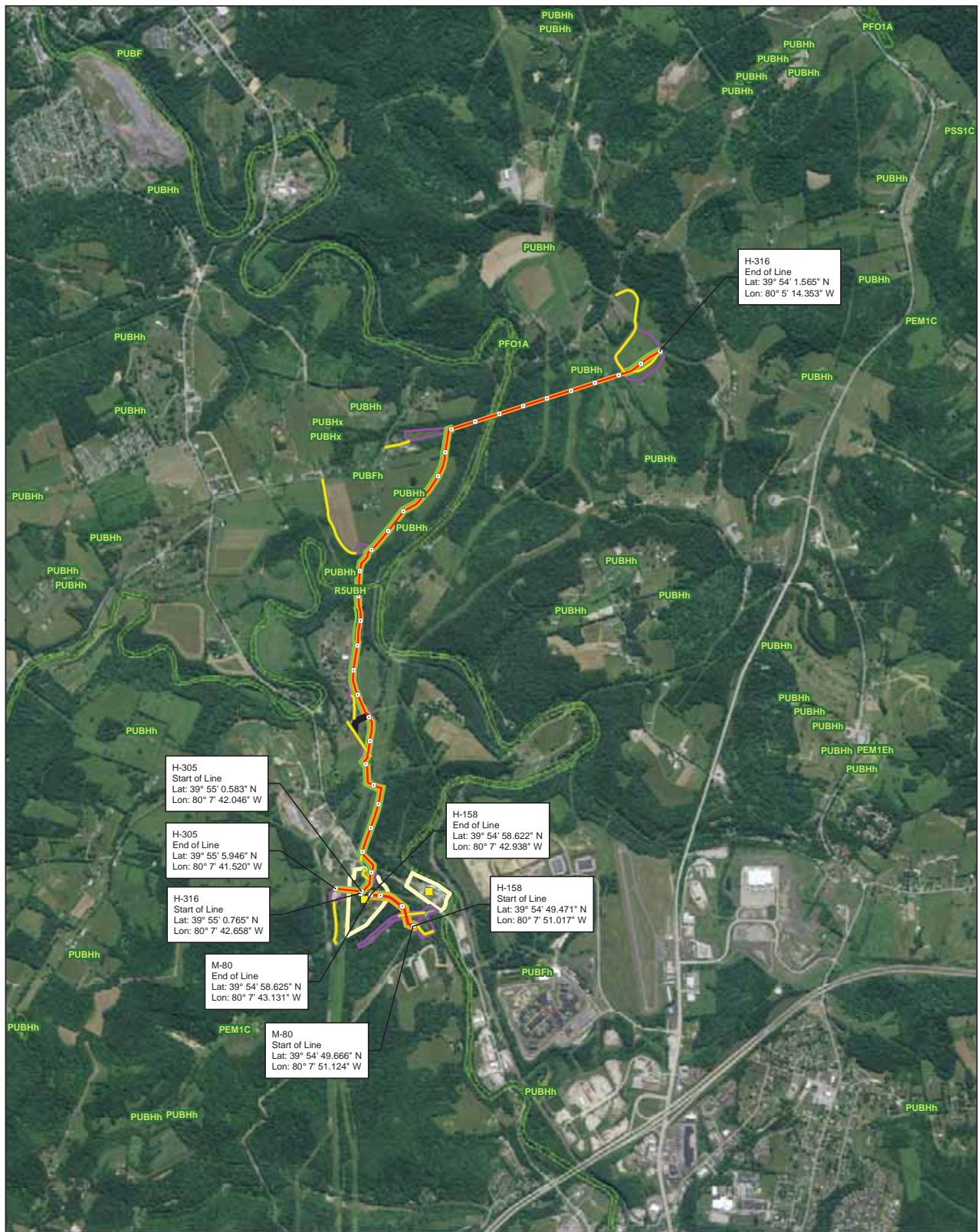
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

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- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- NWI Wetlands & Codes



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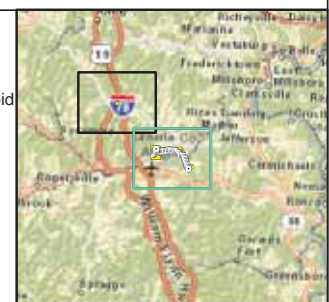
Attachment #: 3-2 NWI Wetlands and Codes Map Greene County, Pennsylvania

October 2015

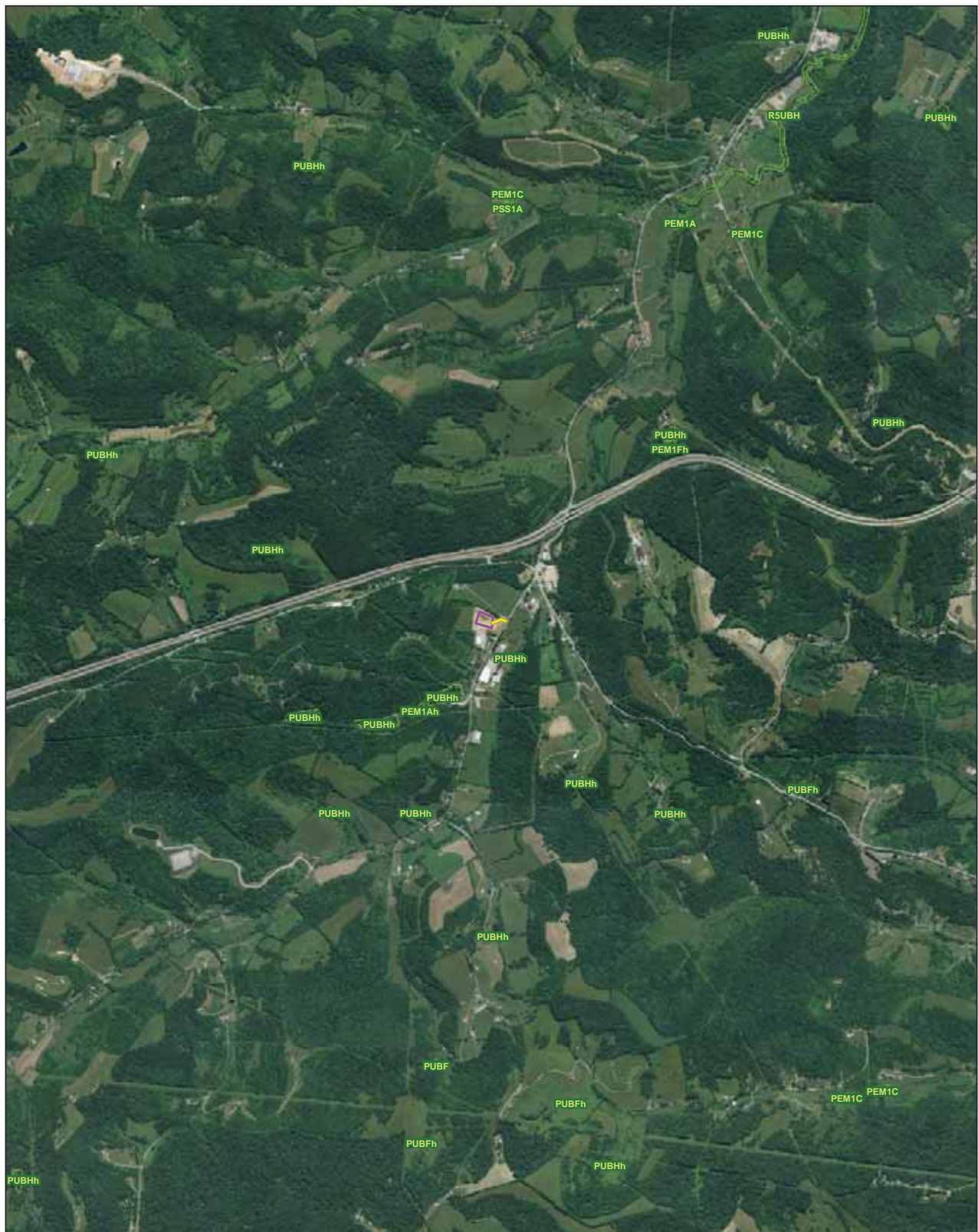
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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- Groundbed
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- Workspace
- Permanent Site
- Compressor Station Centroid
- Compressor Station
- NWI Wetlands & Codes



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Attachment #: 3-3 NWI Wetlands and Codes Map Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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- Groundbed
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- Temporary Right-of-Way
- Workspace
- Permanent Site
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- Compressor Station
- NWI Wetlands & Codes



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Attachment #: 3-4 NWI Wetlands and Codes Map Wetzel County, West Virginia

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- ▭ Workspace
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- ▭ Compressor Station
- ▭ Study Area
- ▭ NWI Wetlands and Codes



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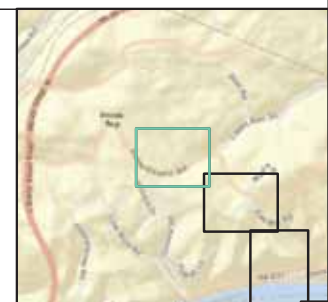
Attachment #: 4-1 Wetland Detail Map Washington & Allegheny County, PA

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
 - PEM
 - PFO
- Photo Location



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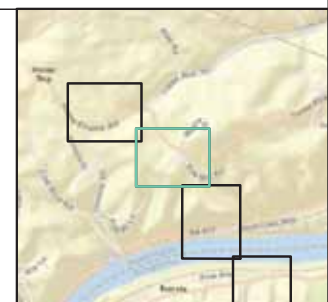
**Attachment #: 4-2
Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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|---|---|
| • Milepost | Permanent Site |
| — Alignment Centerline | (Culvert |
| — Access Road |) Test Pit |
| Right-of-Way (Access Road) | — Stream |
| Groundbed | Wetland |
| Permanent Right-of-Way | PEM |
| Temporary Right-of-Way | PFO |
| Workspace | Photo Location |



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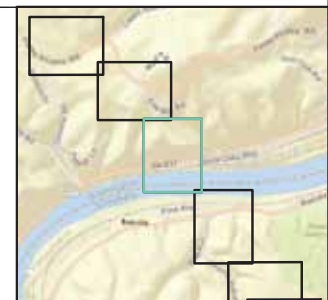
**Attachment #: 4-3
Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
 - PEM
 - PFO
- Photo Location



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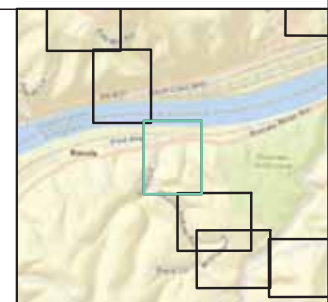
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Wetland Detail Map
Washington & Allegheny County, PA**

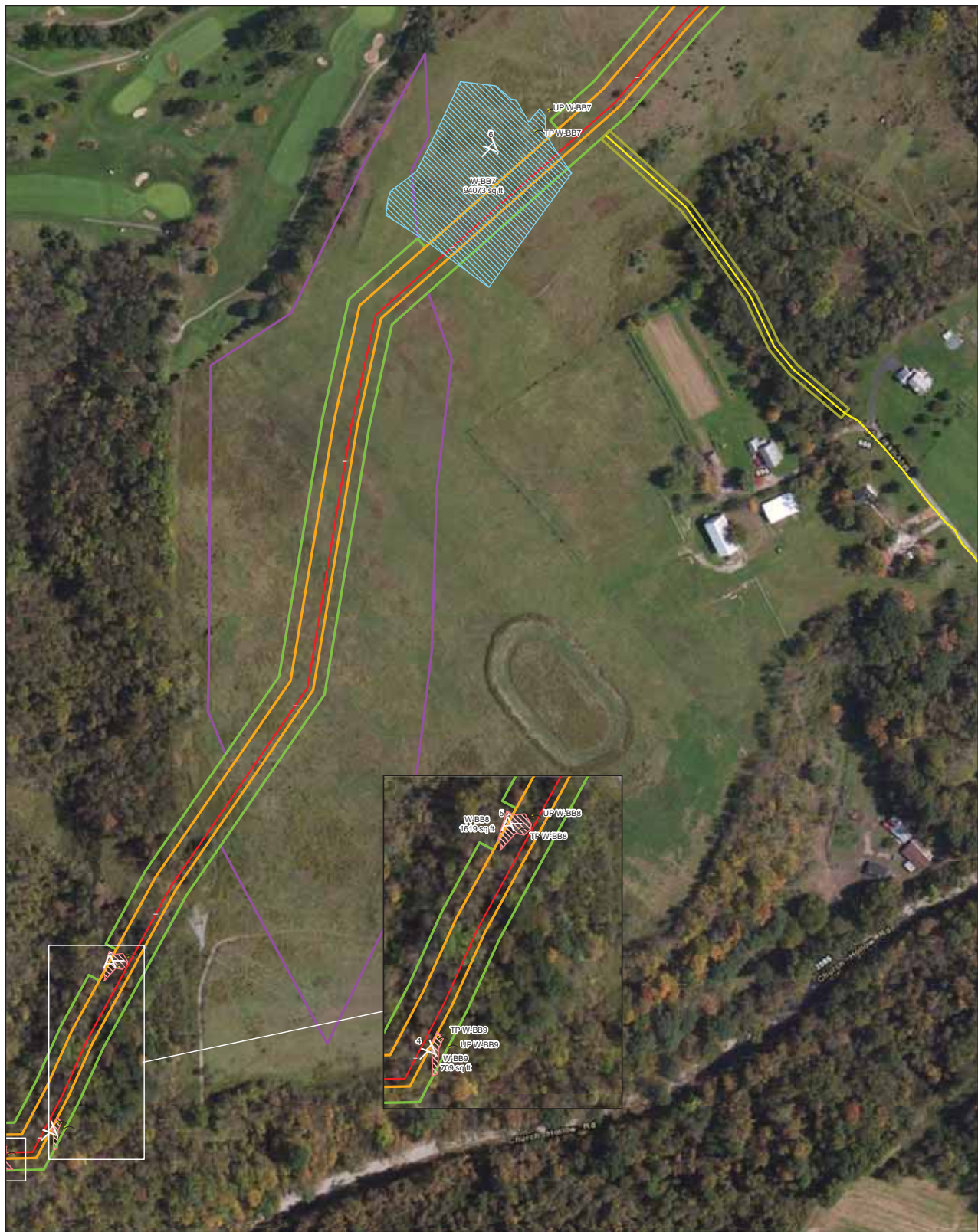
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Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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| — Alignment Centerline | (Culvert |
| — Access Road |) Test Pit |
| □ Right-of-Way (Access Road) | — Stream |
| □ Groundbed | Wetland |
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| □ Workspace | ✕ Photo Location |





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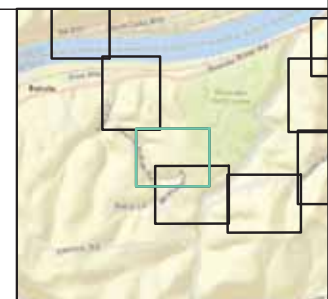
Attachment #: 4-5 Wetland Detail Map Washington & Allegheny County, PA

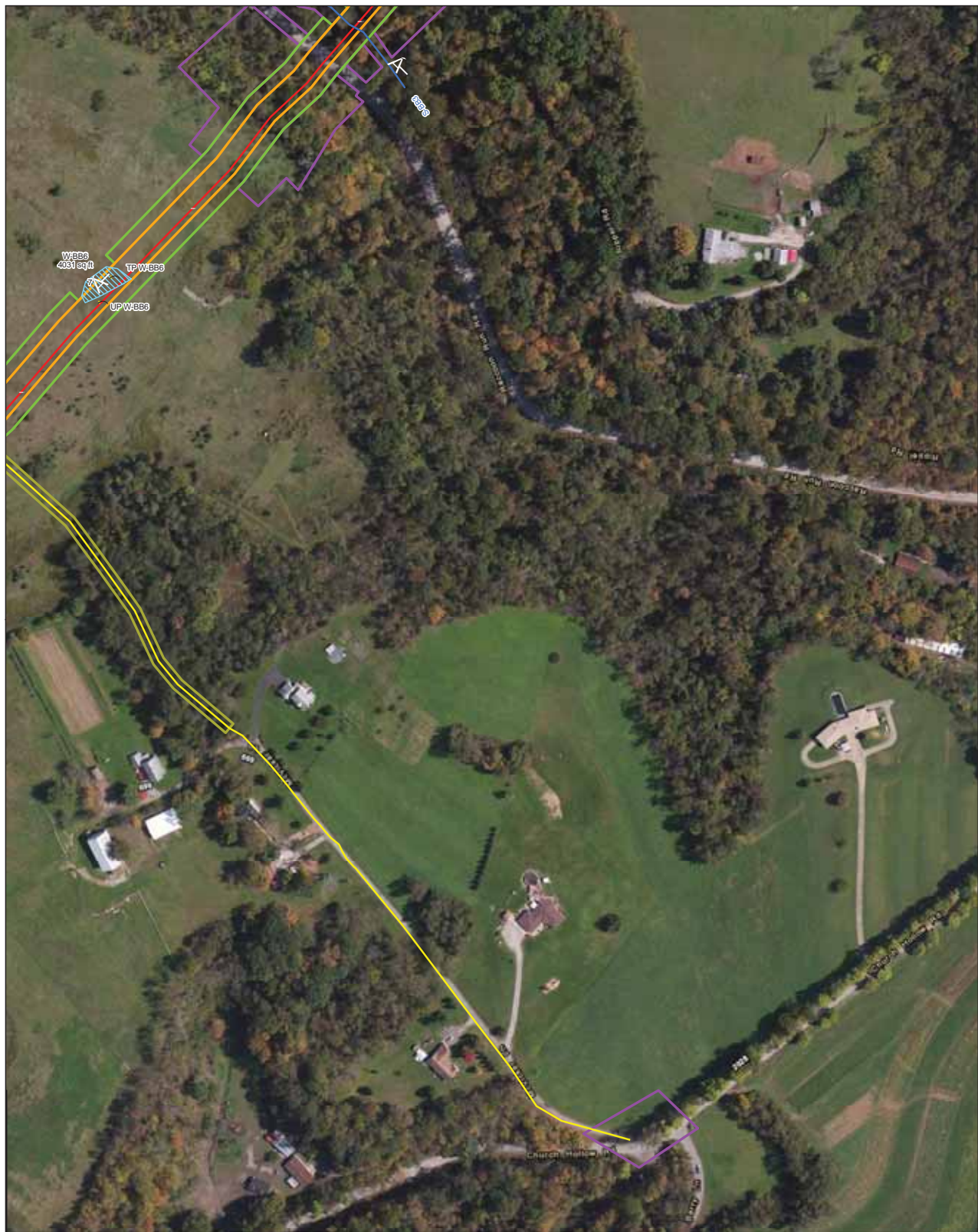
October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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| Alignment Centerline | (Culvert |
| Access Road |) Test Pit |
| Right-of-Way (Access Road) | Stream |
| Groundbed | Wetland |
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| Temporary Right-of-Way | PFO |
| Workspace | Photo Location |





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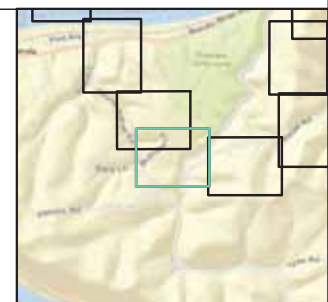
**Attachment #: 4-6
Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
- PEM
- PFO
- Photo Location





Equitrans Expansion Project



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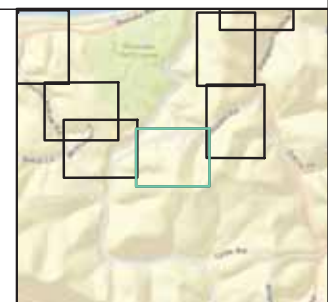
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Wetland Detail Map
Washington & Allegheny County, PA**

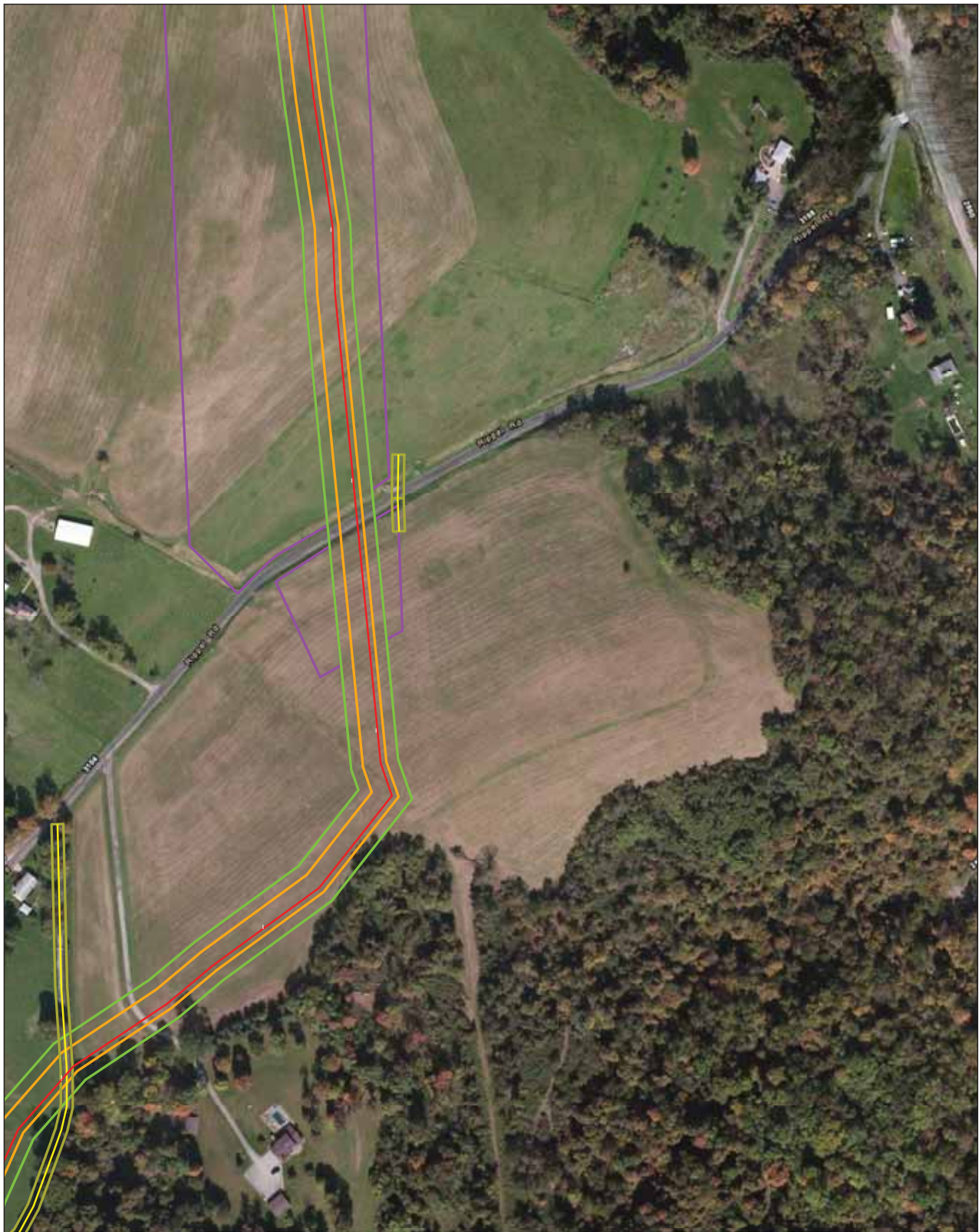
October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
 - PEM
 - PFO
- Photo Location





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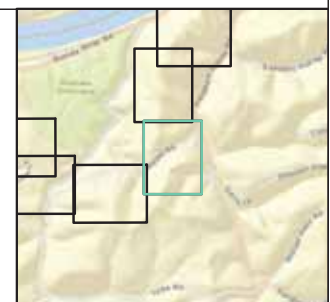
Attachment #: 4-8 Wetland Detail Map Washington & Allegheny County, PA

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- (Culvert
-) Test Pit
- Stream
- Wetland**
- ▨ PEM
- ▨ PFO
- ✕ Photo Location





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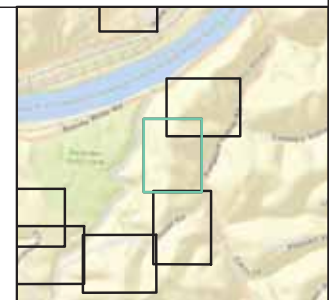
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Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

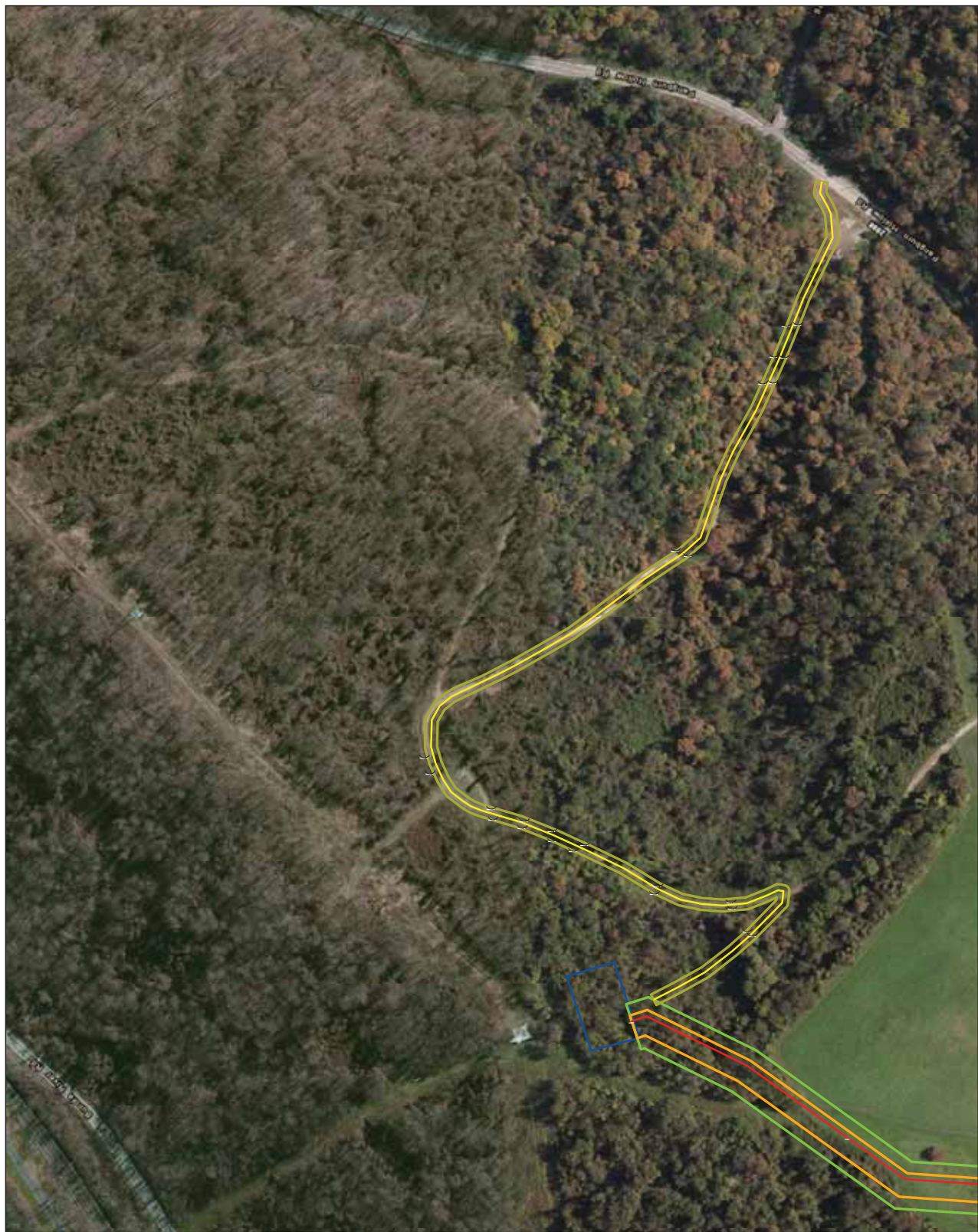
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
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- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
- PEM
- PFO
- Photo Location



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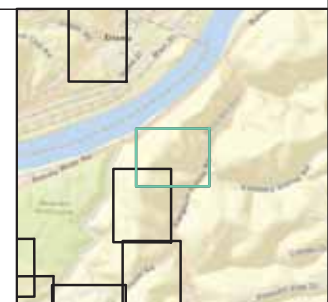
**Attachment #: 4-10
Wetland Detail Map
Washington & Allegheny County, PA**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Culvert
- Test Pit
- Stream
- Wetland**
 - PEM
 - PFO
- Photo Location



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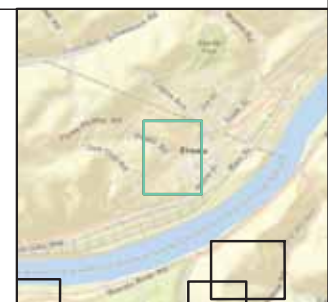
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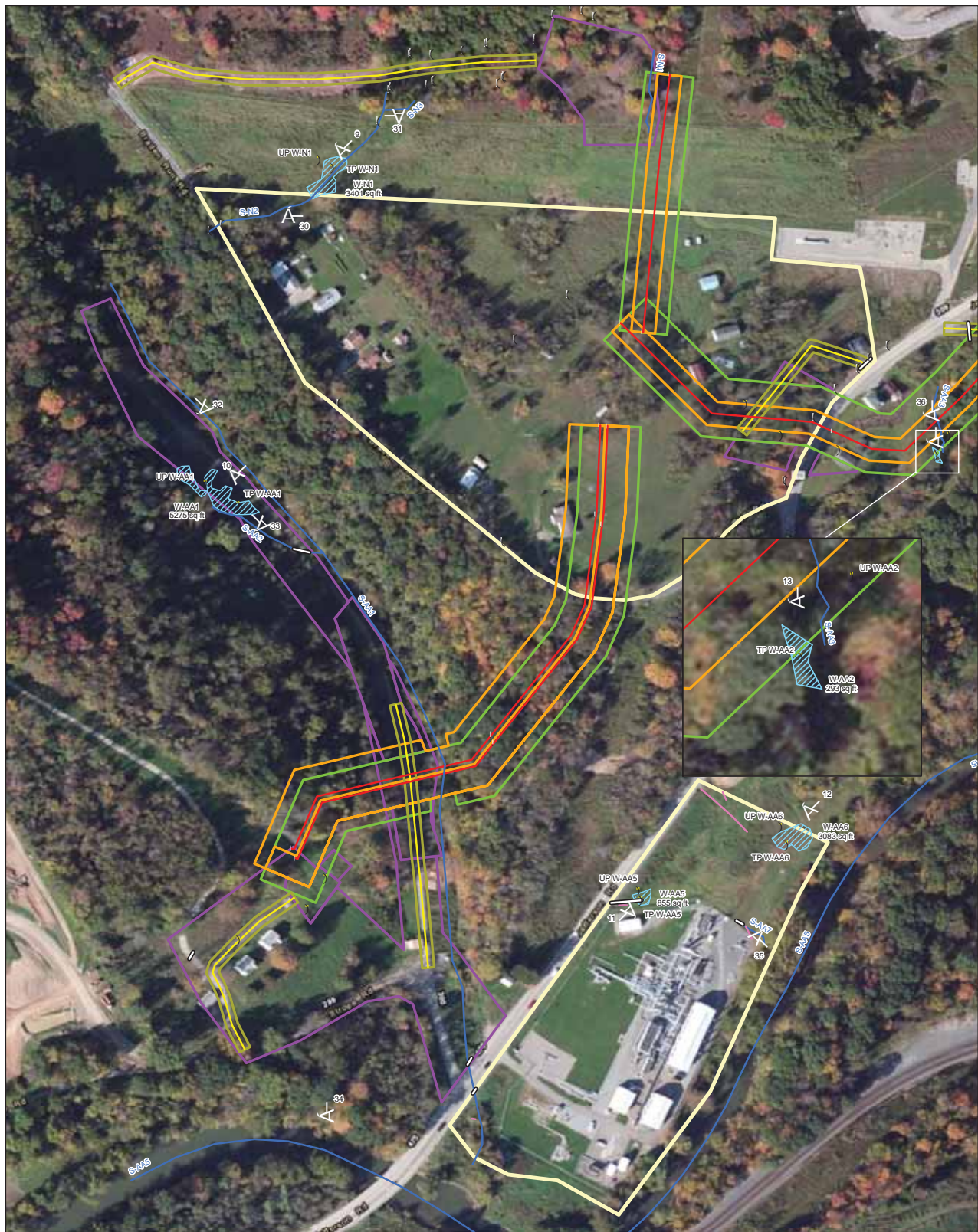
October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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|---|---|
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| — Alignment Centerline | (Culvert |
| — Access Road |) Test Pit |
| Right-of-Way (Access Road) | — Stream |
| Groundbed | Wetland |
| Permanent Right-of-Way | PEM |
| Temporary Right-of-Way | PFO |
| Workspace | Photo Location |





Equitrans Expansion Project



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EQUITRANSSM

Attachment #: 4-12
USGS Project Location Map
Greene County, Pennsylvania

October 2015

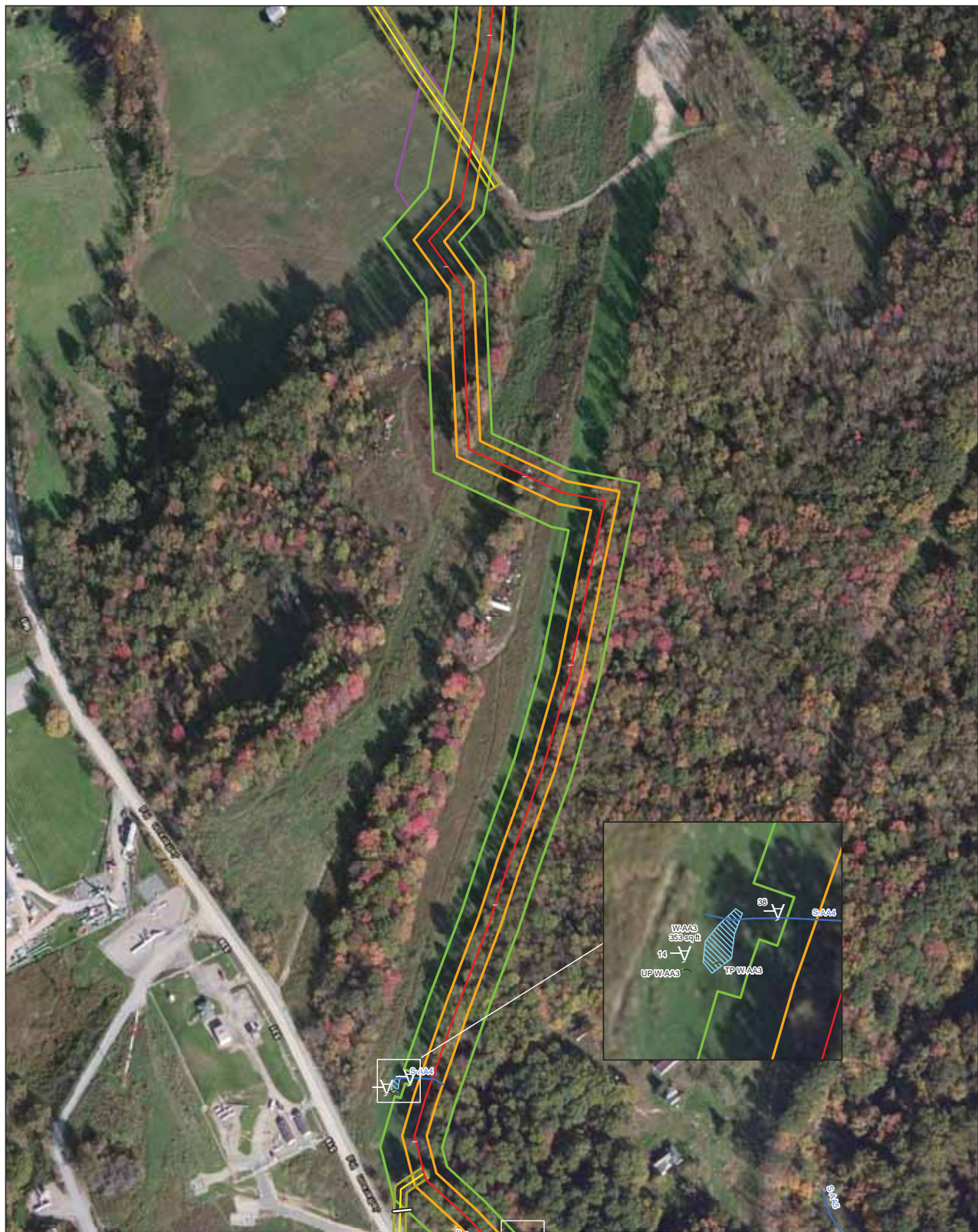
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|------------------------------|--------------------|
| • Milepost | Permanent Site |
| — Alignment Centerline | Compressor Station |
| — Access Road | (Culvert |
| — Right-of-Way (Access Road) |) Test Pit |
| — Groundbed | — Stream |
| — Permanent Right-of-Way | Wetland |
| — Temporary Right-of-Way | Photo Location |
| — Workspace | |



Document Path: P:\GIS\EQMapDocs\eqp_pa_greencounty_detail.mxd



Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANSSM

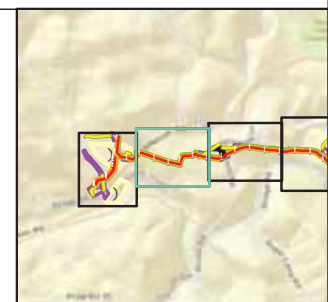
Attachment #: 4-13
USGS Project Location Map
Greene County, Pennsylvania

October 2015

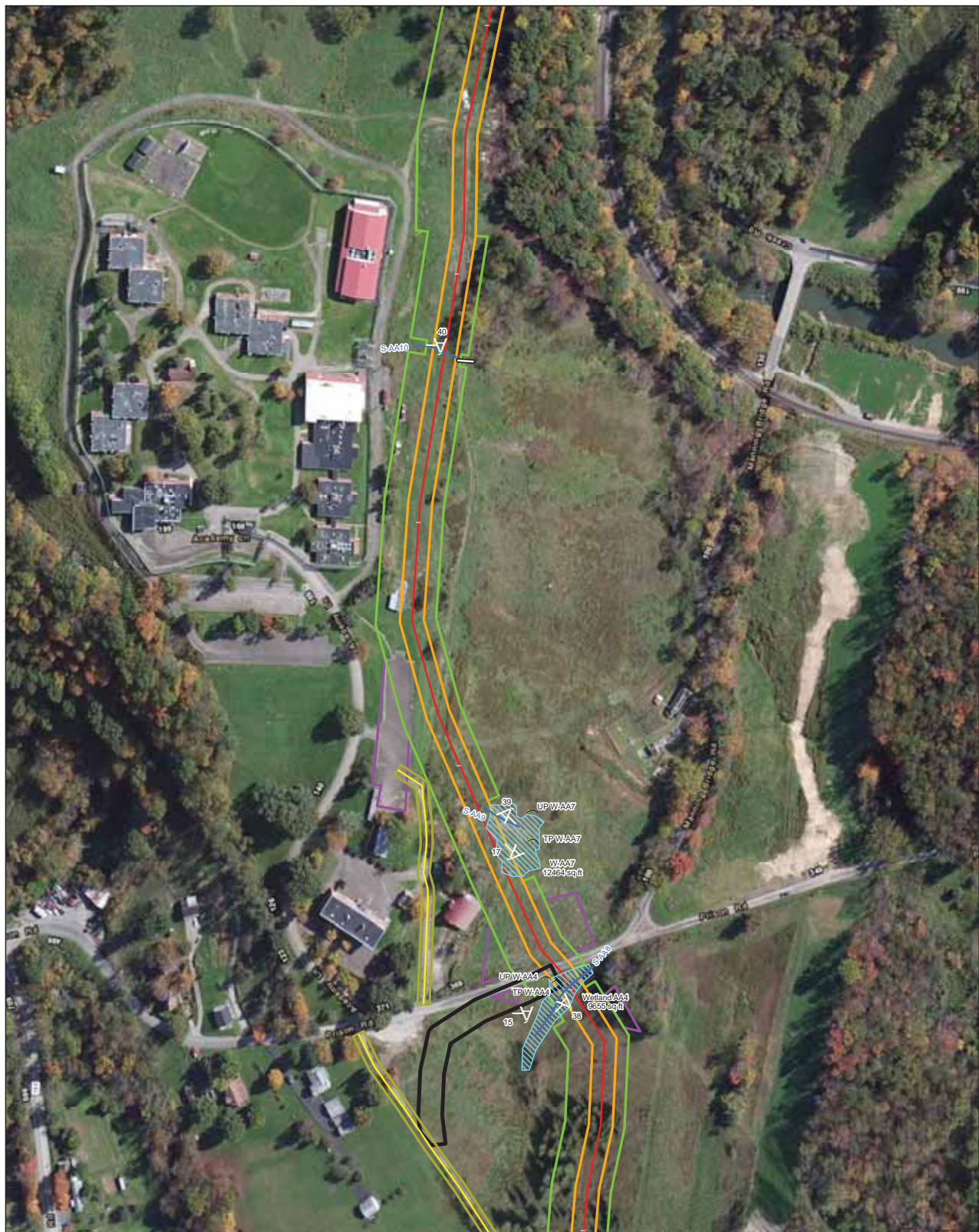
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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|------------------------------|----------------------|
| • Milepost | □ Permanent Site |
| — Alignment Centerline | □ Compressor Station |
| — Access Road | (Culvert |
| □ Right-of-Way (Access Road) |) Test Pit |
| □ Groundbed | — Stream |
| □ Permanent Right-of-Way | ▨ Wetland |
| □ Temporary Right-of-Way | ✈ Photo Location |
| □ Workspace | |



Document Path: P:\GIS\DOT\MapDocs\exp_1a_greencCo_detail.mxd



Equitrans Expansion Project



1:2,400



EQUITRANSSM

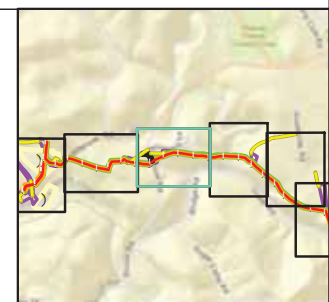
Attachment #: 4-14
USGS Project Location Map
Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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|----------------------------|--------------------|
| • Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | () Culvert |
| Right-of-Way (Access Road) |) Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



Document Path: P:\GIS\EQMapDocs\wp_1a_greencCo_detail.mxd



Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANS

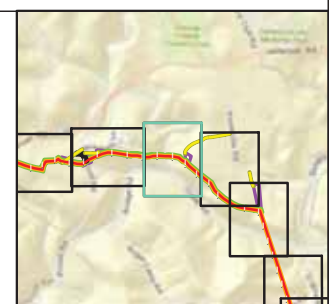
**Attachment #: 4-15
USGS Project Location Map
Greene County, Pennsylvania**

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|--------------------|
| Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | Culvert |
| Right-of-Way (Access Road) | Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



Document Path: P:\GIS\EQMapDocs\exp_10a_greencounty_detail.mxd



Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANS

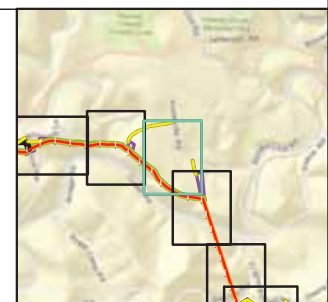
**Attachment #: 4-16
USGS Project Location Map
Greene County, Pennsylvania**

October 2015

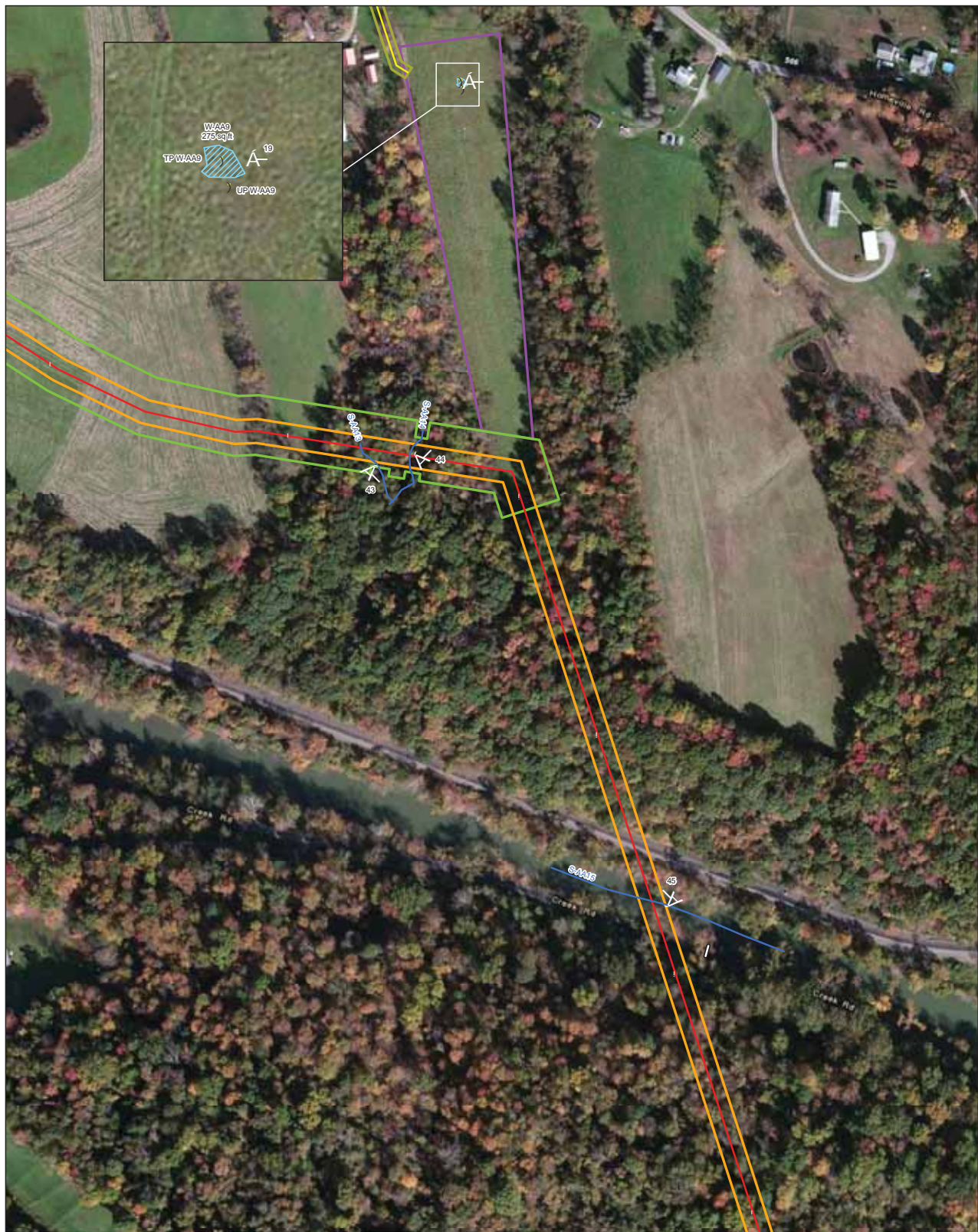
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- Milepost
- Alignment Centerline
- Access Road
- Right-of-Way (Access Road)
- Groundbed
- Permanent Right-of-Way
- Temporary Right-of-Way
- Workspace
- Permanent Site
- Compressor Station
- Culvert
- Test Pit
- Stream
- Wetland
- Photo Location



Document Path: P:\GIS\EQMapDocs\wp_pna_greencCo_detail.mxd



Equitrans Expansion Project



1:2,400



EQUITRANSSM

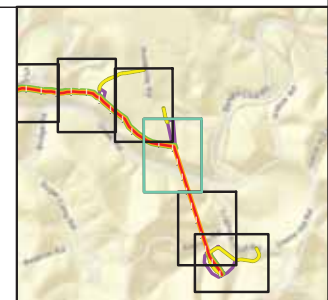
Attachment #: 4-17 USGS Project Location Map Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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|----------------------------|--------------------|
| • Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | (Culvert |
| Right-of-Way (Access Road) |) Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



Document Path: P:\GIS\EQMapDocs\exp_1a_greencCo_detail.mxd



Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANSSM

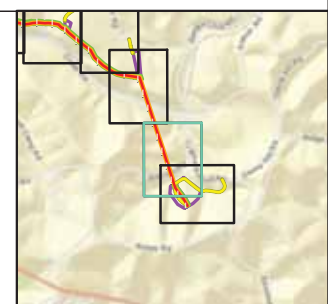
Attachment #: 4-18
USGS Project Location Map
Greene County, Pennsylvania

October 2015

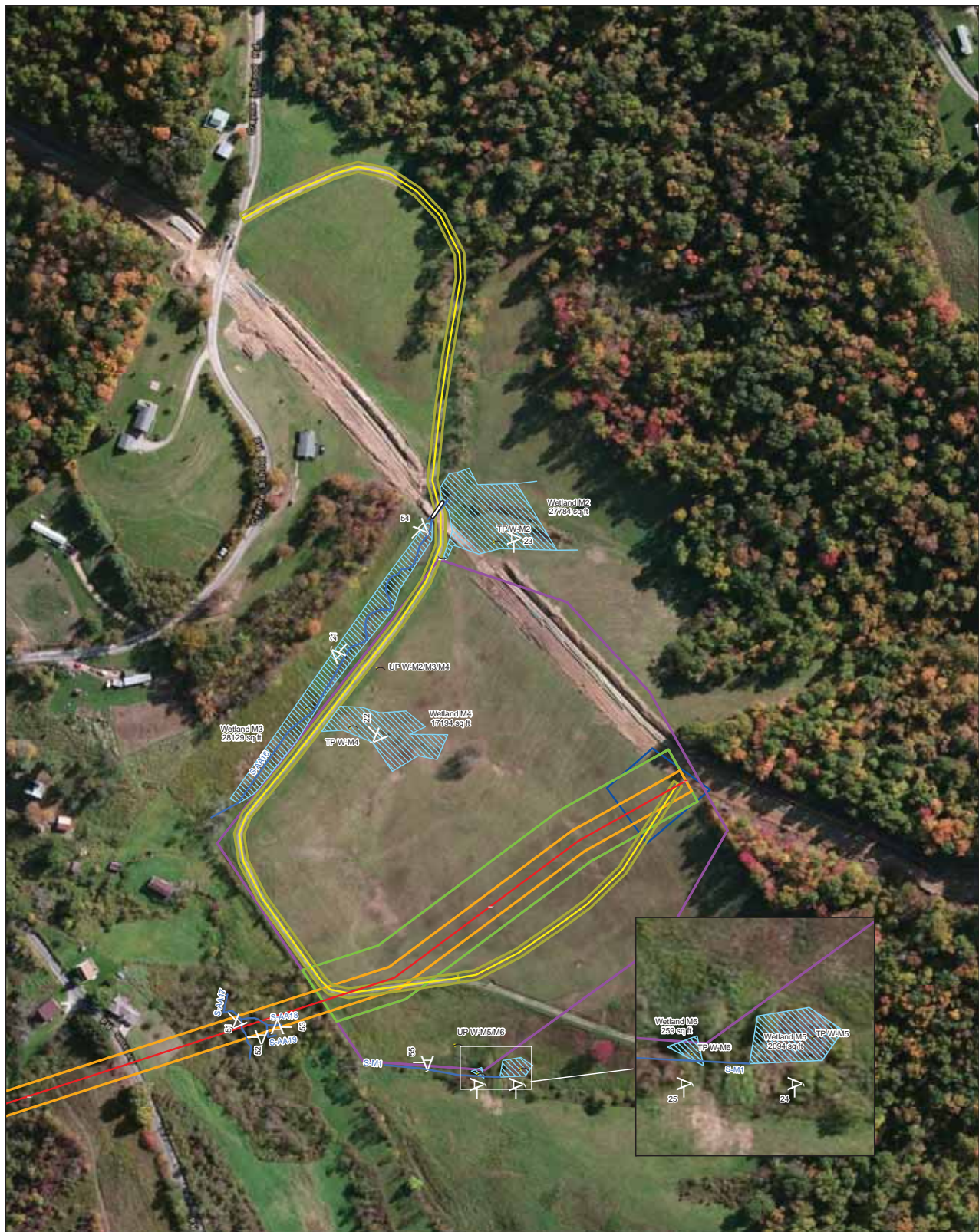
Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

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|------------------------------|----------------------|
| • Milepost | □ Permanent Site |
| — Alignment Centerline | □ Compressor Station |
| — Access Road | (Culvert |
| □ Right-of-Way (Access Road) |) Test Pit |
| □ Groundbed | — Stream |
| □ Permanent Right-of-Way | ▨ Wetland |
| □ Temporary Right-of-Way | ⚓ Photo Location |
| □ Workspace | |



Document Path: P:\GIS\EQMapDocs\eqp_pa_greencounty_detail.mxd



Equitrans Expansion Project



1:2,400



EQUITRANSSM

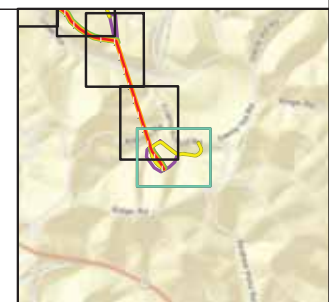
Attachment #: 4-19
USGS Project Location Map
Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|------------------------------|--------------------|
| • Milepost | Permanent Site |
| — Alignment Centerline | Compressor Station |
| — Access Road | (Culvert |
| — Right-of-Way (Access Road) |) Test Pit |
| — Groundbed | — Stream |
| — Permanent Right-of-Way | Wetland |
| — Temporary Right-of-Way | Photo Location |
| — Workspace | |



Document Path: P:\GIS\EQMapDocs\eqp_19a_greenecounty_detail.mxd



Equitrans Expansion Project



1:2,400



EQUITRANSSM

Attachment #: 4-20
USGS Project Location Map
Greene County, Pennsylvania

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- | | |
|----------------------------|--------------------|
| • Milepost | Permanent Site |
| Alignment Centerline | Compressor Station |
| Access Road | (Culvert |
| Right-of-Way (Access Road) |) Test Pit |
| Groundbed | Stream |
| Permanent Right-of-Way | Wetland |
| Temporary Right-of-Way | Photo Location |
| Workspace | |



Document Path: P:\GIS\EQMapDocs\exp_pa_greencounty_detail.mxd



Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANS

Attachment #: 4-21 Wetland Detail Map Wetzel County, West Virginia

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- Workspace
- Temporary Right-of-Way
- Permanent Right-of-Way
- Compressor Station
- Study Area
- Culvert
- Test Pit
- Drainage Feature
- Stream
- Wetland
- Photo Direction



Document Path: P:\GIS\ETMapDoc\etwp_wv_wetzelCo_detail1.mxd



Equitrans Expansion Project



1:2,400

0 200 400 Feet

EQUITRANS

Attachment #: 4-22 Wetland Detail Map Wetzel County, West Virginia

October 2015

Data Sources: Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

Legend

- ▲ Tap
- Milepost
- Compressor Station Centroid
- Alignment Centerline
- Workspace
- Temporary Right-of-Way
- Permanent Right-of-Way
- Compressor Station
- Study Area
- Culvert
- Test Pit
- Drainage Feature
- Stream
- Wetland
- Photo Direction



Document Path: P:\GIS\ETMapDoc\deep_wv_wetzelCo_detail2.mxd

APPENDIX A
FIELD DATA SHEETS

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB1-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2-5
 Subregion (LRR or MLRA): LRRN Lat: 40.2552747 Long: -079.9666018 Datum: NAD 83
 Soil Map Unit Name: Udorthents, smoothed gently sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Depressional

WT: NRPWW

This location is a former missile location. Soil is mostly fill material, heavily disturbed, with mounds of debris and fill

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB1-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>40</u></td> <td>x 4 = <u>160</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>250</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>40</u>	x 4 = <u>160</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>100</u> (A)	<u>250</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>40</u>	x 4 = <u>160</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>100</u> (A)	<u>250</u> (B)																	
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Rumex Crispus</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. <u>Polygonum pensylvanicum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Poa pratensis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>trifolium repens</u>	<u>10</u>		<u>UPL</u>															
5. <u>Lolium perenne</u>	<u>10</u>		<u>FACU</u>															
6. <u>Solidago altissima</u>	<u>10</u>		<u>FACU</u>															
7. <u>seteria faberi</u>	<u>5</u>		<u>UPL</u>															
8. <u>Plantago major</u>	<u>5</u>		<u>FACU</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB1-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	2.5Y3/2	100					clay loam	organics/fill material
14-18	10YR4/2	100					clay loam	fill material

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)						
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)						
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)						
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)						
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)						
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)						
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input checked="" type="checkbox"/> Other (Explain in Remarks)						
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)							
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,							
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)							
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)							
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)							
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)							

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:
Problematic soils. soils contain fill material and thus soil is not hydric but is disregarded due to recent human impact to soil profile.

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB3-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 3-8%
 Subregion (LRR or MLRA): LRRN Lat: 40.25059174070 Long: -79.95944689370 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam 8-15% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB3-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>55</u> x 4 = <u>220</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>70</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>4.07</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Chamerion angustifolium</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Leucanthum vulgare</u>	<u>10</u>	_____	<u>UPL</u>	
3. <u>Trifolium hybridum</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>Oxalis stricta</u>	<u>5</u>	_____	<u>FACU</u>	
5. <u>convolvulus arvensis</u>	<u>5</u>	_____	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present?
 Yes _____ No ☒

SOIL

Sampling Point: W-BB3-UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	7.5YR3/2	100					clay loam	
8-20	10YR4/3	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:						Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)						
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)						
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)						
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)						
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)						
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)						
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)						
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)							
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)							
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.						
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)							
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)							

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB3-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): >10
 Subregion (LRR or MLRA): LRRN Lat: 3) 40.2506347 Long: -079.9595353 Datum: NAD 83
 Soil Map Unit Name: Dormot siltloam 8-15% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: slope

WT: isolate

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 6
 Water Table Present? Yes ☒ No ☐ Depth (inches): 14
 Saturation Present? Yes ☒ No ☐ Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB3-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>62</u></td> <td>x 1 = <u>62</u></td> </tr> <tr> <td>FACW species <u>13</u></td> <td>x 2 = <u>26</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>178</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.78</u>	Total % Cover of:	Multiply by:	OBL species <u>62</u>	x 1 = <u>62</u>	FACW species <u>13</u>	x 2 = <u>26</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>178</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>62</u>	x 1 = <u>62</u>																	
FACW species <u>13</u>	x 2 = <u>26</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>100</u> (A)	<u>178</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Carex vulpinoidea</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Scirpus atrovirens</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Alopecurus aequalis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
4. <u>Agrostis stolonifera</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
5. <u>Solidago altissima</u>	<u>5</u>	_____	<u>FACU</u>															
6. <u>Rumex crispus</u>	<u>5</u>	_____	<u>FACU</u>															
7. <u>Chamerion angustifolium</u>	<u>5</u>	_____	<u>FAC</u>															
8. <u>Trifolium hybridum</u>	<u>5</u>	_____	<u>FACU</u>															
9. <u>Onoclea sensibilis</u>	<u>3</u>	_____	<u>FACW</u>															
10. <u>Asclepias incarnata</u>	<u>2</u>	_____	<u>OBL</u>															
11. <u>Asclepias syriaca</u>	<u>5</u>	_____	<u>FAC</u>															
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														

SOIL

Sampling Point: W-BB3-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB2-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): >10
 Subregion (LRR or MLRA): LRRN Lat: 40.2495476 Long: -079.9578589 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam 8-15% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Slope

WT: NRPWW

source of surface water unknown. Could be result of recent rains or spring located at top of hill

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 6
 Water Table Present? Yes ☒ No ☐ Depth (inches): 5
 Saturation Present? Yes ☒ No ☐ Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB2-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>215</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.15</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>215</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>100</u> (A)	<u>215</u> (B)																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Carex vulpinoidea</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Scirpus atrovirens</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Rumex Crispus</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>Solidago altissima</u>	<u>15</u>	_____	<u>FACU</u>															
5. <u>Asclepias syriaca</u>	<u>15</u>	_____	<u>FAC</u>															
6. <u>Calystegia sepium</u>	<u>10</u>	_____	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														

SOIL

Sampling Point: W-BB2-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB2-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): linear Slope (%): 3-8%
 Subregion (LRR or MLRA): LRRN Lat: 40.24951600180 Long: -79.95775845020 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam, 8-15% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
 Water Table Present? Yes ☐ No ☐ Depth (inches):
 Saturation Present? Yes ☐ No ☐ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB2-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species _____ x 5 = _____ Column Totals: <u>75</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>3.4</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Chamerion angustifolium</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Trifolium repens</u>	<u>15</u>		<u>FACU</u>	
3. <u>Rubus trivialis</u>	<u>10</u>		<u>FACU</u>	
4. <u>Achillea millefolium</u>	<u>5</u>		<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>75</u> = Total Cover 50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-BB2-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/13/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB13
 Investigator(s): A Lands, S Cowell, T Caddy, Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope/depression Local relief (concave, convex, none): concave Slope (%): <5
 Subregion (LRR or MLRA): LRRN Lat: 40.238567 Long: -79.944506 Datum: NAD 83
 Soil Map Unit Name: Urban land-Rainsboro complex, gently sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: PFO/PSS Depressional RPWWD large depressional area located between RR tracks and roadway. Some saturation present, soil is predominantly coal,	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> FAC-Neutral Test (D5)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: some areas are saturated, however no H2S odor was detected.		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB13

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)														
2. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
20 = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>4</u></td> <td>x 1 = <u>4</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>36</u></td> <td>x 3 = <u>108</u></td> </tr> <tr> <td>FACU species <u>24</u></td> <td>x 4 = <u>96</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>84</u> (A)</td> <td><u>248</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.95</u>	Total % Cover of:	Multiply by:	OBL species <u>4</u>	x 1 = <u>4</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>36</u>	x 3 = <u>108</u>	FACU species <u>24</u>	x 4 = <u>96</u>	UPL species _____	x 5 = _____	Column Totals: <u>84</u> (A)	<u>248</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>4</u>	x 1 = <u>4</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>36</u>	x 3 = <u>108</u>																	
FACU species <u>24</u>	x 4 = <u>96</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>84</u> (A)	<u>248</u> (B)																	
50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Ligustrum sinense</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
5 = Total Cover																		
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Pilea pumila</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Podophyllum peltatum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Urtica dioica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>Microstegium vimineum</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
5. <u>Impatiens pallida</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
6. <u>Athyrium filix-femina</u>	<u>2</u>	_____	<u>FAC</u>															
7. <u>Potentilla simplex</u>	<u>2</u>	_____	<u>FACU</u>															
8. <u>Gallium asprellum</u>	<u>2</u>	_____	<u>OBL</u>															
9. <u>Onoclea sensibilis</u>	<u>2</u>	_____	<u>OBL</u>															
10. <u>Oxalis stricta</u>	<u>2</u>	_____	<u>FACU</u>															
11. _____	_____	_____	_____															
50 = Total Cover																		
50% of total cover: <u>25</u> 20% of total cover: <u>10</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
5 = Total Cover																		
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-BB13

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/13/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB13-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy Section, Township, Range: NA
Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): convex Slope (%): 3-5
Subregion (LRR or MLRA): LRRN Lat: 40.23873789560 Long: -79.94489288190 Datum: NAD 83
Soil Map Unit Name: Urban land-Rainsboro complex sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

Are Vegetation ☐, Soil ☒, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches): _____

Water Table Present? Yes ☐ No ☐ Depth (inches): _____

Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB13-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)
2. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>32</u> x 3 = <u>96</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species _____ x 5 = _____ Column Totals: <u>82</u> (A) <u>266</u> (B) Prevalence Index = B/A = <u>3.24</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Impatiens pallida</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Urtica dioica</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Cardamine dyphalla</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Anemone virginiana</u>	<u>5</u>	_____	<u>FACU</u>	
5. <u>Podophyllum peltatum</u>	<u>5</u>	_____	<u>FACU</u>	
6. <u>Microstegium vimineum</u>	<u>5</u>	_____	<u>FAC</u>	
7. <u>Athyrium felix-femina</u>	<u>2</u>	_____	<u>FAC</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>57</u> = Total Cover 50% of total cover: <u>28.5</u> 20% of total cover: <u>11.4</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB13-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB11-WP
 Investigator(s): A Lands, S Cowell, T Caddy, J Akalaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): <10
 Subregion (LRR or MLRA): LRRN Lat: 40.2368791 Long: -079.9457451 Datum: NAD 83
 Soil Map Unit Name: Strip mines 25-75% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:

Cowardin Code: PFO

HGM: slope

WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB11-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer rubrum</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)														
2. <u>Fagus grandifolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
50% of total cover: <u>20</u> 20% of total cover: <u>8</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>255</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.55</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>60</u>	x 2 = <u>120</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species _____	x 5 = _____	Column Totals: <u>100</u> (A)	<u>255</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>60</u>	x 2 = <u>120</u>																	
FAC species <u>25</u>	x 3 = <u>75</u>																	
FACU species <u>15</u>	x 4 = <u>60</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>100</u> (A)	<u>255</u> (B)																	
50% of total cover: <u>40</u> 20% of total cover: _____																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Acer rubrum</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. <u>Lonicera sp.</u>	<u>10</u>		<u>FAC</u>															
3. <u>Fagus grandifolia</u>	<u>10</u>		<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
50% of total cover: <u>30</u> 20% of total cover: <u>12</u>																		
50% of total cover: _____ 20% of total cover: _____																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Pilea pumila</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Athyrium felix-femina</u>	<u>5</u>		<u>FAC</u>															
3. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
50% of total cover: <u>35</u> 20% of total cover: <u>14</u>																		
50% of total cover: _____ 20% of total cover: _____																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
50% of total cover: _____ 20% of total cover: _____																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB11-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR3/1	100					clay loam	muck/organic
1-18	10YR4/3	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☒ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)
☐ Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

H2S odor slight

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB11-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): >5
 Subregion (LRR or MLRA): LRRN Lat: 40.23685127460 Long: -79.94571985080 Datum: NAD 83
 Soil Map Unit Name: Strip mines 25-75% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
 Water Table Present? Yes ☐ No ☐ Depth (inches):
 Saturation Present? Yes ☐ No ☐ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB11-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. <u>Fagus grandifolia</u>	<u>15</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>35</u> x 4 = <u>140</u> UPL species _____ x 5 = _____ Column Totals: <u>75</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>3.33</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Podophyllum peltatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Pilea pumila</u>	<u>10</u>		<u>FACW</u>	
3. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Rubus pensylvanicus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB11-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR2.5/2	100					clay loam	organic
4-16	10YR4/3	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB10-WP
 Investigator(s): A Lands, S Cowell, T Caddy, J Akalaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): concave Slope (%): <5
 Subregion (LRR or MLRA): LRRN Lat: 40.2335633 Long: -079.9437277 Datum: NAD 83
 Soil Map Unit Name: Strip mines, 8-25% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PFO

HGM: slope

WT: NRPWW

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 8
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Skippers observed

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB10-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A)
2. <u>Fagus grandifolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>8</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87%</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>3</u> x 1 = <u>3</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>60</u> x 3 = <u>180</u> FACU species <u>12</u> x 4 = <u>48</u> UPL species _____ x 5 = _____ Column Totals: <u>85</u> (A) <u>251</u> (B) Prevalence Index = B/A = <u>2.95</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lonicera sp.</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. <u>Microstegium vimenium</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Pilea pumila</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Dicanthelium clandestinum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. <u>Athyrium felix-femina</u>	<u>5</u>	_____	<u>FAC</u>	
5. <u>Solidago altissima</u>	<u>5</u>	_____	<u>FACU</u>	
6. <u>Gallium asprellum</u>	<u>3</u>	_____	<u>OBL</u>	
7. <u>Anemone virginiana</u>	<u>2</u>	_____	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>55</u> = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Rubus pensylvanicum</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB10-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB10-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): none Slope (%): 2-4
 Subregion (LRR or MLRA): LRRN Lat: 40.23353475400 Long: -79.94372414120 Datum: NAD 83
 Soil Map Unit Name: Strip mine 8-25% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: W-BB10-UP

Tree Stratum (Plot size: <u>30'</u>)				Absolute % Cover		Dominant Species?		Indicator Status		Dominance Test worksheet:			
1. <u>Fagus grandifolia</u>				<u>20</u>		<u>✓</u>		<u>FACU</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)			
2. _____				_____		_____		_____		Total Number of Dominant Species Across All Strata: <u>3</u> (B)			
3. _____				_____		_____		_____		Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)			
4. _____				_____		_____		_____		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species _____ x 5 = _____ Column Totals: <u>80</u> (A) <u>265</u> (B) Prevalence Index = B/A = <u>3.31</u>			
5. _____				_____		_____		_____					
6. _____				_____		_____		_____					
7. _____				_____		_____		_____					
7. _____				_____		_____		_____					
50% of total cover: <u>10</u>				<u>20</u> = Total Cover		<u>20%</u> of total cover: <u>4</u>							
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Absolute % Cover		Dominant Species?		Indicator Status					
1. <u>Lonicera Sp.</u>				<u>15</u>		<u>✓</u>		<u>FAC</u>					
2. _____				_____		_____		_____					
3. _____				_____		_____		_____					
4. _____				_____		_____		_____					
5. _____				_____		_____		_____					
6. _____				_____		_____		_____					
7. _____				_____		_____		_____					
8. _____				_____		_____		_____					
9. _____				_____		_____		_____					
50% of total cover: <u>7.5</u>				<u>15</u> = Total Cover		<u>20%</u> of total cover: <u>3</u>							
Herb Stratum (Plot size: <u>5'</u>)				Absolute % Cover		Dominant Species?		Indicator Status					
1. <u>Microstegium vimenium</u>				<u>20</u>		<u>✓</u>		<u>FAC</u>					
2. <u>Podophyllum peltatum</u>				<u>15</u>		_____		<u>FACU</u>					
3. <u>Anemone virginiana</u>				<u>5</u>		_____		<u>FACU</u>					
4. _____				_____		_____		_____					
5. _____				_____		_____		_____					
6. _____				_____		_____		_____					
7. _____				_____		_____		_____					
8. _____				_____		_____		_____					
9. _____				_____		_____		_____					
10. _____				_____		_____		_____					
11. _____				_____		_____		_____					
50% of total cover: <u>20</u>				<u>40</u> = Total Cover		<u>20%</u> of total cover: <u>8</u>							
Woody Vine Stratum (Plot size: <u>15'</u>)				Absolute % Cover		Dominant Species?		Indicator Status					
1. _____				_____		_____		_____					
2. _____				_____		_____		_____					
3. _____				_____		_____		_____					
4. _____				_____		_____		_____					
5. _____				_____		_____		_____					
50% of total cover: <u>0</u>				<u>0</u> = Total Cover		<u>20%</u> of total cover: <u>0</u>							
Remarks: (Include photo numbers here or on a separate sheet.)										Hydrophytic Vegetation Present? Yes <u>✓</u> No _____			

SOIL

Sampling Point: W-BB10-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB9-WP
 Investigator(s): A Lands, S Cowell, T Caddy, J Akalaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 2-4
 Subregion (LRR or MLRA): LRRN Lat: 40.2332639 Long: -079.9434972 Datum: NAD 83
 Soil Map Unit Name: Strip mine, 8-25% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PFO
 HGM: Depressional
 WT: NRPWW

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 6
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Skippers, crawfish, frogs observed

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB9-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)														
2. <u>Fagus grandifolia</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____				Total Number of Dominant Species Across All Strata: <u>5*</u> (B)														
4. _____																		
5. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)														
6. _____																		
7. _____																		
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>35</u></td> <td>x 4 = <u>140</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>270</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.18</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>35</u>	x 4 = <u>140</u>	UPL species _____	x 5 = _____	Column Totals: <u>85</u> (A)	<u>270</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species <u>35</u>	x 4 = <u>140</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>85</u> (A)	<u>270</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>5'</u>)																		
1. <u>Lonicera Sp.</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>ND</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. _____																		
3. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
4. _____																		
5. _____				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
6. _____																		
7. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Podolphyllum peltatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Onoclea sensibilis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Microstegium vimenium</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Gallium asprellum</u>	<u>5</u>		<u>OBL</u>															
5. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>45</u> = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		

Remarks: (Include photo numbers here or on a separate sheet.)
 ND - Not Determined.

 * Vegetation not ID'd to species level not included in dominance test.

SOIL

Sampling Point: W-BB9-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB9-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): hilltop Local relief (concave, convex, none): none Slope (%): 2-4
Subregion (LRR or MLRA): LRRN Lat: 40.23320910830 Long: -79.94352205020 Datum: NAD 83
Soil Map Unit Name: Strip mines 8-25% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
Water Table Present? Yes ☐ No ☐ Depth (inches):
Saturation Present? Yes ☐ No ☐ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB9-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67</u> (A/B)
2. <u>Fagus grandifolia</u>	<u>10</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
$\frac{30}{100} = \text{Total Cover}$ 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				Prevalence Index worksheet: $\frac{\text{Total \% Cover of:}}{\text{Multiply by:}}$ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>35</u> x 3 = <u>105</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species _____ x 5 = _____ Column Totals: <u>65</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>3.46</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lonicera sp.</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
$\frac{15}{100} = \text{Total Cover}$ 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Podophyllum peltatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Anemone virginiana</u>	<u>5</u>		<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
$\frac{20}{100} = \text{Total Cover}$ 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
$\frac{0}{100} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB9-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB8-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): >10
 Subregion (LRR or MLRA): LRRN Lat: 40.2329197 Long: -079.9423036 Datum: NAD 83
 Soil Map Unit Name: Strip mines, 25-75% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Remarks:

Cowardin Code: PFO

HGM: Slope

WT: NRPWW

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

slight H2S odor

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB8-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3*</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Lonicera sp.</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>ND</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Pilea pumila</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>microstegium vinemeum</u>	<u>10</u>	_____	<u>FAC</u>	
3. <u>Onoclea sensibilis</u>	<u>10</u>	_____	<u>FACW</u>	
4. <u>Gallium asprellum</u>	<u>5</u>	_____	<u>OBL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>55</u> = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Rubus pensylvanicum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>40</u>	x 2 = <u>80</u>
FAC species <u>40</u>	x 3 = <u>120</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>85</u> (A)	<u>205</u> (B)
Prevalence Index = B/A = <u>2.41</u>	
Hydrophytic Vegetation Indicators:	
<u> </u> 1 - Rapid Test for Hydrophytic Vegetation	
<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Four Vegetation Strata:	
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vine – All woody vines greater than 3.28 ft in height.	
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	

SOIL

Sampling Point: W-BB8-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB8-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): plateau Local relief (concave, convex, none): concave Slope (%): 2-4
 Subregion (LRR or MLRA): LRRN Lat: 40.23287489100 Long: -79.94221357790 Datum: NAD 83
 Soil Map Unit Name: Strip mines 25-45% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB8-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Fagus grandifolia</u>	<u>15</u>		<u>FACU</u>	
3. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
4. _____				
5. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
6. _____				
7. _____				Prevalence Index worksheet:
<u>35</u> = Total Cover 50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species _____ x 5 = _____ Column Totals: <u>60</u> (A) <u>195</u> (B)
1. <u>Lonicera sp</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____				Prevalence Index = B/A = <u>3.25</u>
3. _____				
4. _____				Hydrophytic Vegetation Indicators:
5. _____				
6. _____				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____				
8. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
9. _____				
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Definitions of Four Vegetation Strata:
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Athyrium felix-femina</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB8-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB7-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toeslope Local relief (concave, convex, none): _____ Slope (%): <5
 Subregion (LRR or MLRA): LRRN Lat: 40.2306361 Long: -079.9359447 Datum: NAD 83
 Soil Map Unit Name: Rainsboro silt loam 3-8% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil ☒, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM

HGM: slope

WT: NRPWW

location of former strip mine, remediated. Surface riddled with "potholes" of varying sizes, all filled with water.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): 6
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? Yes ☒ No _____ Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB7-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>16</u></td> <td>x 1 = <u>16</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>36</u></td> <td>x 3 = <u>108</u></td> </tr> <tr> <td>FACU species <u>6</u></td> <td>x 4 = <u>24</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>208</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.44</u>	Total % Cover of:	Multiply by:	OBL species <u>16</u>	x 1 = <u>16</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>36</u>	x 3 = <u>108</u>	FACU species <u>6</u>	x 4 = <u>24</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>85</u> (A)	<u>208</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>16</u>	x 1 = <u>16</u>																	
FACW species <u>25</u>	x 2 = <u>50</u>																	
FAC species <u>36</u>	x 3 = <u>108</u>																	
FACU species <u>6</u>	x 4 = <u>24</u>																	
UPL species <u>2</u>	x 5 = <u>10</u>																	
Column Totals: <u>85</u> (A)	<u>208</u> (B)																	
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>																
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>																
Herb Stratum (Plot size: <u>10'</u>)																		
1. <u>Agrostis stolonifera</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Carex stipata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Juncus tenuis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Chamerion angustifolium</u>	<u>5</u>	_____	<u>FAC</u>															
5. <u>Alopecurus aequalis</u>	<u>5</u>	_____	<u>OBL</u>															
6. <u>Solanum carolinense</u>	<u>2</u>	_____	<u>FACU</u>															
7. <u>Calystegia pubescens</u>	<u>2</u>	_____	<u>FACU</u>															
8. <u>Hypericum perforatum</u>	<u>1</u>	_____	<u>FAC</u>															
9. <u>Gallium asprellum</u>	<u>1</u>	_____	<u>OBL</u>															
10. <u>Convolvulus arvensis</u>	<u>2</u>	_____	<u>UPL</u>															
11. <u>Asclepias syriaca</u>	<u>2</u>	_____	<u>FACU</u>															
_____ = Total Cover																		
50% of total cover: <u>32.5</u>		20% of total cover: <u>13</u>																
Woody Vine Stratum (Plot size: <u>10'</u>)																		
1. <u>Toxicodendron radicans</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.														
2. <u>Rubus pensylvanicus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
_____ = Total Cover																		
50% of total cover: <u>10</u>		20% of total cover: <u>4</u>																
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-BB7-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB7-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): plateau Local relief (concave, convex, none): concave Slope (%): 3-5
Subregion (LRR or MLRA): LRRN Lat: 40.23057348320 Long: -79.93577201000 Datum: NAD 83
Soil Map Unit Name: Rainsboro silt loam, 3-8% NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB7-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>35</u> x 3 = <u>105</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>70</u> (A) <u>175</u> (B) Prevalence Index = B/A = <u>2.5</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Agrostis stolonifera</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Chamerion angustifolium</u>	<u>15</u>		<u>FAC</u>	
3. <u>Convolvulus arvensis</u>	<u>5</u>		<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>55</u> = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. <u>Rubus pensylvanicus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Toxicodendron radicans</u>	<u>5</u>		<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-BB7-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB6-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): <8
 Subregion (LRR or MLRA): LRRN Lat: 40.2295701 Long: -079.9346449 Datum: NAD 83
 Soil Map Unit Name: Culleoka-Weikert Shaly silt loams NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: slope

WT: RPWWN

location of former strip mine, remediated. Surface riddled with "potholes" of varying sizes, all filled with water.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> True Aquatic Plants (B14)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 7
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☒ No ☐ Depth (inches): 2
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

very slight H2S odor

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB6-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>220</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.4</u>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>90</u> (A)	<u>220</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>5</u>	x 1 = <u>5</u>																	
FACW species <u>55</u>	x 2 = <u>110</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species <u>5</u>	x 5 = <u>25</u>																	
Column Totals: <u>90</u> (A)	<u>220</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Agrostis stolonifera</u>	<u>55</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>juncus tenuis</u>	<u>10</u>		<u>FAC</u>															
3. <u>Chamerion angustifolium</u>	<u>5</u>		<u>FAC</u>															
4. <u>Alopecurus aequalis</u>	<u>5</u>		<u>OBL</u>															
5. <u>sorghum halepense</u>	<u>5</u>		<u>FACU</u>															
6. <u>convolvulus arvensis</u>	<u>5</u>		<u>UPL</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>																		
Woody Vine Stratum (Plot size: <u>5'</u>)																		
1. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																		

Remarks: (Include photo numbers here or on a separate sheet.)

 mostly reclaimed vegetation

SOIL

Sampling Point: W-BB6-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR4/3	100					LC	organic
5-20	10YR4/2	95	2.5YR 4/6	5	C	M	LC	red/gray mottles

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input checked="" type="checkbox"/> (MLRA 147, 148)			
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input checked="" type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
MLRA 147, 148)	MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

Culleoka-Weikert Shaly silt loams

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB6-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): plateau Local relief (concave, convex, none): concave Slope (%): 2-5
Subregion (LRR or MLRA): LRRN Lat: 40.22963424210 Long: -79.93481801570 Datum: NAD 83
Soil Map Unit Name: Culleoka-weikert shaly silt loams, 1-15% NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB6-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = _____ FACW species <u>0</u> x 2 = _____ FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species _____ x 5 = _____ Column Totals: <u>45</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>3.6</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Asclepias lanceolata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Daucus carota</u>	<u>10</u>	_____	<u>FACU</u>	
3. <u>Convolvulus arvensis</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>toxicodendron radicans</u>	<u>5</u>	_____	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>30</u> = Total Cover 50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. <u>Rubus pensylvanicus</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: W-BB6-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/13/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB12-WP
 Investigator(s): A Lands, S Cowell, T Caddy, Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): <10
 Subregion (LRR or MLRA): LRRN Lat: 40.2260 Long: -79.9287 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam, 3-8% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: <u>PEM</u> <u>slope</u> <u>isolate</u> <u>surface disturbed by heavy equipment</u>	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB12-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>50</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>185</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.06</u>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species _____	x 5 = _____	Column Totals: <u>90</u> (A)	<u>185</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>50</u>	x 1 = <u>50</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>20</u>	x 4 = <u>80</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>90</u> (A)	<u>185</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Scirpus atrovirens</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
2. <u>Juncus tenuis</u>	<u>15</u>	<input type="checkbox"/>	<u>FAC</u>															
3. <u>Trifolium repens</u>	<u>10</u>	<input type="checkbox"/>	<u>FACU</u>															
4. <u>Trifolium hybridum</u>	<u>10</u>	<input type="checkbox"/>	<u>FACU</u>															
5. <u>Polygonum pensylvanicum</u>	<u>5</u>	<input type="checkbox"/>	<u>FACW</u>															
6. <u>microstegium vimineum</u>	<u>5</u>	<input type="checkbox"/>	<u>FAC</u>															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>95</u> = Total Cover 50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Indicators:
☒ 1 - Rapid Test for Hydrophytic Vegetation
☒ 2 - Dominance Test is >50%
☒ 3 - Prevalence Index is $\geq 3.0^1$
☐ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation¹ (Explain)

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ☒ No ☐

SOIL

Sampling Point: W-BB12-WP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/13/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB12-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy Section, Township, Range: NA
Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): linear Slope (%): 6-10
Subregion (LRR or MLRA): LRRN Lat: 40.22588000040 Long: -79.92900000030 Datum: NAD 83
Soil Map Unit Name: Dormont silt loam 15-25% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB12-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>50</u> x 4 = <u>200</u> UPL species _____ x 5 = _____ Column Totals: <u>50</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>4</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Trifolium repens</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Trifolium hybridum</u>	<u>10</u>		<u>FACU</u>	
3. <u>Lolium perenne</u>	<u>5</u>		<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>50</u> = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: W-BB12-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB5-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): toe slope Local relief (concave, convex, none): none Slope (%): 3-5
 Subregion (LRR or MLRA): LRRN Lat: 40.2491980 Long: -079.9294342 Datum: NAD 83
 Soil Map Unit Name: Glenford silt loam, 3-8% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: depressional

WT: RPWWN

man made obstructions present, mostly fill material

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 5
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB5-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>85</u> (A)</td> <td><u>195</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.29</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: <u>85</u> (A)	<u>195</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>45</u>	x 3 = <u>135</u>																	
FACU species _____	x 4 = _____																	
UPL species _____	x 5 = _____																	
Column Totals: <u>85</u> (A)	<u>195</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Herb Stratum (Plot size: <u>5'</u>)					Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.													
1. <u>Scirpus atrovirens</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
2. <u>Juncus tenuis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Dichanthelium clandestinum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Carex cristatella</u>	<u>10</u>	_____	<u>FACW</u>															
5. <u>agrostis stolonifera</u>	<u>10</u>	_____	<u>FACW</u>															
6. <u>Chamerion angustifolium</u>	<u>10</u>	_____	<u>FAC</u>															
50% of total cover: <u>42.5</u> 20% of total cover: <u>17</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
7. <u>rumex crispus</u>	<u>5</u>	_____	<u>FAC</u>															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W-BB5-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	2.5Y4/2	50					clay loam	
0-6	Gley 4/10Y	50					clay loam	
6-12	2.5Y5/4	100					clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☒ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)
☐ Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Glenford silt loam, 3-8% slope
fill material present

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Allegheny County Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB5-UP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): valley bottom Local relief (concave, convex, none): none Slope (%): 2-4
 Subregion (LRR or MLRA): LRRN Lat: 40.24917854360 Long: -79.92963309210 Datum: NAD 83
 Soil Map Unit Name: Udortents smoothed, gently sloping NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB5-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>65</u> (A) <u>255</u> (B) Prevalence Index = B/A = <u>3.92</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Chamerion angustifolium</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Artemisia vulgaris</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
3. <u>Daucus carota</u>	<u>10</u>		<u>FACU</u>	
4. <u>Dipascus fullonum</u>	<u>10</u>		<u>FACU</u>	
5. <u>Mellilotus albus</u>	<u>10</u>		<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>65</u> = Total Cover 50% of total cover: <u>32.5</u> 20% of total cover: <u>13</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present? Yes _____ No ☒

SOIL

Sampling Point: W-BB5-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-BB4-WP
 Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 40.2542043 Long: -079.9262158 Datum: NAD 83
 Soil Map Unit Name: Dormant-Culleoka Complex 15-25% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☒, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: isolated

WT: Depressional

located behind gas station. UST's are present as well as man made obstructions

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): <5
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB4-WP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>180</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species _____	x 5 = _____	Column Totals: <u>90</u> (A)	<u>180</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>15</u>	x 2 = <u>30</u>																	
FAC species <u>30</u>	x 3 = <u>90</u>																	
FACU species <u>5</u>	x 4 = <u>20</u>																	
UPL species _____	x 5 = _____																	
Column Totals: <u>90</u> (A)	<u>180</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>carex stipata</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>juncus tenuis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>agrostis stolonifera</u>	<u>15</u>	_____	<u>FACW</u>															
4. <u>Chloris virgata</u>	<u>10</u>	_____	<u>FAC</u>															
5. <u>trifolium hybridum</u>	<u>5</u>	_____	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														

SOIL

Sampling Point: W-BB4-WP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	95	7.5YR 4/6	5	C	M	clay loam	
5-18	10YR4/3	100					clay loam	fill material w/ coarse gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)		
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)		
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)		
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)		
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)			
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N, MLRA 136)			
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)			
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)			
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)			

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:
Dormant-Culleoka Complex 15-25% slopes, mostly fill material

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Washington County Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-BB4-UP
Investigator(s): A. Lands, S. Cowell, T. Caddy, J. Aklaku Section, Township, Range: NA
Landform (hillslope, terrace, etc.): terraced hillslope Local relief (concave, convex, none): concave Slope (%): 3-8%
Subregion (LRR or MLRA): LRRN Lat: 40.25399999960 Long: -79.92622000020 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15-15% slope NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-BB4-UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species _____ x 5 = _____ Column Totals: <u>55</u> (A) <u>215</u> (B) Prevalence Index = B/A = <u>3.91</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Trifolium hybridum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Cichorium intybus</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>oxalis stricta</u>	<u>5</u>		<u>FACU</u>	
4. <u>plantago major</u>	<u>5</u>		<u>FACU</u>	
5. <u>Coronilla varia</u>	<u>5</u>		<u>FAC</u>	
6. <u>lotus corniculatus</u>	<u>5</u>		<u>FACU</u>	
<u>55</u> = Total Cover 50% of total cover: <u>27.5</u> 20% of total cover: <u>11</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>

SOIL

Sampling Point: W-BB4-UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Red Hook Compressor Station City/County: Greene Sampling Date: 06/09/2015
Applicant/Owner: EQT State: PA Sampling Point: W-N1
Investigator(s): JH, LM, JK Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2
Subregion (LRR or MLRA): LRRN Lat: 39.91772914740 Long: -80.13069448700 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? Yes ☒ No ☐ Depth (inches): 4
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-N1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Juncus effusus	70	✓	FACW	
2. Asclepias incarnata	10		OBL	
3. Carex lurida	5		OBL	
4. Phalaris arundinaceae	2		FACW	
5. Carex vulpinoidea	10		OBL	
6. Impatiens capensis	5		FACW	
<u>102</u> = Total Cover 50% of total cover: <u>51</u> 20% of total cover: <u>20.4</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-N1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Red Hook Compressor Station City/County: Greene Sampling Date: 06/09/2015
Applicant/Owner: EQT State: PA Sampling Point: W-N1 UP
Investigator(s): JH, LM, JK Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.91777586110 Long: -80.13079854330 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-N1 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Solidago altissima</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Trifolium pratense</u>	<u>5</u>		<u>FACU</u>	
3. <u>Trifolium aureum</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
4. <u>Allium sp.</u>	<u>2</u>			
5. <u>Lotus corniculatus</u>	<u>10</u>		<u>FACU</u>	
6. <u>Galium aparine</u>	<u>10</u>		<u>FACU</u>	
7. <u>Melilotus officinalis</u>	<u>2</u>		<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>84</u> = Total Cover 50% of total cover: <u>42</u> 20% of total cover: <u>16.8</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-N1 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-19	10YR 6/2	100					SC	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input checked="" type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input checked="" type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
<input checked="" type="checkbox"/> MLRA 147, 148)	<input checked="" type="checkbox"/> MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA1
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR or MLRA): LRRN Lat: 39.91576824580 Long: -80.13133243640 Datum: NAD 83
 Soil Map Unit Name: Newark silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD Large mound in middle of wetland. S-AA2 feeds W-AA1. Stream is dammed by road creating wetland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Heavy rainfall for 4 days before and during surveys.		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Platanus occidentalis</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex vulpinoidea</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Scirpus cyperinus</u>	<u>20</u>	_____	<u>FACW</u>	
3. <u>Scirpus atrovirens</u>	<u>5</u>	_____	<u>OBL</u>	
4. <u>Eupatorium perfoliatum</u>	<u>20</u>	_____	<u>FACW</u>	
5. <u>Agrimonia parviflora</u>	<u>15</u>	_____	<u>FACW</u>	
6. <u>Solidago gigantea</u>	<u>5</u>	_____	<u>FACW</u>	
7. <u>Amphicarpaea bracteata</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
8. <u>Dipsacus laciniatus</u>	<u>5</u>	_____	<u>FACU</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>160</u> = Total Cover 50% of total cover: <u>80</u> 20% of total cover: <u>32</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/2	100					SCL	
3-10	10YR 5/1	93	10YR 3/6	2	RM	M/PL	SCL	
3-10	10YR 4/2	5						
10-20	10YR 5/6	100					SCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

- ☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)
☐ Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

- ☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA1 UP
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91589062750 Long: -80.13158042460 Datum: NAD 83
 Soil Map Unit Name: Newark silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes _____ No ☒ Depth (inches): _____
 Saturation Present? Yes _____ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA1 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>75</u> (A)</td> <td><u>315</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>75</u> (A)	<u>315</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>15</u>	x 5 = <u>75</u>																	
Column Totals: <u>75</u> (A)	<u>315</u> (B)																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Erigeron annuus</u>	<u>15</u>		<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Potentilla indica</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Trifolium pratense</u>	<u>10</u>		<u>FACU</u>															
4. <u>Daucus carota</u>	<u>15</u>		<u>UPL</u>															
5. <u>Alliaria petiolata</u>	<u>5</u>		<u>FACU</u>															
6. <u>Carex sp.</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>ND</u>															
7. <u>Ranunculus sp.</u>	<u>5</u>		<u>ND</u>															
8. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
Remarks: (Include photo numbers here or on a separate sheet.) ND- Not determined.																		

SOIL

Sampling Point: W-AA1 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA5
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope/depression Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91355442740 Long: -80.12824347210 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM
 HGM: Isolate
 WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☒ No ☐ Depth (inches): 1
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA5

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0*</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Poa sp.</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>ND</u>	
2. <u>Phalaris arundinacea</u>	<u>10</u>	<input type="checkbox"/>	<u>FACW</u>	
3. <u>Poa trivialis</u>	<u>10</u>	<input type="checkbox"/>	<u>FACW</u>	
4. <u>Daucus carota</u>	<u>5</u>	<input type="checkbox"/>	<u>UPL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>105</u> = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.) Wetland with problematic hydrophytic vegetation Wetland is adjacent to Pratt Compressor Station (industrial area.) Adjacent drainage does not have bed or bank to make it a stream. Wetland fed by groundwater and rain events making it a slope wetland. Upland soils north and east of the wetland make it isolate. ND - Not Determined. * Vegetation not ID'd to species level not included in dominance test.				

SOIL

Sampling Point: W-AA5

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA5 UP
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NAD 83
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91360410120 Long: -80.12826299710 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:

Hydric soil is present but lack of hydrology and vegetation makes this an upland sample plot.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA5 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>45</u></td> <td>x 4 = <u>180</u></td> </tr> <tr> <td>UPL species <u>70</u></td> <td>x 5 = <u>350</u></td> </tr> <tr> <td>Column Totals: <u>120</u> (A)</td> <td><u>540</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>45</u>	x 4 = <u>180</u>	UPL species <u>70</u>	x 5 = <u>350</u>	Column Totals: <u>120</u> (A)	<u>540</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>45</u>	x 4 = <u>180</u>																	
UPL species <u>70</u>	x 5 = <u>350</u>																	
Column Totals: <u>120</u> (A)	<u>540</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Lotus corniculatus</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Dipsacus laciniatus</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
3. <u>Securigera varia</u>	<u>20</u>		<u>UPL</u>															
4. <u>Cirsium arvense</u>	<u>5</u>		<u>FACU</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. <u>Vitis riparia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>																		
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA5 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA6
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope/Depression Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91389543370 Long: -80.12716311240 Datum: NAD 83
 Soil Map Unit Name: Huntington silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM
 HGM: Isolated
 WT: RPWWN
 Groundwater from W-AA6 flows into S-AA5

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☒ No ☐ Depth (inches): 3
 Saturation Present? Yes ☒ No ☐ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA6

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phalaris arundinacea</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Typha angustifolia</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>5</u>	_____	<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>20</u>	_____	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <u> </u>

SOIL

Sampling Point: W-AA6

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA6 UP
Investigator(s): _____ Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8
Subregion (LRR or MLRA): LRRN Lat: 39.91399666630 Long: -80.12721311840 Datum: NAD 83
Soil Map Unit Name: Huntington silt loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys. No water table or saturation 0-20." No other hydrology indicators present.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA6 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ulmus rubra</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>8</u> = Total Cover 50% of total cover: <u>4</u> 20% of total cover: <u>1.6</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Cirsium arvense</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Phalaris arundinacea</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Apocynum cannabinum</u>	<u>10</u>		<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA6 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA2
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 5
 Subregion (LRR or MLRA): LRRN Lat: 39.91616667970 Long: -80.12612322510 Datum: NAD 83
 Soil Map Unit Name: Dumps, mine NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM
 HGM: Riverine
 WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No _____ Depth (inches): 0
 Water Table Present? Yes ☒ No _____ Depth (inches): 0
 Saturation Present? Yes ☒ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Fraxinus pennsylvanica</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>8</u> = Total Cover 50% of total cover: <u>4</u> 20% of total cover: <u>1.6</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex lurida</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Agrimonia parviflora</u>	<u>10</u>	_____	<u>FACW</u>	
3. <u>Microstegium vimineum</u>	<u>20</u>	_____	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA2

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA2 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 10
Subregion (LRR or MLRA): LRRN Lat: 39.91628509170 Long: -80.12603265380 Datum: NAD 83
Soil Map Unit Name: Dumps, mine NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Cowardin Code:

HGM:

WT:

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA2 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Aesculus octandra</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. <u>Robinia pseudoacacia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Acer rubrum</u>	<u>10</u>		<u>FAC</u>															
4. <u>Quercus rubra</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. _____				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>236</u></td> <td>x 4 = <u>944</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>246</u> (A)</td> <td><u>974</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.0</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>236</u>	x 4 = <u>944</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>246</u> (A)	<u>974</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>236</u>	x 4 = <u>944</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>246</u> (A)	<u>974</u> (B)																	
6. _____																		
7. _____																		
8. _____																		
9. _____				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
10. _____																		
11. _____																		
12. _____																		
50% of total cover: <u>50</u> 20% of total cover: <u>20</u> 100 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. <u>Fraxinus americana</u>	<u>10</u>		<u>FACU</u>															
2. <u>Prunus americana</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Sassafras albidum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
4. <u>Quercus alba</u>	<u>10</u>		<u>FACU</u>															
5. _____																		
6. _____																		
7. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
8. _____																		
9. _____																		
10. _____																		
50% of total cover: <u>37.5</u> 20% of total cover: <u>15</u> 75 = Total Cover																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Aesculus octandra</u>	<u>18</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Prunus serotina</u>	<u>10</u>		<u>FACU</u>															
3. <u>Potentilla indica</u>	<u>8</u>		<u>FACU</u>															
4. <u>Prunus americana</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. <u>Quercus alba</u>	<u>10</u>		<u>FACU</u>															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
50% of total cover: <u>35.5</u> 20% of total cover: <u>14.2</u> 71 = Total Cover																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
50% of total cover: <u>0</u> 20% of total cover: <u>0</u> 0 = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA2 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/09/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA3
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8
Subregion (LRR or MLRA): LRRN Lat: 39.91694532470 Long: -80.12500339490 Datum: NAD 83
Soil Map Unit Name: Dormant-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM

HGM: Slope

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☒ No _____ Depth (inches): 0Water Table Present? Yes ☒ No _____ Depth (inches): 0Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
0 = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
0 = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Herb Stratum (Plot size: <u>5'</u>)				
1. Typha angustifolia	40	✓	OBL	
2. Carex vulpinoidea	10		OBL	
3. Poa trivialis	60	✓	FACW	
4. Juncus effusus	15		FACW	
5. Solidago sp	5			
6. Lotus corniculatus	5		UPL	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
135 = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
50% of total cover: <u>67.5</u>		20% of total cover: <u>27</u>		
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA3

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: _____
Applicant/Owner: EQT State: PA Sampling Point: W-AA3 UP
Investigator(s): J. Heule L. McCarrell, L. Sexton, C. Lee Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 10
Subregion (LRR or MLRA): LRRN Lat: 39.91699149540 Long: -80.12501773560 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Heavy rainfall for 4 days before and during surveys.		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA3 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)														
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)														
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
4. _____	_____	_____	_____	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>550</u> (B)</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>130</u> (A)	<u>550</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>130</u> (A)	<u>550</u> (B)																	
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index = B/A = <u>4.2</u>														
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Lotus corniculatus</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
2. <u>Cirsium arvense</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Solidago altissima</u>	<u>10</u>		<u>FACU</u>															
4. <u>Poa pratensis</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>130</u> = Total Cover 50% of total cover: <u>65</u> 20% of total cover: <u>26</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA3 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA4
Investigator(s): JH, LM, LS, CL Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR or MLRA): LRRN Lat: 39.91675806970 Long: -80.11522332030 Datum: NAD 83
Soil Map Unit Name: Dormont silt loam, 8 to 15 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> True Aquatic Plants (B14)	
<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:Surface Water Present? Yes ☒ No ☐ Depth (inches): 0Water Table Present? Yes ☒ No ☐ Depth (inches): 0Saturation Present? Yes ☐ No ☐ Depth (inches):
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA4

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$		Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$		Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex lurida</u>	<u>65</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Carex vulpinoidea</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Phalaris arundinacea</u>	<u>5</u>		<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>5</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
$\frac{125}{50\% \text{ of total cover: } 62.5} = \text{Total Cover}$		$\frac{25}{20\% \text{ of total cover: } 25}$		Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$		
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present?
 Yes ☒ No ☐

SOIL

Sampling Point: W-AA4

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA4 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: N/A
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 4
Subregion (LRR or MLRA): LRRN Lat: 39.916774 Long: -80.115212 Datum: NAD 83
Soil Map Unit Name: Dormont silt loam, 8 to 15 percent slopes (DoC) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA4 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>40</u></td> <td>x 5 = <u>200</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>440</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.4</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>40</u>	x 5 = <u>200</u>	Column Totals: <u>100</u> (A)	<u>440</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>60</u>	x 4 = <u>240</u>																	
UPL species <u>40</u>	x 5 = <u>200</u>																	
Column Totals: <u>100</u> (A)	<u>440</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Cirsium arvense</u>	<u>60</u>	<u>✓</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Securigera varia</u>	<u>40</u>	<u>✓</u>	<u>UPL</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Present?	Yes _____ No <u>✓</u>
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SOIL

Sampling Point: W-AA4 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA7
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 15
 Subregion (LRR or MLRA): LRRN Lat: 39.91692035220 Long: -80.11417398970 Datum: NAD 83
 Soil Map Unit Name: Dormont silt loam, 8 to 15 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
 Are Vegetation ☐, Soil ☐, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:
 Cowardin Code: PEM
 HGM: Riverine
 WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA7

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Herb Stratum (Plot size: <u>5'</u>)				
1. <i>Scirpus atrovirens</i>	<u>10</u>		<u>OBL</u>	
2. <i>Carex vulpinoidea</i>	<u>60</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <i>Phalaris arundinacea</i>	<u>20</u>		<u>FACW</u>	
4. <i>Poa trivialis</i>	<u>15</u>		<u>FACW</u>	
5. <i>Poa palustris</i>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
50% of total cover: <u>72.5</u>		20% of total cover: <u>29</u>		
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA7

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/10/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA7 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 20
Subregion (LRR or MLRA): LRRN Lat: 39.91692609920 Long: -80.11395393570 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 8 to 15 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒

Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA7 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460</u></td> </tr> <tr> <td>UPL species <u>12</u></td> <td>x 5 = <u>60</u></td> </tr> <tr> <td>Column Totals: <u>127</u> (A)</td> <td><u>520</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.1</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>115</u>	x 4 = <u>460</u>	UPL species <u>12</u>	x 5 = <u>60</u>	Column Totals: <u>127</u> (A)	<u>520</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>115</u>	x 4 = <u>460</u>																	
UPL species <u>12</u>	x 5 = <u>60</u>																	
Column Totals: <u>127</u> (A)	<u>520</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Cirsium arvense</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Securigera varia</u>	<u>12</u>		<u>UPL</u>															
3. <u>Rubus allegheniensis</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>117</u> = Total Cover 50% of total cover: <u>58.5</u> 20% of total cover: <u>23.4</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. <u>Rubus allegheniensis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																		
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: W-AA7 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-AA8
 Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.91723329800 Long: -80.10237266320 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 25 to 80 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
 Are Vegetation ☒, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
 Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM
 HGM: Isolated
 WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes ☒ No _____ Depth (inches): 3
 Saturation Present? Yes ☒ No _____ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA8

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex lurida</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Carex vulpinoidea</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>25</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>135</u> = Total Cover 50% of total cover: <u>67.5</u> 20% of total cover: <u>27</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.) Western 50% of wetland has been mowed in the last 2 months, eastern 50% has not. Therefore, the western part of the wetland has problematic vegetation. Water table at 0" for entire plot. Wetland ID in the area with hydric vegetation.				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-AA8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 5/2	70	10YR 4/6		C	M	SC	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: Bedrock

Depth (inches): 9"

Hydric Soil Present?

Yes ☒

No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA8 UP
Investigator(s): J. Heule, L. McCarell, L. Sexton, C. Lee Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Flat plain Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.91720006700 Long: -80.10240104760 Datum: NAD 83
Soil Map Unit Name: Dekalb channery loam, 25 to 80 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒

Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA8 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>115</u></td> <td>x 4 = <u>460</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>145</u> (A)</td> <td><u>610</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.2</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>115</u>	x 4 = <u>460</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>145</u> (A)	<u>610</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>115</u>	x 4 = <u>460</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>145</u> (A)	<u>610</u> (B)																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Trifolium pratense</u>	<u>25</u>		<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <u>Daucus carotaz</u>	<u>10</u>		<u>UPL</u>															
3. <u>Securigera varia</u>	<u>20</u>		<u>UPL</u>															
4. <u>Phleum pratense</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. <u>Dactylis glomerata</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>145</u> = Total Cover 50% of total cover: <u>72.5</u> 20% of total cover: <u>29</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: W-AA8 UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR4/1	100					SCL	
12-20	10YR7/6	100					SCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)	
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)	
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,		
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)		

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M1
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Linear Slope (%): 12-15%
 Subregion (LRR or MLRA): LRRN Lat: 39.91492671900 Long: 80.10000660220 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Slope

WT: Isolate

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phalaris arundinacea</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Solidago altissima</u>	<u>10</u>		<u>FACU</u>	
3. <u>Rosa multiflora</u>	<u>10</u>		<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>95</u> = Total Cover 50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____

SOIL

Sampling Point: W-M1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/09/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M1 UPL
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Linear Slope (%): 8-10%
 Subregion (LRR or MLRA): LRRN Lat: 39.91492671900 Long: -80.10000660220 Datum: NAD 83
 Soil Map Unit Name: Dekalb channery loam, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M1 UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Gleditsia triacanthos</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phleum pratense</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Dactylis glomerata</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Achillea millefolium</u>	<u>10</u>		<u>FACU</u>	
4. <u>Plantago lanceolata</u>	<u>10</u>		<u>UPL</u>	
5. <u>Solidago sp.</u>	<u>10</u>		<u>ND</u>	
6. <u>Solanum carolinense</u>	<u>5</u>		<u>FACU</u>	
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>115</u> = Total Cover 50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not determined				

SOIL

Sampling Point: W-M1 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA9
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.91473751940 Long: -80.09409456670 Datum: NAD 83
Soil Map Unit Name: Glenford silt loam, 3 to 8 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM

HGM: Isolated

WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes ☒ No _____ Depth (inches): 3
Saturation Present? Yes ☒ No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA9

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. Phalaris arundinacea	5		FACW	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. Carex vulpinoidea	30	✓	OBL	
3. Juncus tenuis	20		FAC	
4. Poa trivialis	60	✓	FACW	
5. Phleum pratense	5		FACU	
6. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>120</u> = Total Cover 50% of total cover: <u>60</u> 20% of total cover: <u>24</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA9

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/11/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA9 UP
Investigator(s): J. Heule L. Sexton C. Lee L. McCarrell Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Flat plain Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.91470007700 Long: -80.09407900410 Datum: NAD 83
Soil Map Unit Name: Glenford silt loam, 3 to 8 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes _____ No ☒ Depth (inches): _____
Saturation Present? Yes _____ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys. Several streams in survey area were flooded.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA9 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Ulmus rubra</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2*</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>8</u> = Total Cover 50% of total cover: <u>4</u> 20% of total cover: <u>1.6</u>				
Prevalence Index worksheet:				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)		Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>18</u> x 2 = <u>36</u> FAC species <u>13</u> x 3 = <u>39</u> FACU species <u>25</u> x 4 = <u>100</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>86</u> (A) <u>325</u> (B)		
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>		Prevalence Index = B/A = <u>3.8</u>		
Hydrophytic Vegetation Indicators:				
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Definitions of Four Vegetation Strata:				
Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.				
Herb Stratum (Plot size: <u>5'</u>) 1. <u>Unknown grass</u> <u>35</u> <input checked="" type="checkbox"/> <u>ND</u> 2. <u>Daucus carotaz</u> <u>18</u> _____ <u>FACW</u> 3. <u>Apocynum cannabinum</u> <u>10</u> _____ <u>FACU</u> 4. <u>Dichanthelium clandestinum</u> <u>5</u> _____ <u>FAC</u> 5. <u>Hyssop officinalis</u> <u>30</u> <input checked="" type="checkbox"/> <u>UPL</u> 6. <u>Rubus allegheniensis</u> <u>15</u> _____ <u>FACU</u> 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ _____ = Total Cover 50% of total cover: <u>56.5</u> 20% of total cover: <u>22.6</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Woody Vine Stratum (Plot size: <u>15'</u>) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-AA9 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/12/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA10
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.90452367680 Long: -80.09013204320 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

PEM is cut out of forest, not a PFO

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
Water Table Present? Yes ☒ No _____ Depth (inches): 7
Saturation Present? Yes ☒ No _____ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Heavy rainfall for 4 days before and during surveys.

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA10

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>					
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
1. <u>Nyssa sylvatica</u>	<u>3</u>	<u>✓</u>	<u>FAC</u>		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
<u>3</u> = Total Cover 50% of total cover: <u>1.5</u> 20% of total cover: <u>0.6</u>					
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>✓</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Carex lurida</u>	<u>20</u>	_____	<u>OBL</u>		
2. <u>Agrimonia parviflora</u>	<u>25</u>	<u>✓</u>	<u>FACW</u>		
3. <u>Impatiens capensis</u>	<u>20</u>	_____	<u>FACW</u>		
4. <u>Leersia oryzoides</u>	<u>40</u>	<u>✓</u>	<u>OBL</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
<u>105</u> = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21</u>					
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u>✓</u> No _____	
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>					
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: W-AA10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 2/2	100					SL	
3-19	10YR 2/2	20	10YR 3/6	15	D	M	SL	
	10YR 5/1	65						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10) (**LRR N**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1) (**LRR N, MLRA 147, 148**)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)

☐ Dark Surface (S7)
☐ Polyvalue Below Surface (S8) (**MLRA 147, 148**)
☐ Thin Dark Surface (S9) (**MLRA 147, 148**)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☒ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
☐ Umbric Surface (F13) (**MLRA 136, 122**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 148**)
☐ Red Parent Material (F21) (**MLRA 127, 147**)

Indicators for Problematic Hydric Soils³:

☐ 2 cm Muck (A10) (**MLRA 147**)
☐ Coast Prairie Redox (A16) (**MLRA 147, 148**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒

No ☐

Remarks:
10 percent muck 3-19".

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 07/12/2015
Applicant/Owner: EQT State: PA Sampling Point: W-AA10 UP
Investigator(s): JH, LM, LS, CL Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5
Subregion (LRR or MLRA): LRRN Lat: 39.90453565550 Long: -80.09019300780 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 15 to 25 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No ☒ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ☒
Are Vegetation _____, Soil _____, or Hydrology ☒ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> (includes capillary fringe)	Depth (inches): _____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Heavy rainfall for 4 days before and during surveys.		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-AA10 UP

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Fraxinus americana</u>	<u>55</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)														
2. <u>Celtis occidentalis</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>95</u> = Total Cover 50% of total cover: <u>47.5</u> 20% of total cover: <u>19</u>				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="text-align: left;">Total % Cover of:</th> <th style="text-align: left;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>80</u></td> <td>x 3 = <u>240</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>180</u> (A)</td> <td><u>630</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.5</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>80</u>	x 3 = <u>240</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>180</u> (A)	<u>630</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>5</u>	x 2 = <u>10</u>																	
FAC species <u>80</u>	x 3 = <u>240</u>																	
FACU species <u>95</u>	x 4 = <u>380</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>180</u> (A)	<u>630</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Herb Stratum (Plot size: <u>5'</u>)																		
1. <u>Verbesina alternifolia</u>	<u>80</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Viola sp</u>	<u>8</u>																	
3. <u>Grass sp</u>	<u>15</u>																	
4. <u>Boehmeria cylindrica</u>	<u>5</u>		<u>FACW</u>															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
<u>108</u> = Total Cover 50% of total cover: <u>54</u> 20% of total cover: <u>21.6</u>																		
Woody Vine Stratum (Plot size: <u>15'</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: W-AA10 UP

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M3
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 2-4%
 Subregion (LRR or MLRA): LRRN Lat: 39.902613 Long: -80.086839 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juglans nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Salix nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>5</u> = Total Cover 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Verbesina alternifolia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Typha angustifolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Agrimonia parviflora</u>	<u>10</u>		<u>FACW</u>	
4. <u>Salix nigra</u>	<u>10</u>		<u>OBL</u>	
5. <u>Dichanthelium clandestinum</u>	<u>10</u>		<u>FAC</u>	
6. <u>Solidago altissima</u>	<u>5</u>		<u>FACU</u>	
7. <u>Scirpus atrovirens</u>	<u>5</u>		<u>OBL</u>	
8. _____				
9. _____				
10. _____				
11. _____				
<u>90</u> = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8"	10YR 4/2	90	7.5YR 4/4	10	C	PL	SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)						
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)						
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)						
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)						
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)						
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)						
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)						
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)							
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,							
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)							
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)							
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)							
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)							

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-M4
Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Concave Slope (%): 3-5%
Subregion (LRR or MLRA): LRRN Lat: 39.90235947890 Long: -80.08697573750 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Slope

WT: RPWWN

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 1"
Water Table Present? Yes ☒ No ☐ Depth (inches): 0"
Saturation Present? Yes ☒ No ☐ Depth (inches): 0"
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M4

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Phalaris arundinacea	50	✓	FACW	
2. Typha angustifolia	20	✓	OBL	
3. Onoclea sensibilis	10		FACW	
4. Carex vulpinoidea	10		OBL	
5. Asclepias incarnata	5		OBL	
6. Juncus effusus	5		FACW	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M4

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-M2
Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 3-5%
Subregion (LRR or MLRA): LRRN Lat: 39.90155980100 Long: -80.08556468700 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:Surface Water Present? Yes ☒ No ☐ Depth (inches): 0"Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☒ No ☐ Depth (inches): 0"
(includes capillary fringe)Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$		Prevalence Index worksheet: $\frac{\text{Total \% Cover of:}}{\text{Multiply by:}}$ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Salix nigra</u>	<u>10</u>	<u>✓</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
$\frac{10}{50\% \text{ of total cover: } 5} = \text{Total Cover}$		$\frac{2}{20\% \text{ of total cover: } 2}$		Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Typha angustifolia</u>	<u>50</u>	<u>✓</u>	<u>OBL</u>	
2. <u>Phalaris arundinacea</u>	<u>30</u>	<u>✓</u>	<u>FACW</u>	
3. <u>Juncus effusus</u>	<u>20</u>	_____	<u>FACW</u>	
4. <u>Poa trivialis</u>	<u>10</u>	_____	<u>FACW</u>	
5. <u>Verbena hastata</u>	<u>5</u>	_____	<u>FACW</u>	
6. <u>Carex lurida</u>	<u>5</u>	_____	<u>OBL</u>	
7. <u>Eupatorium perfoliatum</u>	<u>5</u>	_____	<u>FACW</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
$\frac{125}{50\% \text{ of total cover: } 62.5} = \text{Total Cover}$		$\frac{25}{20\% \text{ of total cover: } 25}$		Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
$\frac{0}{50\% \text{ of total cover: } 0} = \text{Total Cover}$		$\frac{0}{20\% \text{ of total cover: } 0}$		Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8"	10YR 4/1	90	7.5YR 4/4	10	C	PL	CL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> 2 cm Muck (A10) (MLRA 147)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/> (MLRA 147, 148)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> (MLRA 136, 147)			
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR N,				
<input type="checkbox"/> MLRA 147, 148)	<input type="checkbox"/> MLRA 136)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Umbric Surface (F13) (MLRA 136, 122)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 148)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21) (MLRA 127, 147)				

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒

No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-M2, M3, M4 UPL
Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Hill slope Local relief (concave, convex, none): Convex Slope (%): 3-5%
Subregion (LRR or MLRA): LRRN Lat: 39.90221161600 Long: -80.08653293760 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M2, M3, M4 UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Phleum pratense</u>	<u>40</u>	<u>✓</u>	<u>FACU</u>	
2. <u>Dactylis glomerata</u>	<u>20</u>	<u>✓</u>	<u>FACU</u>	
3. <u>Potentilla indica</u>	<u>15</u>	_____	<u>FACU</u>	
4. <u>Andropogon virginicus</u>	<u>15</u>	_____	<u>FACU</u>	
5. <u>Trifolium pratense</u>	<u>10</u>	_____	<u>FACU</u>	
6. <u>Plantago lanceolata</u>	<u>5</u>	_____	<u>UPL</u>	
7. <u>Achillea millefolium</u>	<u>5</u>	_____	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-M2, M3, M4 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-M5
Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 0-1%
Subregion (LRR or MLRA): LRRN Lat: 39.90132669870 Long: -80.08949790100 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M5

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
$\frac{15}{100} = \text{Total Cover}$ 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet: $\frac{\text{Total \% Cover of:}}{\text{Multiply by:}}$ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Salix nigra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
$\frac{10}{100} = \text{Total Cover}$ 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% _____ 3 - Prevalence Index is $\leq 3.0^1$ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Typha angustifolia</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
2. <u>Ranunculus hispidus</u>	<u>5</u>		<u>FAC</u>	
3. <u>Mimulus ringens</u>	<u>5</u>		<u>OBL</u>	
4. <u>Epilobium coloratum</u>	<u>5</u>		<u>FACW</u>	
5. <u>Carex sp.</u>	<u>5</u>		<u>ND</u>	
6. <u>Eupatorium perfoliatum</u>	<u>3</u>		<u>FACW</u>	
7. <u>Persicaria sagittata</u>	<u>3</u>		<u>OBL</u>	
8. _____				
9. _____				
10. _____				
11. _____				
$\frac{101}{100} = \text{Total Cover}$ 50% of total cover: <u>50.5</u> 20% of total cover: <u>20.2</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
$\frac{0}{100} = \text{Total Cover}$ 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not determined				

SOIL

Sampling Point: W-M5

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
Applicant/Owner: EQT State: PA Sampling Point: W-M6
Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Concave Slope (%): 0-3%
Subregion (LRR or MLRA): LRRN Lat: 39.90157019710 Long: -80.08954794330 Datum: NAD 83
Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Cowardin Code: PEM HGM: Riverine WT: RPWWD	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <input type="text"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M6

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Typha angustifolia</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Schoenoplectus tabernaemontani</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>20</u>	<input type="checkbox"/>	<u>FACW</u>	
4. <u>Scirpus atrovirens</u>	<u>10</u>	<input type="checkbox"/>	<u>OBL</u>	
5. <u>Agrimonia parviflora</u>	<u>10</u>	<input type="checkbox"/>	<u>FACW</u>	
6. <u>Solidago sp.</u>	<u>5</u>	<input type="checkbox"/>	<u>ND</u>	
7. <u>Poa sp.</u>	<u>5</u>	<input type="checkbox"/>	<u>ND</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not determined				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: W-M6

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Greene Sampling Date: 10/08/2015
 Applicant/Owner: EQT State: PA Sampling Point: W-M5, M6 UPL
 Investigator(s): J. McGuirk, A. Mengel Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Valley bottom Local relief (concave, convex, none): Convex Slope (%): 0-2%
 Subregion (LRR or MLRA): LRRN Lat: 39.90170628860 Long: -80.08933135920 Datum: NAD 83
 Soil Map Unit Name: Dormont-Culleoka complex, 25 to 50 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/>		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-M5, M6 UPL

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species _____ x 5 = _____ Column Totals: <u>90</u> (A) <u>340</u> (B) Prevalence Index = B/A = <u>3.77</u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Dactylis glomerata</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>Verbesina alternifolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>Cirsium vulgare</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Solanum carolinense</u>	<u>10</u>	_____	<u>FACU</u>	
5. <u>Solidago sp.</u>	<u>10</u>	_____	<u>ND</u>	
6. <u>Achillea millefolium</u>	<u>10</u>	_____	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks: (Include photo numbers here or on a separate sheet.) ND - Not determined				

SOIL

Sampling Point: W-M5, M6 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
Applicant/Owner: EQT State: WV Sampling Point: W-Z1
Investigator(s): SAZ, CS Section, Township, Range: NA
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.562971 Long: -80.543704 Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
Water Table Present? Yes ☐ No ☒ Depth (inches):
Saturation Present? Yes ☐ No ☒ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juglans nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>15</u> = Total Cover 50% of total cover: <u>7.5</u> 20% of total cover: <u>3</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>Acer negundo</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Dichanthelium clandestinum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Phalaris arundinacea</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Vernonia noveboracensis</u>	<u>15</u>	_____	<u>FACW</u>	
4. <u>Viola sororia</u>	<u>15</u>	_____	<u>FAC</u>	
5. <u>Symphotrichum prenanthoides</u>	<u>10</u>	_____	<u>FAC</u>	
6. <u>Persicaria maculosa</u>	<u>10</u>	_____	<u>FACW</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-Z1

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
 Applicant/Owner: EQT State: WV Sampling Point: W-Z1 UPL
 Investigator(s): SAZ, CS Section, Township, Range: NA
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.563019 Long: -80.54361 Datum: NAD 83
 Soil Map Unit Name: Skidmore gravelly loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: Upland	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z1 UPL

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>0</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>0</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <i>Dactylis glomerata</i>	65	✓	FACU	
2. <i>Trifolium pratense</i>	20	✓	FACU	
3. <i>Echinochloa crus-galli</i>	10		FAC	
4. <i>Plantago major</i>	5		FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>

SOIL

Sampling Point: W-Z1 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
Applicant/Owner: EQT State: WV Sampling Point: W-Z3
Investigator(s): SAZ, CS Section, Township, Range: NA
Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.552937 Long: -80.544539 Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWN

Data form for wetlands W-Z3A and W-Z3B.

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z3

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: <u> </u> Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				
1. <u>Carex lurida</u>	<u>30</u>	<u>✓</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>✓</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Carex vulpinoidea</u>	<u>20</u>	<u>✓</u>	<u>OBL</u>	
3. <u>Arthraxon hispidus</u>	<u>20</u>	<u>✓</u>	<u>FAC</u>	
4. <u>Juncus effusus</u>	<u>15</u>	_____	<u>FACW</u>	
5. <u>Cyperus esculentus</u>	<u>10</u>	_____	<u>FACW</u>	
6. <u>Scirpus atrovirens</u>	<u>5</u>	_____	<u>OBL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Hydrophytic Vegetation Present? Yes <u>✓</u> No <u> </u>				
Remarks: (Include photo numbers here or on a separate sheet.) Vegetation has been disturbed over significant portions of W-Z3A & W-ZB, straw is covering bare ground.				

SOIL

Sampling Point: W-Z3

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
Applicant/Owner: EQT State: WV Sampling Point: W-Z3 UPL
Investigator(s): SAZ, CS Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0
Subregion (LRR or MLRA): LRRS Lat: 39.553178 Long: -80.544416 Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z3 UPL

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>0</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
Herb Stratum (Plot size: <u>0</u>)				
1. <i>Dactylis glomerata</i>	50	✓	FACU	
2. <i>Juncus effusus</i>	15	✓	FACW	
3. <i>Trifolium pratense</i>	15	✓	FACU	
4. <i>Plantago lanceolata</i>	10		UPL	
5. <i>Daucus carota</i>	10		UPL	
6. <i>Phalaris arundinacea</i>	10		FACW	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>110</u> = Total Cover 50% of total cover: <u>55</u> 20% of total cover: <u>22</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum (Plot size: <u>15'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

Hydrophytic Vegetation Present? Yes _____ No ✓

SOIL

Sampling Point: W-Z3 UPL

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
 Applicant/Owner: EQT State: WV Sampling Point: W-Z2
 Investigator(s): SAZ, CS Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRRN Lat: 39.550181 Long: -80.544762 Datum: NAD 83
 Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

Cowardin Code: PEM

HGM: Riverine

WT: RPWWD

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Microtopographic Relief (D4)
		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):
 Water Table Present? Yes ☐ No ☒ Depth (inches):
 Saturation Present? Yes ☐ No ☒ Depth (inches):
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z2

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. Carex vulpinoidea	70	✓	OBL	
2. Carex lurida	10		OBL	
3. Scirpus polyphyllus	5		OBL	
4. Juncus canadensis	5		OBL	
5. Persicaria sagittata	5		OBL	
6. Juncus effusus	5		FACW	
<u>105</u> = Total Cover 50% of total cover: <u>52.5</u> 20% of total cover: <u>21</u>				
Woody Vine Stratum (Plot size: <u>15'</u>)				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes <u>✓</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-Z2

[illegible]

WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: EEP City/County: Wetzel Sampling Date: 10/21/2015
Applicant/Owner: EQT State: WV Sampling Point: W-Z2 UPL
Investigator(s): SAZ, CS Section, Township, Range: NA
Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Convex Slope (%): 0
Subregion (LRR or MLRA): LRRN Lat: 39.550418 Long: -80.544845 Datum: NAD 83
Soil Map Unit Name: Skidmore gravelly loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	

Remarks:

Upland

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Microtopographic Relief (D4)
<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

 Sampling Point: W-Z2 UPL

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Sapling/Shrub Stratum (Plot size: <u>0</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height.
Herb Stratum (Plot size: <u>0</u>)				
1. <i>Dactylis glomerata</i>	60	✓	FACU	
2. <i>Clinopodium vulgare</i>	15		UPL	
3. <i>Trifolium pratense</i>	10		FACU	
4. <i>Glechoma hederacea</i>	10		FACU	Hydrophytic Vegetation Present? Yes _____ No <u>✓</u>
5. <i>Verbesina alternifolia</i>	5		FAC	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	Woody Vine Stratum (Plot size: <u>15'</u>)
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover 50% of total cover: <u>50</u> 20% of total cover: <u>20</u>				
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (Include photo numbers here or on a separate sheet.)				

SOIL

Sampling Point: W-Z2 UPL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 4/4	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/>	Dark Surface (S7)	<input type="checkbox"/>	2 cm Muck (A10) (MLRA 147)		<input type="checkbox"/>		
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/>	Polyvalue Below Surface (S8) (MLRA 147, 148)	<input type="checkbox"/>	Coast Prairie Redox (A16)		<input type="checkbox"/>		
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/>	Thin Dark Surface (S9) (MLRA 147, 148)	<input type="checkbox"/>	(MLRA 147, 148)		<input type="checkbox"/>		
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/>	Loamy Gleyed Matrix (F2)	<input type="checkbox"/>	Piedmont Floodplain Soils (F19)		<input type="checkbox"/>		
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/>	Depleted Matrix (F3)	<input type="checkbox"/>	(MLRA 136, 147)		<input type="checkbox"/>		
<input type="checkbox"/> 2 cm Muck (A10) (LRR N)	<input type="checkbox"/>	Redox Dark Surface (F6)	<input type="checkbox"/>	Very Shallow Dark Surface (TF12)		<input type="checkbox"/>		
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/>	Depleted Dark Surface (F7)	<input type="checkbox"/>	Other (Explain in Remarks)		<input type="checkbox"/>		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/>	Redox Depressions (F8)	<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR N,	<input type="checkbox"/>	Iron-Manganese Masses (F12) (LRR N,	<input type="checkbox"/>			<input type="checkbox"/>		
MLRA 147, 148)	<input type="checkbox"/>	MLRA 136)	<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/>	Umbric Surface (F13) (MLRA 136, 122)	<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/>	Piedmont Floodplain Soils (F19) (MLRA 148)	<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/>	Red Parent Material (F21) (MLRA 127, 147)	<input type="checkbox"/>			<input type="checkbox"/>		

Restrictive Layer (if observed):

Type: coarse fragments

Depth (inches): 5

Hydric Soil Present?

Yes _____ No ☒

Remarks:

STREAM ID S-BB1		STREAM NAME Lobbs Run	
LAT 40.253691 LONG -79.962318		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 2.0 ft Top of Bank Height: LB 1.0 ft RB 1.0 ft Water Depth: 5.00 in Water Width: 2.0 ft High Water Mark: 4.0 in Flow Direction: West		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	60	Muck-Mud	black, very fine organic (FPOM)	5
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Crawfish holes, mayflies, water bugs, skimmers

STREAM ID S-BB2		STREAM NAME UNT to Lobbs Run	
LAT 40.249311 LONG -79.957857		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>1.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>11.0</u> in High Water Mark: <u>2.0</u> in Flow Direction: <u>North</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")				
Gravel	2-64 mm (0.1"-2.5")		Muck-Mud	black, very fine organic (FPOM)	70
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	60			
Clay	< 0.004 mm (slick)	40			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID ^{W-BB2}		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Source is seep/well at top of hill crawfish holes.

STREAM ID S-BB5		STREAM NAME Monongehela River	
LAT 40.242072 LONG -79.949452		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS AL,SC,TC,JA			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>860.0</u> ft Top of Bank Height: LB <u>30.0</u> ft RB <u>70.0</u> ft Water Depth: <u> </u> ft Water Width: <u>767.0</u> ft High Water Mark: <u> </u> in Flow Direction: <u>East</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other <u> </u>		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	5			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Substrate material could not be determined
	OHWM could not be accurately determined
	Salamanders, frogs, fish, snakes

STREAM ID S-BB4		STREAM NAME Bunola Run	
LAT 40.23785276 LONG -79.94687252		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS AL,SC,TC,JA			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>20.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>2.0</u> ft Water Depth: <u>12.00</u> in Water Width: <u>5.0</u> ft High Water Mark: <u>18.0</u> in Flow Direction: <u>East</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	5			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-BB6	STREAM NAME UNT to Bunola Run
LAT 40.238830 LONG -79.943779	DATE 07/08/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS AL,SC,TC,JA	
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 1.0 ft RB 2.0 ft Water Depth: 7.00 in Water Width: 1.0 ft High Water Mark: 5.0 in Flow Direction: North		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 70 % Run 30 % Pool % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	70	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Catchment feature, drains into river Skimmers, water bugs, crawfish holes.
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STREAM ID S-BB3		STREAM NAME Kelly Run	
LAT 40.228285 LONG -79.932636		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS AL,SC,TC,JA			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>30.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>2.0</u> ft Water Depth: <u>18.00</u> in Water Width: <u>20.0</u> ft High Water Mark: <u>12.0</u> in Flow Direction: <u>Northeast</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 10 % Pool 10 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	60	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Salamanders, frogs, mayflies, water bugs, skimmers

STREAM ID S-N1		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.918213 LONG -80.128345		DATE 06/09/2015	
CLIENT EQT		PROJECT NAME MVP	
INVESTIGATORS JH, LM, JK			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 7.0 ft Top of Bank Height: LB 20.0 in RB 72.0 in Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 5.0 in Flow Direction: South		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	20
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	65	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input checked="" type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Channelized to direct water around existing fenced facility

STREAM ID S-N2	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.917568 LONG -80.130835	DATE 06/09/2015
CLIENT EQT	PROJECT NAME MVP
INVESTIGATORS JH, LM, JK	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 2.0 ft Top of Bank Height: LB 1.0 ft RB 1.0 ft Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 2.0 in Flow Direction: Southwest		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	10			
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	5
Sand	0.06-2mm (gritty)	50			
Silt	0.004-0.06 mm	20	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-N1		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	S-N3 feeds into S-N2. Connected with W-N1

STREAM ID S-N3	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.918078 LONG -80.1302	DATE 06/09/2015
CLIENT EQT	PROJECT NAME MVP
INVESTIGATORS JH, LM, JK	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 6.0 in RB 6.0 in Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 6.0 in Flow Direction: Southwest		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	0
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	5			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	35			
Clay	< 0.004 mm (slick)	0			
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Drains from a culvert and converges with S-N2 through another culvert

STREAM ID S-AA1		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.91687549 LONG -80.12493326		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>10.0</u> ft Top of Bank Height: LB <u>16.0</u> in RB <u>15.0</u> in Water Depth: <u>3.00</u> in Water Width: <u>81.0</u> in High Water Mark: <u>10.0</u> in Flow Direction: <u>South</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 20 % Pool 20 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		10	Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	50			
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	15
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Channelized under highway through cement culvert. 5 foot waterfall
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STREAM ID S-AA2		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.915698 LONG -80.131299		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 1.5 ft Top of Bank Height: LB 6.0 in RB 6.0 in Water Depth: 0.50 in Water Width: 1.0 ft High Water Mark: 2.0 in Flow Direction: Southeast		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 0 % Pool 100 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	80
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	80			
Clay	< 0.004 mm (slick)	10			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA1		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Adjacent to W-AA1. The road creates a dam which creates the wetland

STREAM ID S-AA5	STREAM NAME South Fork Tenmile Creek
LAT 39.91246121 LONG -80.12781246	DATE 07/10/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>70.0</u> ft Top of Bank Height: LB <u>13.0</u> ft RB <u>15.0</u> ft Water Depth: <u>4.00</u> ft Water Width: <u>45.0</u> ft High Water Mark: <u>6.5</u> ft Flow Direction: <u>Southwest</u>		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 10 % Run 90 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				
WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous		
	Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Investigators cannot see bottom of stream.
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STREAM ID S-AA7	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91337453 LONG -80.12736829	DATE 07/10/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 8.0 ft Top of Bank Height: LB 2.0 ft RB 2.5 ft Water Depth: 4.00 in Water Width: 5.0 ft High Water Mark: 10.0 in Flow Direction: West	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 40 % Run 30 % Pool 30 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	50	Muck-Mud	black, very fine organic (FPOM)	0
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA5
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STREAM ID S-AA3		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.916234 LONG -80.126083		DATE 07/08/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 4.0 ft	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy
	Top of Bank Height:	Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB 10.0 in RB 14.0 in	Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: 0.00 in	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: 0.0 ft	Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: 5.0 in	
	Flow Direction: South	

FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	Proportion of Reach Represented by Stream Morphology Types Rifle 0 % Run 0 % Pool 0 %
	Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other No water

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	50	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	50			
Silt	0.004-0.06 mm	0	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft
		Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		Wetland ID W-AA2

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Adjacent to W-AA2
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STREAM ID S-AA4	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.916873 LONG -80.124933	DATE 07/09/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 5.0 ft Top of Bank Height: LB 16.0 in RB 21.0 in Water Depth: 2.00 in Water Width: 30.0 in High Water Mark: 7.0 in Flow Direction: South	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 50 % Run 20 % Pool 30 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	10
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA3

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input checked="" type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Adjacent to W-AA3
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STREAM ID S-AA8	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91667051 LONG -80.11525436	DATE 07/10/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 1.5 ft RB 1.5 ft Water Depth: 1.00 in Water Width: 0.5 ft High Water Mark: 0.5 ft Flow Direction: Southeast	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 0 % Run 20 % Pool 80 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	50
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)	50			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA4

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Runs through W-AA4
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STREAM ID S-AA9	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91708932 LONG -80.11402927	DATE 07/10/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 4.0 ft Top of Bank Height: LB 18.0 in RB 18.0 in Water Depth: 1.00 in Water Width: 3.0 in High Water Mark: 0.5 ft Flow Direction: Southwest	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 100 % Run % Pool % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	25
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)	50			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-AA7

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Stream ends at W-AA7
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STREAM ID S-AA10		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.91742961 LONG -80.11058282		DATE 07/10/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 5.0 ft Top of Bank Height: LB 2.0 ft RB 2.0 ft Water Depth: 3.00 in Water Width: 10.0 in High Water Mark: 15.0 ft Flow Direction: South	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 80 % Run 0 % Pool 20 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		25	Detritus	sticks, wood, coarse plant materials (CPOM)	50
Boulder	> 256 mm (10")	50			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	10	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Completely shaded, hard to find. Runs through culvert under road
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STREAM ID S-AA11		STREAM NAME UNT to Ruff Creek	
LAT 39.91747678 LONG -80.10698305		DATE 07/10/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>6.5</u> ft	Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy
	Top of Bank Height:	Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB <u>61.0</u> in RB <u>60.0</u> in	Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: <u>0.00</u> in	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: <u>0.0</u> ft	Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: <u>40.0</u> ft	
	Flow Direction: <u>Southeast</u>	

FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool %
	Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input checked="" type="checkbox"/> Other <u>No water</u>

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	10			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	20			
Clay	< 0.004 mm (slick)	55			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Heavy erosion
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STREAM ID S-AA12		STREAM NAME Ruff Creek	
LAT 39.91742494 LONG -80.10568522		DATE 07/10/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input checked="" type="checkbox"/> RPW <input type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>75.0</u> ft Top of Bank Height: LB <u>12.0</u> ft RB <u>8.0</u> ft Water Depth: <u>26.00</u> in Water Width: <u>34.0</u> ft High Water Mark: <u>7.0</u> ft Flow Direction: <u>South</u>		Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run 25 % Pool 0 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	65
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Investigators cannot see the bottom of the stream due to turbidity. Water level is high due to recent rain event.

STREAM ID S-AA13		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.91252677 LONG -80.09465444		DATE 07/11/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>3.0</u> ft Top of Bank Height: LB <u>15.0</u> in RB <u>12.0</u> in Water Depth: <u>0.50</u> in Water Width: <u>15.0</u> in High Water Mark: <u>8.0</u> in Flow Direction: <u>South</u>	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool 100 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	15
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)	30			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA14

STREAM ID S-AA14	STREAM NAME UNT to South Fork Tenmile Creek
LAT 39.91245274 LONG -80.0943711	DATE 07/11/2015
CLIENT EQT	PROJECT NAME EQT EEP
INVESTIGATORS JH, LM, LS, CL	
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 3.0 ft Top of Bank Height: LB 18.0 in RB 1.0 ft Water Depth: 0.00 in Water Width: 0.0 ft High Water Mark: 4.0 in Flow Direction: Southwest	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	25	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	75			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Stream turns into much wider stream outside of corridor.
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STREAM ID S-AA15		STREAM NAME South Fork Tenmile Creek	
LAT 39.90982517 LONG -80.09229348		DATE 07/11/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>100.0</u> ft Top of Bank Height: LB <u>17.0</u> ft RB <u>12.0</u> ft Water Depth: <u>3.00</u> ft Water Width: <u>25.0</u> ft High Water Mark: <u>6.0</u> ft Flow Direction: <u>SE</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Investigators cannot see the bottom of the stream to evaluate substrate components. Investigators cannot safely access the north side of the bank to delineate the bank using GPS points. North bank 10 horizontal feet from the railroad.
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STREAM ID S-AA24		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.9075366 LONG -80.0912906		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 6.0 ft Top of Bank Height: LB 2.0 ft RB 2.0 ft Water Depth: 1.00 in Water Width: 20.0 in High Water Mark: 10.0 in Flow Direction: Southeast		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 40 % Run 10 % Pool 50 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		15	Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	50
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	0	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	45			
Clay	< 0.004 mm (slick)	10			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	S-AA23 is a tributary to this stream

STREAM ID S-AA23		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90722013 LONG -80.09118362		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 9.0 ft	Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy
	Top of Bank Height:	Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB 3.0 ft RB 3.0 ft	Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: 0.00 in	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: 0.0 ft	Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: 1.0 ft	
	Flow Direction: East	

FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input checked="" type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool %
	Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	70			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	15	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	15			
Silt	0.004-0.06 mm	0	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA24
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STREAM ID S-AA22		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90707654 LONG -80.09114841		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>7.0</u> ft	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy
	Top of Bank Height:	Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB <u>2.0</u> ft RB <u>3.0</u> ft	Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: <u>0.50</u> in	Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: <u>15.0</u> in	Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: <u>10.0</u> in	
	Flow Direction: <u>East</u>	

FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water	Proportion of Reach Represented by Stream Morphology Types Rifle 50 % Run 10 % Pool 40 %
	Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	50
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	30
Sand	0.06-2mm (gritty)	30			
Silt	0.004-0.06 mm	20	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	30			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Wetland ID _____

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-AA21		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90661814 LONG -80.09089011		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 4.0 ft Top of Bank Height: LB 4.0 ft RB 4.0 ft Water Depth: 1.00 in Water Width: 1.0 ft High Water Mark: 2.0 ft Flow Direction: East	Stream Erosion <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 10 % Pool 30 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	25
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	15
Gravel	2-64 mm (0.1"-2.5")	15			
Sand	0.06-2mm (gritty)	15	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	30			
Clay	< 0.004 mm (slick)	35			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID

AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Two track roads running perpendicular to stream. Debris litter in stream
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STREAM ID S-AA20		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90452337 LONG -80.09019849		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>1.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>6.0</u> in High Water Mark: <u>3.0</u> in Flow Direction: <u>East</u>		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 45 % Run 15 % Pool 75 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")				
Gravel	2-64 mm (0.1"-2.5")		Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	60			
Clay	< 0.004 mm (slick)	10			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous		
	Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID <small>W-AA10</small>		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-AA17		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90295128 LONG -80.08927605		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>12.0</u> ft Top of Bank Height: LB <u>5.0</u> ft RB <u>7.0</u> ft Water Depth: <u>22.00</u> in Water Width: <u>4.0</u> ft High Water Mark: <u>2.0</u> ft Flow Direction: <u>East</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 10 % Pool 30 % Turbidity <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		5	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	30			
Cobble	64-256 mm (2.5"-10")	30			
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	20
Sand	0.06-2mm (gritty)	10			
Silt	0.004-0.06 mm	5	Marl	grey, shell fragments	0
Clay	< 0.004 mm (slick)	0			

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	S-AA18 and S-AA19 are both tributaries to this stream
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STREAM ID S-AA18		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90281892 LONG -80.08921583		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: 2.0 ft Top of Bank Height: LB 6.0 in RB 6.0 in Water Depth: 0.50 in Water Width: 4.0 in High Water Mark: 2.0 in Flow Direction: Northeast		Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run 0 % Pool 25 % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	10	Muck-Mud	black, very fine organic (FPOM)	15
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)	20			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA17

STREAM ID S-AA19		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90280125 LONG -80.08931079		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>2.0</u> ft Top of Bank Height: LB <u>3.0</u> ft RB <u>3.0</u> ft Water Depth: <u>0.50</u> in Water Width: <u>6.0</u> in High Water Mark: <u>1.0</u> ft Flow Direction: <u>Northeast</u>		Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input checked="" type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool 100 % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0			
Gravel	2-64 mm (0.1"-2.5")	0	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)	30			
WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____		Indicate the dominant type (Check one) <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft		
	Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open		Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID _____		
AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Tributary to S-AA18

STREAM ID S-AA16		STREAM NAME UNT to South Fork Tenmile Creek	
LAT 39.90186278 LONG -80.08527456		DATE 07/12/2015	
CLIENT EQT		PROJECT NAME EQT EEP	
INVESTIGATORS JH, LM, LS, CL			
FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>11.0</u> ft Top of Bank Height: LB <u>57.0</u> in RB <u>39.0</u> in Water Depth: <u>7.00</u> in Water Width: <u>55.0</u> in High Water Mark: <u>22.0</u> in Flow Direction: <u>Northwest</u>	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run 100 % Pool % Turbidity <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	70			
Gravel	2-64 mm (0.1"-2.5")	10	Muck-Mud	black, very fine organic (FPOM)	0
Sand	0.06-2mm (gritty)	0	Marl		
Silt	0.004-0.06 mm	0			
Clay	< 0.004 mm (slick)	0		grey, shell fragments	0

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Flows through culvert under access road. Large PEM wetland surrounding stream. All of wetland boundary is outside corridor/access road
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STREAM ID S-M1		STREAM NAME UNT to Muddy Creek	
LAT 39.90179 LONG -80.08954		DATE 10/08/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS J. McGuirk, A. Mengel			
FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>10.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>4.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft High Water Mark: <u>3.0</u> in Flow Direction: <u>North</u>	Stream Erosion <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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FLOW CHARACTERISTICS	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	90
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	30			
Clay	< 0.004 mm (slick)	40			

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	Indicate the dominant type (Check one) <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Wetland ID W-M5, W-M6
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	No Macros observed.
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STREAM ID S-Z1		STREAM NAME Mobley Run	
LAT 39.562907 LONG -80.543684		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>15.0</u> ft Top of Bank Height: LB <u>3.5</u> ft RB <u>3.5</u> ft Water Depth: <u>1.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>6.0</u> in Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>South</u>	Stream Erosion ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy Artificial, Modified or Channelized ___ Yes <input checked="" type="checkbox"/> No Dam Present ___ Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low ___ Medium ___ High Gradient <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water Velocity ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run % Pool 25 % Turbidity <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Opaque ___ Stained ___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	40			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	20			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input checked="" type="checkbox"/> Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ Other: _____ Canopy Cover ___ Open <input checked="" type="checkbox"/> Partly shaded ___ Shaded	Indicate the dominant type ___ Trees <input checked="" type="checkbox"/> Shrubs ___ Grasses ___ Herbaceous Floodplain Width ___ Wide > 30ft ___ Moderate 15-30ft ___ Narrow <16ft Wetland Present ___ Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present ___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating ___ Floating algae ___ Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Water pennys
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STREAM ID S-J63		STREAM NAME UNT to Mobley Run	
LAT 39.562554 LONG -80.543564		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>7.0</u> ft Top of Bank Height: LB <u>3.5</u> ft RB <u>3.5</u> ft Water Depth: <u>2.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>3.5</u> ft Ordinary High Water Mark (Height): <u>1.0</u> ft Flow Direction: <u>West</u>	Stream Erosion ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy Artificial, Modified or Channelized ___ Yes <input checked="" type="checkbox"/> No Dam Present ___ Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low ___ Medium ___ High Gradient <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water Velocity ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 60 % Run 40 % Pool 0 % Turbidity ___ Clear <input checked="" type="checkbox"/> Slightly turbid ___ Turbid ___ Opaque ___ Stained ___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <small>100</small>			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	60			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse ___ Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural <input checked="" type="checkbox"/> Residential ___ Other: _____ Canopy Cover <input checked="" type="checkbox"/> Open ___ Partly shaded ___ Shaded	Indicate the dominant type ___ Trees ___ Shrubs <input checked="" type="checkbox"/> Grasses ___ Herbaceous Floodplain Width ___ Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft ___ Narrow <16ft Wetland Present ___ Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present ___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating ___ Floating algae ___ Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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STREAM ID S-A2a		STREAM NAME UNT to North Fork Fishing Creek	
LAT 39.552673 LONG -80.544944		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		FLOW REGIME Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>12.0</u> ft Top of Bank Height: LB <u>4.0</u> ft RB <u>4.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>4.0</u> ft Ordinary High Water Mark (Height): <u>1.0</u> ft Flow Direction: <u>North</u>	Stream Erosion ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy Artificial, Modified or Channelized ___ Yes <input checked="" type="checkbox"/> No Dam Present ___ Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low ___ Medium ___ High Gradient <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water Velocity ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle 75 % Run % Pool 25 % Turbidity ___ Clear <input checked="" type="checkbox"/> Slightly turbid ___ Turbid ___ Opaque ___ Stained ___ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	50	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	30			
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse ___ Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural <input checked="" type="checkbox"/> Residential ___ Other: _____ Canopy Cover <input checked="" type="checkbox"/> Open ___ Partly shaded ___ Shaded	Indicate the dominant type ___ Trees ___ Shrubs <input checked="" type="checkbox"/> Grasses ___ Herbaceous Floodplain Width ___ Wide > 30ft ___ Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft Wetland Present <input checked="" type="checkbox"/> Yes ___ No Wetland ID W-Z2 & W-Z3
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present ___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating ___ Floating algae ___ Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Large pools downstream of culvert with many small fish
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STREAM ID S-A3a		STREAM NAME UNT to North Fork Fishing Creek	
LAT 39.551893 LONG -80.545090		DATE 10/21/2015	
CLIENT EQT		PROJECT NAME EEP	
INVESTIGATORS SAZ, CS			
WATER TYPE TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		FLOW REGIME Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

CHANNEL FEATURES	Estimate Measurements Top of Bank Width: <u>5.0</u> ft Top of Bank Height: LB <u>1.5</u> ft RB <u>1.5</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>3.0</u> ft Ordinary High Water Mark (Height): <u>6.0</u> ft Flow Direction: <u>East</u>	Stream Erosion <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy Artificial, Modified or Channelized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Dam Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Sinuosity <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High Gradient <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft)
	Water Present <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water Velocity <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	Proportion of Reach Represented by Stream Morphology Types Riffle % Run % Pool % Turbidity <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	20
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	40			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

WATERSHED FEATURES	Predominant Surrounding Landuse <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input checked="" type="checkbox"/> Residential <input type="checkbox"/> Other: _____ Canopy Cover <input type="checkbox"/> Open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	Indicate the dominant type <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous Floodplain Width <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft Wetland Present <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Wetland ID
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AQUATIC VEGETATION	Indicate the dominant type and record the dominant species present <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	
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APPENDIX B
WETLAND PHOTOGRAPHS



Photograph Number: 1 Feature Name: W-BB1 Date: 07/08/2015
 Direction: NE Plant Community: PEM Remarks: N/A



Photograph Number: 2 Feature Name: W-BB3 Date: 07/09/2015
 Direction: SE Plant Community: PEM Remarks: N/A



Photograph Number: 3 Feature Name: W-BB2 Date: 07/08/2015
 Direction: W Plant Community: PEM Remarks: N/A



Photograph Number: 4 Feature Name: W-BB9 Date: 07/11/2015
 Direction: SE Plant Community: PFO Remarks: N/A



Photograph Number: 5 Feature Name: W-BB8 Date: 07/11/2015
 Direction: N Plant Community: PFO Remarks: N/A



Photograph Number: 6 Feature Name: W-BB7 Date: 07/11/2015
 Direction: SE Plant Community: PEM Remarks: N/A



Photograph Number: 7 Feature Name: W-BB6 Date: 07/11/2015
 Direction: NW Plant Community: PEM Remarks: N/A



Photograph Number: 8 Feature Name: W-BB12 Date: 07/13/2015
 Direction: NE Plant Community: PFO Remarks: N/A



Photograph Number: 9 Feature Name: W-N1 Date: 06/09/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 10 Feature Name: W-AA1 Date: 07/08/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 11 Feature Name: W-AA5 Date: 07/10/2015
 Direction: NE Plant Community: PEM Remarks: N/A



Photograph Number: 12 Feature Name: W-AA6 Date: 07/10/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 13 Feature Name: W-AA2 Date: 07/08/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 14 Feature Name: W-AA3 Date: 07/09/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 15 Feature Name: W-AA4 Date: 07/10/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 16 Feature Name: W-AA7 Date: 07/10/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 17 Feature Name: W-AA8 Date: 07/11/2015
 Direction: W Plant Community: PEM Remarks: N/A



Photograph Number: 18 Feature Name: W-M1 Date: 10/08/2015
 Direction: N Plant Community: PEM Remarks: N/A



Photograph Number: 19 Feature Name: W-AA9 Date: 07/11/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 20 Feature Name: W-AA10 Date: 07/10/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 21 Feature Name: W-M3 Date: 10/08/2015
 Direction: NW Plant Community: PEM Remarks: N/A



Photograph Number: 22 Feature Name: W-M4 Date: 10/08/2015
 Direction: SW Plant Community: PEM Remarks: N/A



Photograph Number: 23 Feature Name: W-M2 Date: 10/08/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 24 Feature Name: W-M5 Date: 10/08/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 25 Feature Name: W-M6 Date: 10/08/2015
 Direction: E Plant Community: PEM Remarks: N/A



Photograph Number: 26 Feature Name: W-Z1 Date: 10/21/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number: 27 Feature Name: W-Z2 Date: 10/21/2015
 Direction: N Plant Community: PEM Remarks: N/A



Photograph Number: 28 Feature Name: W-Z3A Date: 10/21/2015
 Direction: S Plant Community: PEM Remarks: N/A



Photograph Number:	29	Feature Name:	W-Z3B	Date:	10/21/2015
Direction:	NE	Plant Community:	PEM	Remarks:	N/A

APPENDIX C
STREAM PHOTOGRAPHS



Photograph Number: 26 Feature Name: S-BB1 Date: 07/08/2015
 Direction: W, Upstream Flow Regime: Intermittent Remarks: N/A



Photograph Number: 27 Feature Name: S-BB2 Date: 07/08/2015
 Direction: S, Upstream Flow Regime: Ephemeral Remarks: N/A



Photograph Number:	28	Feature Name:	S-BB3	Date:	07/08/2015
Direction:	N, Downstream	Flow Regime:	Perennial	Remarks:	Kelly Run



Photograph Number:	29	Feature Name:	S-N1	Date:	06/09/2015
Direction:	S, Downstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number:	30	Feature Name:	S-N2	Date:	06/09/2015
Direction:	SW, Downstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number:	31	Feature Name:	S-N3	Date:	06/09/2015
Direction:	E, Upstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number:	32	Feature Name:	S-AA1	Date:	07/08/2015
Direction:	SE, Downstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	33	Feature Name:	S-AA2	Date:	07/08/2015
Direction:	SE, Downstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number: 35 **Feature Name:** S-AA5 **Date:** 07/10/2014
Direction: S, Across **Flow Regime:** Perennial **Remarks:** South Fork Tenmile Creek



Photograph Number: 36 **Feature Name:** S-AA7 **Date:** 07/10/2015
Direction: NW, Downstream **Flow Regime:** Ephemeral **Remarks:** N/A



Photograph Number: 37 Feature Name: S-AA3 Date: 07/08/2015
 Direction: S, Downstream Flow Regime: Ephemeral Remarks: N/A



Photograph Number: 38 Feature Name: S-AA4 Date: 07/09/2015
 Direction: S, Downstream Flow Regime: Perennial Remarks: N/A



Photograph Number: 39 Feature Name: S-AA8 Date: 07/10/2015
 Direction: SE, Downstream Flow Regime: Ephemeral Remarks: N/A



Photograph Number: 40 Feature Name: S-AA9 Date: 07/10/2015
 Direction: NE, Upstream Flow Regime: Ephemeral Remarks: N/A



Photograph Number: 41 Feature Name: S-AA10 Date: 07/10/2015
 Direction: S, Downstream Flow Regime: Intermittent Remarks: N/A



Photograph Number: 42 Feature Name: S-AA11 Date: 07/10/2015
 Direction: SE, Downstream Flow Regime: Ephemeral Remarks: N/A



Photograph Number:	43	Feature Name:	S-AA12	Date:	07/16/2015
Direction:	E, Across	Flow Regime:	Perennial	Remarks:	Ruff Creek



Photograph Number:	44	Feature Name:	S-AA13	Date:	07/11/2015
Direction:	NE, Upstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:	45	Feature Name:	S-AA14	Date:	07/12/2015
Direction:	SW, Downstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number:	46	Feature Name:	S-AA15	Date:	07/11/2015
Direction:	SE, Downstream	Flow Regime:	Perennial	Remarks:	South Fork Tenmile Creek



Photograph Number:	47	Feature Name:	S-AA24	Date:	07/12/2015
Direction:	NW, Upstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number:	48	Feature Name:	S-AA23	Date:	07/12/2015
Direction:	NE, Downstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:	49	Feature Name:	S-AA22	Date:	07/12/2015
Direction:	NW, Upstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:	50	Feature Name:	S-AA21	Date:	07/12/2015
Direction:	E, Downstream	Flow Regime:	Intermittent	Remarks:	N/A



Photograph Number: 51 Feature Name: S-AA20 Date: 07/12/2015
Direction: W, Upstream Flow Regime: Perennial Remarks: N/A



Photograph Number: 52 Feature Name: S-AA17 Date: 07/12/2015
Direction: SW, Upstream Flow Regime: Perennial Remarks: N/A



Photograph Number:	53	Feature Name:	S-AA18	Date:	07/12/2015
Direction:	NE, Downstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	54	Feature Name:	S-AA19	Date:	07/12/2015
Direction:	S, Upstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:	55	Feature Name:	S-AA16	Date:	03/18/2014
Direction:	SE, Upstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	56	Feature Name:	S-M1	Date:	10/08/2015
Direction:	S, Upstream	Flow Regime:	Ephemeral	Remarks:	N/A



Photograph Number:	57	Feature Name:	S-Z1	Date:	10/21/2015
Direction:	N, Upstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	58	Feature Name:	S-J63	Date:	10/21/2015
Direction:	W, Upstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	59	Feature Name:	S-A2a	Date:	10/21/2015
Direction:	N, Upstream	Flow Regime:	Perennial	Remarks:	N/A



Photograph Number:	60	Feature Name:	S-A3a	Date:	10/21/2015
Direction:	E, Downstream	Flow Regime:	Ephemeral	Remarks:	N/A

APPENDIX D
HYDRIC SOILS LIST

Hydric Soils List

Allegheny County, Pennsylvania

Map Unit Symbol	Map Unit Name	Component Name and Phase	Landforms
At	Atkins silt loam	Atkins	flood plains
BrB	Brinkerton silt loam, 2 to 8 percent slopes	Brinkerton	draws
BrC	Brinkerton silt loam, 8 to 15 percent slopes	Brinkerton	
BrC	Brinkerton silt loam, 8 to 15 percent slopes	Atkins	flood plains
CaB	Cavode silt loam, 2 to 8 percent slopes	Brinkerton	draws
CaC	Cavode silt loam, 8 to 15 percent slopes	Brinkerton	draws
CeB	Caneadea silt loam, 3 to 8 percent slopes	Canadice	lakebeds (relict)
CeB	Caneadea silt loam, 3 to 8 percent slopes	Mill	ground moraines
CoD	Cookport loam, 15 to 25 percent slopes	Andover	mountain slopes
Du	Dumps, coal wastes	Wet spots	depressions
Dw	Dumps, industrial wastes	Wet spots	draws
ErB	Ernest silt loam, 2 to 8 percent slopes	Brinkerton	hills

ErC	Ernest silt loam, 8 to 15 percent slopes	Brinkerton	hills
EvB	Ernest-Vandergrift silt loams, 3 to 8 percent slopes	Brinkerton	hillslopes
EvC	Ernest-Vandergrift silt loams, 8 to 15 percent slopes	Brinkerton	hillslopes
EvD	Ernest-Vandergrift silt loams, 15 to 25 percent slopes	Brinkerton	hillslopes
GvB	Guernsey-Vandergrift silt loams, 3 to 8 percent slopes	Brinkerton	hills
GvC	Guernsey-Vandergrift silt loams, 8 to 15 percent slopes	Brinkerton	hills
GvD	Guernsey-Vandergrift silt loams, 15 to 25 percent slopes	Brinkerton	hills
Gx	Gullied land	Brinkerton	draws
Hu	Huntington silt loam	Atkins	flood plains
Ln	Lindside silt loam	Melvin	flood plains
Ne	Newark silt loam	Brinkerton	depressions
Ne	Newark silt loam	Atkins	flood plains
Ph	Philo silt loam	Atkins	flood plains
TaB	Tiltsit silt loam, 3 to 8 percent slopes	Brinkerton	hills
UGB	Urban land-Guernsey complex, gently sloping	Thorndale	draws
URB	Urban land-Rainsboro complex, gently sloping	Ginat	terraces
UWB	Urban land-Wharton complex, gently sloping	Armagh	hills

VcB	Vandergrift-Cavode silt loams, 3 to 8 percent slopes	Brinkerton	hillslopes
VcC	Vandergrift-Cavode silt loams, 8 to 15 percent slopes	Brinkerton	
VcD	Vandergrift-Cavode silt loams, 15 to 25 percent slopes	Brinkerton	
WhB	Wharton silt loam, 3 to 8 percent slopes	Cavode	hills
WhB	Wharton silt loam, 3 to 8 percent slopes	Brinkerton	depressions

Hydric Soils List

Greene and Washington Counties, Pennsylvania

Map Unit Symbol	Map Unit Name	Component Name and Phase	Landforms
Du	Dumps, mine	Wet spots	depressions
Fa	Fluvaquents, loamy	Melvin	flood plains
GdA	Glenford silt loam, 0 to 3 percent slopes	Purdy	terraces
GdB	Glenford silt loam, 3 to 8 percent slopes	Purdy	terraces
GdC	Glenford silt loam, 8 to 15 percent slopes	Purdy	terraces
Hu	Huntington silt loam	Atkins	flood plains
LbA	Library silty clay loam, 0 to 3 percent slopes	Purdy	terraces
Nw	Newark silt loam	Atkins, Brinkerton	flood plains, depressions
Py	Purdy silt loam	Purdy	terraces
Sk	Skidmore gravelly loam	Melvin	flood plains
UdB	Udorthents, smoothed, gently sloping	Wet spots	depressions
UdD	Udorthents, smoothed, moderately steep	Wet spots	depressions
Modified from Hydric Soils of the United States (NRCS 2014)			

Hydric Soils List

Wetzel County, West Virginia

Map Unit Symbol	Map Unit Name	Component Name and Phase	Component Percent	Landforms
EkB	Elk silt loam, 3 to 8 percent slopes	Melvin	3	Flood plains
GsB	Glenford silt loam, 3 to 8 percent slopes	Melvin	5	Flood plains
Hn	Huntington silt loam	Melvin	5	Flood plains
No	Nolin loam	Melvin	5	Flood plains
Sk	Skidmore gravelly loam	Melvin	3	Flood plains
Modified from Hydric Soils of the United States (NRCS 2014)				

APPENDIX E
RESUMES

Experience Summary

Mr. Heule's experience as a Biologist and Environmental Planner includes a background in jurisdictional wetlands and other Waters of the United States delineations, Federal Endangered Species Act (ESA), state and local endangered and threatened species, Bald and Golden Eagle Protection Act (BGEPA), and state-listed noxious weeds. Mr. Heule has conducted biological resource field studies in 7 states, and has conducted desktop housing assessments for communities in North Dakota and Wyoming. Additionally, Mr. Heule is a licensed (Backcountry) Emergency Medical Technician, with more than 3 years of experience with patient care, public safety, and emergency response coordination. He has been recognized for his commitment to safety through Tetra Tech's monthly safety awards twice. Mr. Heule is currently enrolled in Graduate-level studies at the University of Colorado Denver, where he is studying Geographic Information Systems (GIS). These studies include an emphasis on ArcGIS, an Environmental Systems Research Institute (Esri) supported software useful for application in environmental planning with mapmaking, geospatial analytic, and data visualization capabilities.

Education

BA, Ecology and Evolutionary Biology, University of Colorado–Boulder, 2014

At-sea reinforced coursework (semester) with field practicum in 13 countries in Africa, Asia, and Central America, University of Virginia, 2011

Registrations/Certifications

Graduate Certificate in GIS, University of Colorado, Denver, in process

Corporation Project Experience

Wetland Scientist, April–August 2015

Equitrans, Mountain Valley Pipeline Project, West Virginia, Virginia, and Pennsylvania

Mr. Heule led field reconnaissance in teams of three wetland delineators for a proposed 42-inch natural gas pipeline project. Mr. Heule's specific tasks included providing skills identifying hydric soils and hydrophytic vegetation to delineate jurisdictional wetlands and other waters of the U.S. In addition, Mr. Heule was in charge of safety and well-being, quality of work, and overall progress for the team. Wetlands and other Waters of the U.S. were mapped using Trimble® software. Mr. Heule has over 8 weeks experience delineating wetlands and other Waters of the U.S. in the Northern Piedmont Region. This project will run through the summer of 2016.

Biologist, March 2015

NextEra Energy Resources, LLC Wind Energy Center, Taylor, ND

Mr. Heule assisted in field reconnaissance to microsite wind turbines to avoid wetlands and other waters of the United States. If impacts to wetlands and waters cannot be avoided, follow-on desk analysis of wetland and surface water resources, field reconnaissance of these resources, and wetland delineations and Section 404 permitting as necessary.

Environmental Planner, March 2015–Present

Housing and Socioeconomic Study, Mercer and Emmons Counties, ND; Platt County, WY

Mr. Heule analyzed population and economic data to support housing and economic studies for rural communities in North Dakota and Wyoming. Large energy projects bring both benefits and challenges to small, rural communities. Challenges include increasing populations, increases in crime, and impacts to roads and infrastructure and services such as schools and healthcare. Mr. Heule's specific tasks included the analysis of community daycare service capabilities, community member interviews, census data analysis, and housing market analysis. The goal of the housing studies is to predict future housing

trends and determine the needs of the local workforce from an economic perspective. These studies will continue through December of 2015.

Biologist, May 2015–Present**Xcel Energy, West Main Natural Gas Pipeline, Boulder County, CO**

Mr. Heule conducted tree inventories and weed surveys to make recommendations to Excel Energy for the purpose of creating an integrated noxious weed management plan and tree preservation plan as mandated by Boulder County. Tasks have included desktop analysis, independent field reconnaissance, and reporting findings and recommendations. This project will be completed in the fall of 2016.

Biologist, August 2015**Public Service Company of Colorado (PSCo), Sterling Ranch Natural Gas Pipeline, Douglas County, CO**

Mr. Heule conducted desktop analysis, field reconnaissance, and report writing to provide recommendations to avoid protected biological resources in the Backcountry Wilderness Area of Highlands Ranch. Mr. Heule identified the need for burrowing owl surveys, wetland and other Waters of the U.S. delineation, and raptor surveys within the project area. Mr. Heule completed the report that describes Tetra Tech's recommendations.

Wetland Scientist, August 2015–Present**NextEra and Norvento Energy, Ninnescah and Bloom Wind Farms, Platt and Ford Counties, KS**

Mr. Heule conducted micrositings, desktop analysis, and wetland delineation efforts for a proposed windfarm infrastructure that included turbines, access roads, and transmission lines. Specific tasks included plant and soil identification in the Great Plains region, playa wetland jurisdictional determination, and micrositings turbines to avoid water resources on-the-fly. These projects will end in 2016.

Biologist, February 2015**NextEra Energy, Dickenson Wind Farm, ND**

Mr. Heule conducted desktop analysis, field reconnaissance, and reporting to provide recommendations to NextEra Energy to avoid Clean Water Act Section 404 permitting for a proposed wind farm in North Dakota. Mr. Heule used his knowledge and understanding of the U.S. Army Corps of Engineers jurisdiction over wetlands and other Waters of the U.S. to map avoidance areas for NextEra.

Biologist, May 2015**Mora Transmission Line, LLC, Mora Transmission Line Project, Mora County, NM**

Mr. Heule provided recommendations to avoid biological resources for a proposed replacement to a transmission line in Mora County, New Mexico. Mr. Heule completed a desktop analysis and field reconnaissance to identify biological resources protected under the federal Endangered Species Act (ESA), Bald and Golden Eagle Protection Act (BGEPA), Clean Water Act (CWA), and local-level environmental protection legislation. Mr. Heule completed the report that describes Tetra Tech's recommendations.

Previous Experience**Clinical Service Technician, 2014****Apria Healthcare**

Provided care to geriatric and pediatric patients by developing a plan for domestic respiratory therapy.

Intern—CO-Labs, 2014**Teacher—Outdoor Labs**

Taught environmental science lessons to middle school students on a volunteer basis.

**Resident Advisor (RA) –University of Colorado at Boulder 2013-2014**

Recognized by peers for outstanding leadership to colleagues with the Staff Leadership Award.

Emergency Medical Technician (EMT), 2012–2014**University of Colorado at Boulder EMS**

Provided emergency care, improved event safety, and worked with other agencies to coordinate transport to local hospitals.

Discipline Codes

Biologist

Urban/Regional Planning

Skill Sets**Biological**

Biological assessments

Wetlands delineation

Social

Planning

Other

Geographic Information Systems (GIS)

Related Company Information

Payroll Number: 546590

Employment Status: Part-time

Preferred First Name: John

Office Location: Denver, CO

Hire Date: 2/2/2015

Years with Other Firms: 3

Years with Current Firm: >1

Total Years of Experience: 3

Supervisor: Steve Yarbrough, Biologist

Office Phone: (303) 291-6260

Cell Phone: (303) 253-1647

Fax:

E-mail Address: john.heule@tetrattech.com

Other E-mail Address (if any): john.heule@gmail.com

Resume Last Revised: 9/8/2015

EXPERIENCE SUMMARY

Mrs. Lands is an Environmental Scientist with over four years progressive experience in environmental management, research and consulting. She has considerable experience working with multiple teams of professionals to meet the needs of clients and the company.

She has performed and provided project level management for numerous Phase I/II Environmental Site Assessments. Mrs. Lands has supervised, coordinated and/or conducted field activities involving soil, soil gas, paint, water, and air sampling, stormwater and groundwater quality monitoring programs, full delineations, waste characterizations, and risk assessments of contaminated soil and/or groundwater, land use determination, comprehensive stream assessments, USACE regulated wetland delineations, field observation for underground storage tank (UST) removal projects, and site evaluations for Spill Prevention Control and Countermeasure Plans (SPCC). She is an experienced field supervisor who has managed soil and groundwater field investigations such as monitor well installation and excavations of soils impacted with chlorinated solvents and oil for the petroleum industry. Mrs. Lands has assisted with groundwater and soil subsurface environmental remediation investigations, and supervised regulatory interaction and reporting. Additionally, she is experienced with managing and maintaining comprehensive project documentation and employing detailed projects plans to monitor and track project progress and performance.

Mrs. Lands has extensive experience developing, preparing and executing various written deliverables such as environmental assessment reports, compliance reports, Health and Safety Standard Operating Procedures, risk assessment summaries, SPCC plans, delineation reports, and soil and water quality summaries for federal, state and local regulatory agencies, petroleum clients, and academia. In addition, Mrs. Lands has prepared field logs for soil borings and installation of monitoring wells, soil, paint, air, and water sampling logs, and has developed health and safety plans in compliance with company, state and federal regulations. Mrs. Lands has assisted with the development of various National Environmental Policy Act (NEPA) research, documentation and reporting projects.

Other qualifications include stormwater management, Texas Railroad Commission (RRC) and Texas Commission on Environmental Quality (TCEQ) regulatory compliance procedures for air, water, and petroleum. TCEQ compliance includes reviewing air permit applications, drafting Air Permits by Rule (PBR) applications and assisting with PBR registrations. RRC compliance includes assistance with permitting, production reporting, well completion, etc. of oil and gas wells, facilities and activities.

EDUCATION

B.A., Physical Geography,
Environmental Science
Specialization, 2010, Kennesaw
State University

CERTIFICATIONS

US Army Corps of Engineers
Wetland Delineation, certificate
#7105, 12/2013

TRAINING

Stormwater Permitting and
Management, TEEX, 5/2014
Project Management, PM Level 1,
Tetra Tech, NUS, 2/2014
Heartsaver First Aid, CPR, AED,
American Heart Association, 10/2013
OSHA 29 CFR 1910.1200 Hazard
Communications, Tetra Tech, NUS,
10/2013
OSHA 29 CFR 1910.120 8-Hr
Refresher, Tetra Tech, NUS,
10/2013
Confined Spaces, JJ Keller, 6/2013
Hydrogen Sulfide Training, QSSI,
12/2012
NEPA refresher, BLM, 11/2012
Air Permitting, TCEQ, 10/2012
Watershed Management, EPA,
10/2012

OFFICE

San Antonio, Texas

YEARS OF EXPERIENCE

4+

YEARS WITH TETRA TECH

2

RELEVANT EXPERIENCE

❖ *Environmental Analysis/Management*

Environmental Scientist; HPIP Gonzales Holdings, LLC; Gonzales County, TX; May 2013 – January 2014. Served as a team member assisting with biological surveys, stream assessments, and identification and delineation of wetlands in and around a proposed 25 mile gas pipeline corridor.

Environmental Scientist; Rooney Engineering/Sunoco; Mitchell, Nolan, Taylor, Shackelford, Callahan, Stephens, Eastland, Erath, Somervell, Johnson, and Hill counties in North Texas; October 2013-April 2014. Served as a team member assisting with biological surveys, stream assessments, and identification and delineation of wetlands in and around 325 miles of proposed gas pipeline corridors.

Environmental Science student, KSU; City of Acworth, GA; Acworth, GA; October 2009. Served as team member responsible for the biological, ecological, hydrological assessment and delineation of wetlands of streams leading into Lake Acworth. Final report of findings was presented to the City of Acworth.

❖ *Sampling (Groundwater, Soil, Paint)*

Environmental Scientist; Halliburton; Laredo, TX, May 2014. Obtained groundwater samples from three monitor wells using low flow pump method and prepared samples for laboratory analysis.

Environmental Scientist; Breitburn Florida, LLC; LeHigh Acres, FL; March 2013-Present. Conducts bi-annual groundwater monitoring at three tank batteries in the LeHigh Acres area. Obtain groundwater samples from 15 monitor wells by bailing/purging, low-flow, and/or submersible pump methods and prepares samples for laboratory analysis. Analytical results are reviewed and chronicled in water quality report format after each sampling event as a client deliverable.

Environmental Scientist; Gibsons Energy; Stockdale, TX; April-May 2014. Obtained soil samples from excavated areas around two plugged and abandoned oil wells to verify or refute the presence of hydrocarbon impacted soils. Samples were collected in jars using grab sample method and prepared for laboratory analysis. Screened samples for volatile organic vapors by way of head space analysis using a Photo Ionization Detector. Analytical results were reviewed and chronicled in report format as a client deliverable.

Environmental Scientist; Flint Hill Resources; Austin, Waco, San Antonio, TX; June 2013-Present. Obtains paint samples from crude oil storage tanks on an as needed basis to verify or refute lead content. Samples are collected using the cold scrape method then prepared for laboratory analysis. Analytical results were reviewed and chronicled in report format as a client deliverable after each sampling event.

Environmental Scientist; SM Energy; Beckham, Greer, Washita, Harmon, Roger Mills counties in Oklahoma, Wheeler and Collingsworth counties in Texas and Bossier Parish, Louisiana; December 2012-March 2013. Conducted pre-development sampling of soil and water in the vicinity of proposed drilling areas. Obtained surface water and groundwater samples by bailing/purging, low-flow, and/or submersible pump methods. Obtained soil samples in jars using grab sample method. All samples were prepared for laboratory analysis. Analytical results were reviewed and chronicled in report format as a client deliverable.

Environmental Scientist; Koch Pipeline, Sunfield Station; Starr County, TX; April 2013. Obtained samples of contaminated soil near a degraded pipeline. Samples were collected in jars using grab sample method and prepared for laboratory analysis.

Environmental Scientist; Tervita/Shell Pilanco; Catarina, TX; January 2013. Obtained samples of remediated soil on various oil pads on the property. Samples were collected in jars using grab sample and/or auger method and prepared for laboratory analysis.

❖ *Phase I/II Environmental Site Assessments*

Environmental Scientist/Project Manager; Globe Energy Services, LLC; Kenedy, Daisetta, Carrizo Springs, TX; May 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; Gibsons Energy; Stockdale, TX; April 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. A limited phase II evaluation was conducted to determine if historical petroleum activities adversely affected the property. This included soil sampling, PID use, and field supervision of subcontractors using magnetometers to locate any anomalies. Produced final written report to serve as client deliverable.

Environmental Scientist/Project Manager; Enviro Vat, Denver City, TX; March 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-13 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included creating MSA, developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; Universal Pressure Pumping, Inc., Atascosa County, TX; February 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-13 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist/Project Manager; Globe Energy Services, LLC; Nixon, TX; January 2014. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable. Project Management duties included developing cost estimate, scope, work authorization, and task delegation.

Environmental Scientist; HPIP Gonzales Holdings, LLC; Gonzales County, TX; May 2013. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include site reconnaissance, records review, and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; D.R. Horton; Weld County, CO; May 2013. Conducted records review and report preparation for Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-00 and 40 CFR Part 312. Created report for use in final environmental site assessment.

Environmental Scientist; Pioneer Natural Resources Company; LaSalle County, TX; January 2013. Conducted Phase I Environmental Site Assessment in accordance with ASTM Standard Practice for Environmental

Site Assessments, E 1527-05 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; McJunkin Red Man Corporation; Asherton, Crane, Midland, Odessa, Kermit, and San Angelo Texas; Carlsbad, Artesia, and Eunice New Mexico; November-December 2012. Conducted 10 Phase I Environmental Site Assessments in accordance with ASTM Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312 to include records review and map and figure production using ArcGIS. Prepared final written report to serve as client deliverable.

Environmental Scientist; Southern Company; Henderson County, TX; November, 2012. Conducted Phase I site reconnaissance in accordance with American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312. Created report for use in final environmental site assessment.

Environmental Scientist; Northeast Crossing Neighborhood Revitalization, LTD; San Antonio, TX; November 2012. Conducted Phase I site reconnaissance in accordance with American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments, E 1527-05 and 40 CFR Part 312. Created report for use in final environmental site assessment.

❖ *Air Quality*

Environmental Scientist; Concho Operating, LLC; San Antonio and Houston, TX; October-November 2012. Assisted with details of TCEQ Permit By Rule (PBR) Applications, PBR registration (PI-7), and supporting documentation for PBR Claim Modification.

❖ *Oil and Gas*

Environmental Scientist; Pyote Water Systems, LLC; Carrizo Springs, TX; June 2014. Conducted inspection of a Saltwater Disposal Facility for the development of the SPCC Plan. Activities included collection of all tank, pump, and containment information on the site, measuring dimensions of containments and secondary containments, and taking photographs of facility. Findings and photos were recorded for use in SPCC plan.

Environmental Scientist; Pioneer Natural Resources Company; various facilities in Eagle Ford Shale Play; January 2013-Present. Gathers details on oil storage locations, tanks, pumps, containments and other on-site equipment of point of delivery (POD) sites, saltwater disposal units, compressor stations, and other oil/gas facilities for creation or revisions of SPCC plans. Creates SPCC plans by reporting findings, along with preventive maintenance, safety inspections, emergency response procedures, training for workers involved with handling oil, inspections and maintenance schedules, and facility operations guidelines. Creates site maps, diagrams and figures using AutoCad and ArcGIS. Prepares final written SPCC plan to serve as client deliverable.

Environmental Scientist; Parsley Petroleum; Reagan and Upton Counties, TX; January-February 2014. Performed site assessments of injection wells, salt water disposal units, and production facilities for environmental audit purposes. Activities included collection of all tank, pump, and containment information on the site, measuring dimensions of containments and secondary containments, taking photographs of facility and conducting NORM Surveys.

❖ *Geotechnical*

Environmental Scientist; Halliburton; Laredo, TX; May 2014. Served as field supervisor for soil boring and drilling, installation, and completion of monitor well by drilling contractor. Collected groundwater samples prior to well completion. Screened soil borings for volatile organic vapors by way of head space analysis using a Photo Ionization Detector. Surveyed elevation at each monitor well relative to mean sea level using a TopCon Laser Level, measured groundwater depth at each well, and used the data for the development of a groundwater gradient map.

❖ *Remediation*

Environmental Scientist; Occidental Petroleum Company (Oxy); Chaves County, NM; September-October 2013. Provided oversight of excavation, transportation and liner installation of assessment area. Conducted assessment and remediation of contaminated soils at abandoned oil and gas facility. Collected samples from excavated soil to delineate oil spill. Conducted field analysis to determine contamination levels. Prepared samples for further laboratory analysis, reported analytical findings and delineation details.

Environmental Scientist; Cimarex; Eddy County, NM; August 2013. Provided oversight of excavation, transportation and liner installation of assessment area. Conducted assessment and remediation of contaminated soils at an active oil and gas facility. Collected samples from excavated soil to delineate oil spill. Conducted field analysis to determine contamination levels. Prepared samples for further laboratory analysis, reported analytical findings and delineation details.

❖ *Environmental Compliance*

Environmental Scientist; Forge Energy; San Antonio, TX; January 2014-Present. Supervises a regulatory compliance team conducting compliance reviews and regulatory audits. Team is also responsible for permitting, production, and completion reporting for the client's oil and gas facilities in southwest Texas.

❖ *NEPA*

Contract Specialist; US Army Corps of Engineers; Mountain Pine, AR; 2001-2004. Assisted in the preparation of NEPA documents in accordance with the Council on Environmental Quality (CEQ) regulation 40 CFR 1500-1508. Documents included Environmental Information Documents, Environmental Assessments, Environmental Impact Statements, and Findings of No Significant Impact.

❖ *Health and Safety*

Environmental Scientist; Forge Energy, San Antonio, TX; May 2014. Provided assistance in the development of Standard Operating Procedures for Health and Safety. Topics included Benzene Awareness, Hydrogen Sulfide Awareness, Stop Work Initiative, Respiratory Protection, and Personal Protective Equipment.

CHRONOLOGICAL HISTORY

- Environmental Scientist, Tetra Tech, Inc., October 2012-present, San Antonio, TX.
- Contract Specialist, US Army Corps of Engineers, 2001-2007, Mountain Pine, AR; Cartersville, GA.
- Contract Closeout Administrator; US Army Corps of Engineers and US Agency for International Development, May 2004-January 2005, Baghdad, Iraq
- US Army, 1994-1996, Fort Carson, CO and Uijongbu, South Korea
- US Army Reserves, 1997-2000, Fort Belvoir, VA and New Boston, TX.

SCIENTIFIC/TECHNICAL PUBLICATIONS

N/A

MEMBERSHIPS

Geological Society of America
National Groundwater Association
Project Management Institute

AWARDS

- Global Engagement Certificate, Kennesaw State University, November 2010 - Recognized achievements of valuable learning in areas of global perspectives, intercultural skills, environmental awareness and global citizenship.
- Commander's Award for Civilian Service, U.S. Department of the Army, November 2004 - An honorary award presented by the Department of the Army to civilian employees for commendable service or achievement.
- Medal for Global War on Terrorism, U.S. Department of Defense, November 2004 - Service medal awarded for direct support in service to the Global War on Terrorism.
- Various military awards, U.S. Army, January 1993-January 1996



EXPERIENCE SUMMARY

Mr. Jason McGuirk has six years of professional experience in wetland delineation, permitting, fisheries and wildlife, and stream assessments and classification in Pennsylvania, New York, Ohio, and Alaska. Mr. McGuirk has conducted hundreds of wetland delineations, stream evaluations as well as conducted and produced habitat assessments, and post monitoring impact statements and assessments on over 800 miles of proposed natural gas pipeline, and fifty plus proposed well pad sites. He has extensive knowledge in watercourse classification and assessment including the Rosgen method. In particular attention of his has been focused on fisheries habitat and macro-invertebrate work, with over fifty miles of stream classifications in Alaska. Mr. McGuirk's educational background is in Fisheries and Aquaculture with a minor focus in Marine Biology and Wildlife management.

RELEVANT EXPERIENCE

Environmental Scientist III; Sunoco Logistics; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects, Engendered Species Surveys; Reptilia (*Glyptemys muhlenbergii*), Plantae (*Ellisia nyctelea*); Pennsylvania. Segments 1, 2, and 3 wetlands field lead, and crew leader. Responsibilities include organizing and conducting all field work operations for multiple wetlands crews, wetland delineations and stream assessments for the proposed 450 mile Pennsylvania Pipeline Project. Additional work included proposing potential re-route on an environmental basis.

Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey, report preparation, and wetland functional assessments.

Environmental Scientist III; MarkWest Ohio Gathering Company, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in eastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

EDUCATION

B.T. Fisheries and Aquaculture,
SUNY Cobleskill, 2011T

REGISTRATIONS

Wild Plant Management Permit,
PA, 2014, Permit # 14-651

AREA OF EXPERTISE

Wetland Delineation and Stream
Identification, Fisheries, and
Botanical Surveys

TRAINING/CERTIFICATIONS

Winter Vegetation ID,
Rutgers University, 2012

Amtrak Contractor
Certification, 2014

Certified Wetland
Assessment Delineator, NY,
2009

OFFICE

Pittsburgh, PA

YEARS OF EXPERIENCE

6+

YEARS WITH TETRA TECH

2+

Environmental Scientist III; Gulfport Energy Corporation; Wetland Delineations for Miscellaneous Natural Gas Well Pad Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural well pads southeastern Ohio. Specific tasks included field survey, report preparation, PCN preparation, and completion of Ohio EPA specific wetland and stream assessments.

Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineation and Engendered Species Survey (*Ranunculus flabellaris* and *Alopecurus aequalis*) for Vanport to Butler Gas Pipeline; Butler County, Pennsylvania. Responsible for performing and assisting with wetland delineation and endangered species survey along pipeline right-of-way. Specific tasks included field survey and report preparation.

Environmental Scientist III; Antero Resources Appalachian Corp.; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ritchie and Doddridge Counties, West Virginia. Responsible for performing and assisting with wetland delineations for various proposed natural gas well pads and access roads in northern West Virginia. Specific tasks included field survey and report preparation.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 30 miles of pipeline in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Southwest Energy L.P; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations on proposed Well pad and compressor sites. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 15 proposed well pad locations in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Southwest Energy L.P; Susquehanna County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations on proposed Well pad and compressor sites. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 20 proposed well pad locations in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Carroll, Jefferson County, OH; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed ORAM and QHEI Assessments, and preparation of wetland report for 30 miles of pipeline in Eastern Ohio.

Wetland & Watercourse Biologist; Shell Oil; Butler County, PA; November 2011 to October 2012. Responsible for conducting wetland delineations for proposed pipe line routes and reroutes. Performed PA Rapid Assessments, stream evaluation, and preparation of wetland report for 40 miles of pipeline in Western Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting Indiana Bat habitat surveys on multiple proposed natural gas pipelines in Northeastern Pennsylvania.

Wetland & Watercourse Biologist; Chesapeake Energy; Schoharie County, PA; November 2011 to October 2012. Responsible for conducting post construction habitat monitoring and assessment of constructed natural gas pipelines in Northeastern Pennsylvania.

CHRONOLOGICAL HISTORY

Wetland Environmental Scientist IV; Tetra Tech, Inc.; Pittsburgh, PA, June 2014 - Present

Wetland Environmental Scientist III; Tetra Tech, Inc.; Pittsburgh, PA, February 2013 - June 2014

Wetland & Watercourse Biologist; Hanover Engineering & Associates; Towanda, PA, November 2011 - October 2012

Assistant Hatchery Manager; SUNY Cobleskill; Cobleskill, NY, September – May of 2009- 2011

Biological Fisheries Technician, US Forest Service; Thorne Bay, AK, May 2010 - August 2010

Fisheries Technician, Cook Inlet Aquaculture Association, Kenai, AK, May 2009 – August 2009

SCIENTIFIC/TECHNICAL PUBLICATIONS

- McGuirk, J, M, "Walleye (*Sander vitreus*) spawning movements and habitat utilization in Otsego Lake, NY, 2011

MEMBERSHIPS

- N/A

AWARDS

- David E. Moorehouse Award for Outstanding Junior in Fisheries and Aquaculture B.T.



Cody R. Stoliker

ENVIRONMENTAL SCIENTIST I

EXPERIENCE SUMMARY

Cody R. Stoliker has approximately 1 year of professional experience in wetland delineation, permitting, and stream assessments and classification in Pennsylvania, New York, Ohio, and West Virginia. With 4 years of fisheries and wildlife management experience, specializing in large game conservation, Mr. Stoliker has technician experience working with bear, elk, moose, deer, and wolves in Wyoming, as well as biologist work with whitetail deer, red stag, feral hogs, and the endangered American Burying Beetle in Oklahoma along pipeline routes where he produced habitat assessments, post monitoring impact statements and performed population control. Mr. Stoliker is assisting Tetra Tech field leads and other environmental scientists to assess and delineate streams and wetlands along natural gas pipeline routes, access roads, right-of-ways, and well pad sites. Cody R. Stoliker's educational background is in Wildlife Management with a minor focus in wetland assessment/delineation and fisheries.

RELEVANT EXPERIENCE

Environmental Scientist I; Sunoco Logistics; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects Pennsylvania. Responsible for performing and assisting with wetland delineations and stream assessments for the proposed Pennsylvania Pipeline Project. Other responsibilities included report preparation and wetland functional assessments.

Environmental Scientist I; MarkWest Liberty Midstream & Resources, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Pennsylvania. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in southwestern Pennsylvania. Specific tasks included field survey, report preparation, and wetland functional assessments.

Environmental Scientist I; MarkWest Ohio Gathering Company, LLC; Wetland Delineations for Miscellaneous Natural Gas Pipeline Projects; Ohio. Responsible for performing and assisting with wetland delineations for various proposed natural gas pipeline projects in eastern Ohio. Specific tasks included field survey, report preparation, and completion of Ohio EPA specific wetland and stream assessments.

EDUCATION

Bachelor of Technology, Wildlife Management, 2013, State University of New York at Cobleskill

AREA OF EXPERTISE

Large Game Wildlife Management & Conservation, Wetland Assessment

REGISTRATIONS/ AFFILIATIONS

Ducks Unlimited 2012- Present

Rocky Mountain Elk Foundation 2013 – Present

National Wild Turkey Federation 2013 - Present

TRAINING/CERTIFICATIONS

Certified Wetland Assessment Delineator, NY, 2010

NYS Certified Class A Interior Firefighter

OFFICE

Tetra Tech OGA
Pittsburgh, PA

YEARS OF EXPERIENCE

1

YEARS WITH TETRA TECH

1

SCIENTIFIC/TECHNICAL PUBLICATIONS

N/A

CHRONOLOGICAL HISTORY

Environmental Scientist I, Tetra Tech, 2014-2015, Pittsburgh, PA

Wildlife Biologist/Ranch Manager, Oklahoma Trophy Ranch, 2013-2014, Allen, OK

Wildlife Management Technician, Rolling Thunder & Rim Ranches, Spring-Fall 2013, Bondurant, WY

Assistant Herdsman, Bison Island, 2012-2013, Sharon Springs, NY

Avian Survey Technician, NYS Dept. of Environmental Conservation, Winter 2011, Albany NY

EXPERIENCE SUMMARY

Ms. Stephanie Zabowski Lieb is a wetland/environmental scientist with 5+ years of experience in wetland delineation and stream evaluation, and rare, threatened & endangered botanical surveying and assessment, throughout Pennsylvania, Ohio, and West Virginia. This includes preparation of wetland delineation and stream evaluation reports, botanical reports, US Army Corps Joint and Nation Wide Permits, and PA Department of Environmental Protection General Permits. Stephanie has additional experience performing geographic information systems (GIS) data processing and figure creation using ArcGIS10.1. She also has experience performing bat hibernaculum and summer roost tree habitat surveys in West Virginia.

RELEVANT EXPERIENCE

Wetland/Environmental Scientist III; Sunoco Logistics; OPP Natural Gas Pipeline Projects, Ohio and West Virginia; August 2015 to present. Responsibilities included aiding in wetland delineations and stream assessments for the proposed 70 miles of the Ohio Pipeline and West Virginia Pipeline Projects.

Wetland/Environmental Scientist III; MarkWest Liberty Midstream & Resources, LLC; Fox to Houston Natural Gas Pipeline Project, Washington County, PA; August 2015 to present. Responsible for conducting wetland delineations and stream assessments for the approximate 1 mile of proposed pipeline.

Environmental Scientist; Pittsburgh Botanic Garden; Kentucky Hollow Site, Allegheny County, PA; 2015. Responsible conducting wetland delineations and stream assessments for the approximate 40 acre area for proposed construction of trails and passive acid mine drainage treatment system. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Environmental Scientist; EQT Gathering; NIMC S001 Pipeline Project, Allegheny & Washington Counties, PA; 2015. Responsible for conducting botanical survey for wild hyacinth (*Cammasia scilloides*) and snow trillium (*Trillium nivale*), PA state-listed species. Responsible for preparing a botanical survey report.

Environmental Scientist; Grace Baptist Church Additions; Grace Baptist Church, Allegheny County, PA; 2015. Responsible for compiling components of the NPDES permit package and GIS figure creation for church additions.

Environmental Scientist; NiSource Midstream Services, LLC; East Washington Gathering Pipeline Project, Washington County, PA; 2015. Assisted in the transplantation of Short's sedge

EDUCATION

B.S. Environmental Resource Management,
The Pennsylvania State University, May 2009

Minors: Wildlife and Fisheries Science, May
2009; Watershed and Water Resources, May
2009

REGISTRATIONS

Wild Plant Management Permit, PA, 2015
Permit # 15-650

AREA OF EXPERTISE

Wetland Delineation and Stream Identification;
RTE Botanical Surveys

TRAINING/CERTIFICATIONS

USFWS and WV DNR Sponsored Training for
the Identification of the Federally Listed Running
Buffalo Clover, Virginia Spirea, and Small
Whorled Pogonia, May 2015.

2015 PA Plant Forum and Winter Woody ID
workshop. Sponsored by the PA DCNR and
Western Pennsylvania Conservancy, April 2015.

USACE 1987 Manual and Regional Supplement
Wetland Delineation Training, Swamp School,
2013.

Ohio Rapid Assessment Method for Wetlands
Training, Ohio EPA, 2013.

Grasses, Sedges and Rushes Identification
Workshop. Taught by Sarah Chamberlain, 2013.

Sedge Identification Workshop. Taught by Dr.
Timothy Block and Dr. Ann Rhoads, 2013.

OFFICE

Pittsburgh, PA

YEARS OF EXPERIENCE

5+

YEARS WITHIN FIRM

0

CONTACT

Stephanie.ZabowskiLieb@TetraTech.com

(*Carex shortiana*), a PA state-listed species, as part of mitigation request by PA DCNR. Responsible for associated GIS data processing and figure creation.

Environmental Scientist; West Newton Borough; 100 Pemberton Place Retaining Wall, Westmoreland County, PA; 2015. Responsible for compiling joint permit registration package and associated GIS figure creation for a 130 foot long retaining wall.

Environmental Scientist; Plum Borough School District; Regency Park Elementary School, Allegheny County, PA; 2015. Responsible for conducting wetland delineations and stream assessments for the approximate 5 acre school property. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Environmental Scientist; Freeport Area School Athletic Field; Freeport Area School District, Butler County, PA; 2015. Responsibilities for compiling components of the NPDES permit package and associated GIS figure creation.

Environmental Scientist; EQT Corporation; Above Ground Storage Tank Inspection/Registration, various Counties, WV; 2014. Responsible for GIS data processing, shapefile creation, organization, progress tracking, and mapping of 1600+ above ground storage tanks.

Environmental Scientist; Sunoco Logistics; Pennsylvania Pipeline Project, Cambria County, PA; 2014. Responsible for conducting botanical survey for federally listed Northeastern Bulrush (*Scirpus ancistrochaetus*) along the 23 mile pipeline route in Cambria County, PA and associated data processing.

Environmental Scientist; Bethel Park Municipal Authority; Bethel Park Wastewater Treatment Plant Expansion, Allegheny County, PA; 2014. Responsible for compiling joint permit registration package and associated GIS figure creation for wastewater treatment plant expansion.

Environmental Scientist; EQT Gathering; Yablonski Well Line Project, Washington & Greene Counties, PA; 2014. Responsible for conducting botanical survey for fringed bluets (*Houstonia canadensis*) and tall larkspur (*Delphinium exaltatum*), PA state-listed species, and preparing associated botanical report for 3 mile pipeline project.

Environmental Scientist; Y-Grade Pipeline Project; Hilcorp Energy Company, Columbiana County, OH; 2014. Responsible for conducting wetland delineations and stream assessments of access roads for proposed pipeline project. Prepared wetland delineation and stream assessment report. Assisted in erosion and sediment control monitoring during pipeline construction.

Environmental Scientist; various projects; Antero Resources, various counties, WV; 2014. Responsible for conducting wetland delineations and stream assessments for various proposed pipeline projects. Prepared wetland delineation and stream assessment reports.

Biologist II; NRG Homer City Services, LLC; Homer City Ash Landfill Expansion, Indiana County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 130 acre proposed ash landfill expansion. Prepared wetland delineation and stream assessment reports and associated GIS data processing and figure creation.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Burg to Wack Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 2.5 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Bame to Bluestone Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 3 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Stebbins to McElhinney Pipeline, Butler County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 3 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; EQT Gathering, LLC; NIJU S026 Pipeline, Washington County, PA; 2013. Responsible for conducting wetland delineations and stream assessments for the approximate 2.5 mile proposed pipeline. Prepared wetland delineation and stream assessment reports, associated GIS data processing and figure creation, and PA DEP general permit package. Assisted with archeology field work and GIS figure creation.

Biologist II; MarkWest Liberty Midstream & Resources, LLC; Lynn to Stebbins Pipeline, Butler County, PA; 2013. Responsible for conducting a wetland delineation and stream investigation, as well as a botanical survey for a PA state-listed species. Prepared a wetland delineation and stream identification report, botanical survey report, associated GIS data processing and figure creation, and PA DEP general permit package.

Biologist II; EQT Gathering, LLC; MOME S007 Pipeline, Harrison County, WV; 2012. Responsible for preparing nationwide permit package. Also assisted in Indiana Bat habitat assessment and report preparation.

Environmental Scientist; Williams; Huczko to Clark Pipeline Project, Westmoreland County, PA; 2012. Assisted in surveys for PA state-listed species including purple fringeless orchid (*Platanthera peramoena*), bushy bluestem (*Andropogon glomeratus*), shining ladies' tresses (*Spiranthes lucida*), and mountain bugbane (*Actea podocarpa*). Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; Williams; Jury to 6-inch Pipeline Project, Westmoreland County, PA; 2011. Assisted in botanical surveys for PA state-listed species including purple rocket (*Iodanthus pinnatifidus*), scouring rush (*Equisetum x ferrissii*), and Torrey's sedge (*Juncus torreyi*) for a 4 mile natural gas pipeline project. Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; XTO; North Discharge/Indiana Extension Pipeline Project, Westmoreland & Indiana Counties, PA; 2011. Assisted in a wetland delineation/stream survey and a survey for PA state-listed species including purple fringeless orchid (*Platanthera peramoena*), bushy bluestem (*Andropogon glomeratus*), shining ladies' tresses (*Spiranthes lucida*), leafcup (*Smallanthus uvedalius*), and eastern coneflower (*Rudbeckia fulgida*) for a 12 mile natural gas pipeline project. Prepared reports for PA state regulatory agencies and associated GIS figure creation.

Environmental Scientist; Williams; Gamelands to Jordan Pipeline Project, Greene County, PA; 2011. Assisted in surveys for state-listed species including shining ladies' tresses (*Spiranthes ovalis*), wild senna (*Senna marilandica*), leaf-cup (*Smallanthus uvedalius*), sourwood (*Oxydendron arboreum*), crested dwarf iris (*Iris cristata*), St. Andrew's cross (*Hypericum stragulum*), harbinger-of-spring (*Erigenia bulbosa*), lobed spleenwort (*Asplenium pinnatifidum*), puttyroot (*Aplectrum hyemale*), single-headed pussytoes (*Antennaria solitaria*), and blue monkshood (*Aconitum uncinatum*). Prepared reports for PA state regulatory agencies.

Environmental Scientist; Range Resources; Multiple Temporary and Permanent Water Pipelines; Washington County, Pennsylvania. 2010 to 2011. Responsible for wetland delineations and stream evaluations on dozens of temporary and permanent water pipelines linking frac water impoundments in the Washington County area. Also prepared wetland delineation and stream assessment reports.

CHRONOLOGICAL HISTORY

Wetland/Environmental Scientist III; Tetra Tech, Inc.; Pittsburgh, PA, August 2015 – Present.

Environmental Scientist – Part-time; Pennsylvania Soil and Rock, Inc. Monroeville, PA, March 2015 – August 2015

Environmental Scientist; Dawood Engineering Inc., Canonsburg, PA, February 2014 – January 2015

Biologist II; AECOM Technical Services, Inc.; Pittsburgh, PA, August 2012 – February 2014

Environmental Scientist; Pennsylvania Soil and Rock, Inc.; Monroeville, PA, April 2010 – August 2012

Black Fly Suppression Program Intern; Pennsylvania Department of Environmental Protection; Pittsburgh, PA, May 2008 – August 2008

SCIENTIFIC/TECHNICAL PUBLICATIONS

- N/A

MEMBERSHIPS

- Botanical Society of Western Pennsylvania

AWARDS

- N/A

ATTACHMENT 15.1

WETLAND DELINEATION AND STREAM IDENTIFICATION DOCUMENTATION

SECTION 16.0

REGISTRATION OF A GP-11

SECTION 16.0 - REGISTRATION OF A GP-11

This section is not applicable since no GP-11 registration has been proposed as part of the Project.

Attachment General-1a, Part 2

Washington County Conservation District GP Comment Response Package



March 17, 2016

PIT -XXXXXX

Project Number: 212IC-PB-00176

Washington County Conservation District
Attn: Mr. John Hewitt
2800 N Main St, Suite 105
Washington, Pennsylvania 15301

RE: Equitrans, LP
Union Township, Washington County, PA
GP05631520444, GP086315234

Dear Mr. Hewitt,

In response to your comments issued on December 9, 2015, please find the revised items for the Equitrans Expansion Chapter 105 GP-5 and GP-8 submission. Below are your comments followed by the corresponding responses.

Comment:

1. SPGP-4 Cumulative Impacts form shows no permanent impacts to waters from the pipeline installation on page 2 of 3.

Response:

The impacts on the SPGP-4 form were calculated using the USACE methodology as this application is a Category III and is under USACE review. This method has been confirmed by Jamie Detweiler of PADEP to consider all impacts as temporary except for conversion of wetlands from PFO to PEM for this form.

Comment:

2. SPGP-4 Cumulative Impacts form page 3 of 3 is not completed.

Response:

SPGP-4 has been completed and is attached.

Comment:

3. Page 2 of General Permit Registration needs resubmitted.

Response:

The full General Permit Registration has been re-submitted.

Comment:

4. Additional Impacts sheets show no permanent impacts and only three total impacts

Response:

Permanent impacts have been calculated and separated for resources within the permanent maintained right-of-way.

Comment:

5. Page 3 of General Permit Registration Section G: No permanent impacts are shown here. There are only three total impacts listed however the project has three temporary road crossings and three utility line crossings.

Tetra Tech, Inc.

661 Andersen Drive, Pittsburgh, PA 15220
Tel 412.921.7090 Fax 412.921.4040 www.tetrattech.com



Response:

Permanent impacts have been calculated and separated for resources within the permanent maintained right-of-way.

A copy of the full application has been submitted to PADEP regional office to issue a waiver for S-BB2 under 105.12(a)(2) as the drainage area is under 100 acres.

Additionally, GP-8 has been removed from S-BB1 and S-BB1(a) as Equitrans will utilize the existing access road to cross these streams.

Comment:

6. Section 8 – Project Description: The description also only mentions three streams and one wetland. This needs to match the items mentioned above.

Response:

The Project Description has been updated. Permanent impacts have been calculated and separated for resources within the permanent maintained right-of-way.

A copy of the full application has been submitted to PADEP office to issue a waiver for S-BB2 under 105.12(a)(2) as the drainage area is under 100 acres.

Comment:

7. DCNR, PA Fish and Boat Commission and USFWS clearances are not included in the submittal.

Response:

Clearance from PA Fish & Boat Commission and USFWS has been attached. It is anticipated that clearance from the DCNR, the remaining PNDI agency will be obtained during the Summer of 2016 after the survey for state-listed plant species has occurred.

Comment:

8. PHMC Clearance was not included with the GP5/8 submission.

Response:

Coordination with PHMC has been on-going with a Phase I report submitted February 17, 2016. Final clearance will be forwarded once received.

Attached are 2 copies of the revised items for your review and approval. Please let me know if you have any questions during your review. I can be contacted directly at 412-921-8051 or via email at heather.trexler@tetrattech.com.

Sincerely,

A handwritten signature in black ink that reads 'Heather Trexler'.

Heather Trexler, PG
Project Manage

Enclosures:

CC: Stephanie Frazier, Equitrans, LP



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATERWAYS ENGINEERING AND WETLANDS

CHAPTER 105

GENERAL PERMIT REGISTRATION

TYPE OF GENERAL PERMIT: ☒ New Permit

PLEASE MARK ("X") ONE: ☐ Transfer of Existing Permit (Complete Section A, C & H below and all of form [3150-PM-BWEW0016](#))

PLEASE MARK ("X") ALL THAT APPLY:

- ☐ [GP- 1](#) Fish Habitat Enhancement Structures
☐ [GP- 2](#) Small Docks & Boat Launching Ramps
Please mark ("X") the specific type of project:
☐ private recreational dock
☐ public access facility
☐ public service facility
☐ other private or commercial facility
☐ [GP- 3](#) Bank Rehabilitation, Bank Protection and Gravel Bar Removal
☐ [GP- 4](#) Intake and Outfall Structures

- ☒ [GP- 5](#) Utility Line Stream Crossing
☐ [GP- 6](#) Agricultural Crossings & Ramps
☐ [GP- 7](#) Minor Road Crossings
☒ [GP- 8](#) Temporary Road Crossings
☐ [GP- 9](#) Agricultural Activities
☐ [GP-10](#) Abandoned Mine Reclamation
☐ [GP-11](#) Maintenance, Testing, Repair, Rehabilitation, or Replacement of Water Obstructions and Encroachments (reviewed by DEP Regional Office only)
☐ [GP-15](#) Private Residential Construction in Wetlands

☒ Activity Related to Oil and Gas Exploration, Production or Transmission

☒ Activity Subject to FERC approval (Docket number [CP16-13-000](#)) ☐ FERC Natural Gas Act Facility

SECTION A. APPLICANT INFORMATION

Applicant's Name / Client Equitrans, LP		DEP Client ID# (if known) 163329		Employer ID# (EIN) 251776875	
Client Information - Please select Client Type / Code from drop down box under the correct entity shown to the right (or may be written in) →		Government		Non-Government	
				OTHER Other (Non-G)	
Mailing Address 625 Liberty Avenue, Suite 1700		City Pittsburgh		State PA	ZIP + 4 15222
Contact Person – Last Name First MI Suffix Frazier Stephanie		Telephone (412) 553-5798		Email Address sfrazier@eqt.com	

SECTION B. CONSULTANT INFORMATION (Complete if different than above) ☐ N/A

Contact Person – Last Name First MI Suffix Trexler Heather		Consultant's Title Project Manager		Consulting Firm Tetra Tech, Inc.	
Mailing Address 661 Andersen Drive, Foster Plaza 7		City Pittsburgh		State PA	ZIP + 4 15220
Telephone (412) 921-8051	Fax (412) 921-4040	Email Heather.trexler@tetrattech.com		Employer ID# (EIN) 95-4148514	

SECTION C. PROJECT INFORMATION

Project /Site Name: Equitrans Expansion Project			DEP Site ID# (if known or leave blank)		
Client Relationship - Please select Site-to-Client Relationship / Code from drop down box to the right (or may be written in) →			Double-click on shaded area below to select correct Site-to-Client Relationship / Code ↓		
County Washington	Municipality <input type="checkbox"/> City <input type="checkbox"/> Borough <input checked="" type="checkbox"/> Township Union		OWNOP Owner/Operator		
Site Location / Address Finleyville-Elrama Road, Hartson Tie-in		City Elrama		State PA	ZIP + 4 15038
Collection Method: <input type="checkbox"/> EMAP <input type="checkbox"/> HGIS <input checked="" type="checkbox"/> GISDR* <input type="checkbox"/> ITPMP <input type="checkbox"/> GPS <input type="checkbox"/> WAAS <input type="checkbox"/> LORAN Check the horizontal reference datum (or projection datum) employed in the collection method. EMAP and HGIS (PNDI) have known datum and do not require checking here. <input type="checkbox"/> NAD27 <input checked="" type="checkbox"/> NAD83 <input type="checkbox"/> WGS84 (GEO84) Enter the date of collection if coordinates were derived from GPS, WAAS or LORAN. mm dd yyyy					

Applicant's Name Equitrans, LP		GENERAL PERMIT REGISTRATION				
SECTION D. RESOURCE IDENTIFICATION						
Please place an "X" in the appropriate box next to each item to indicate the applicant has identified any of these resources which may be present at the project site.						
Each General Permit (GP) has a specific set of restrictions and some resources may require certain actions or prohibit the project from being eligible to register use of the GP. <i>This list is not all-inclusive, please see GPs for details.</i>						
YES	NO		YES	NO		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	National Register of Historic Places	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Threatened and Endangered Species	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	National Registry of Natural Landmarks	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wild or Stocked Trout Streams	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Local historical site	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Wild and Scenic Rivers	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Exceptional Value (EV) Waters	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetlands	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	High Quality (HQ) Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____	
SECTION E. REGISTRATION CHECK LIST AND REQUIREMENTS						
Please place an "X" next to each item (1 - 16) to ensure it is completed and/or provided. Unless otherwise specified, all items are required to ensure a complete Registration package. **Provide ONE (1) ORIGINAL and ONE (1) COPY of the Registration package**					Applicant Entry	DEP Use Only
1. General Permit Registration form properly completed and signed					<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> I have read the terms and conditions of the GP(s) indicated above.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. General Permit Registration Fee and Chapter 105 Fee Calculation Worksheet					<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Notification sent to the Municipality & County (copy of General Permit Registration form)					<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. PASPGP-4 Cumulative Impact Project Screening Form properly completed					<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Location Map (USGS quad map) with project site marked					<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Color Photographs with dates and descriptions (see instructions) <input type="checkbox"/> N/A					<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Stream Name and Chapter 93 Classification (example: UNT to #40637 HOUSE RUN, HQ-WWF/EV) Please refer to Section 7, Stream Name and Chapter 93 Classifications.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Project Description including proposed impacts and PNDI Avoidance Measures (if applicable) Please refer to Section 8, Project Description.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Site Specific and/or Standard Drawings depicting the project's GP activities					<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Site Plan depicting the site of the project's GP activities (see Section F.)					<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Erosion & Sediment Control Plan (E&S Plan) (required for GP-11 only - see instructions)					<input checked="" type="checkbox"/>	<input type="checkbox"/>
12. Written Directions to Project Site: Please refer to Section 12, Written Directions to the Project Site.					<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Pennsylvania Natural Diversity Inventory (PNDI): Please place an "X" next to the appropriate box indicating the information provided:						
<input type="checkbox"/> Completed PNDI Project Planning & Environmental Review Form					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Initialed PNDI Project Environmental Review Search Receipt showing "No Known Impacts"					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Initialed PNDI Project Environmental Review Search Receipt showing "Avoidance Measures" which have ALSO been incorporated into the project description					<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> Initialed PNDI Project Environmental Review Search Receipt showing "Potential Impacts" AND documentation of appropriate agency coordination required on PNDI Receipt					<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Bog Turtle Habitat Screening: Please place an "X" next to the appropriate box indicating the information provided:						
<input type="checkbox"/> Completed Request for a Bog Turtle Habitat Screening Form					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> "No Effect" determination from the Army Corp of Engineers					<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Documented clearance from the US Fish and Wildlife Services					<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> N/A					<input checked="" type="checkbox"/>	<input type="checkbox"/>

Applicant's Name Equitrans, LP	GENERAL PERMIT REGISTRATION			
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15. Activities which impact wetlands:
Please place an "X" next to the appropriate box indicating the information provided:

☐ N/A because no wetland impacts are proposed or no compensatory mitigation is necessary.

☒ A wetland delineation with complete data sheets in accordance with the 1987 Corps of Engineers Wetland Delineation Manual AND the appropriate Regional Supplements to the Corps of Engineers Wetland Delineation Manual for use in Pennsylvania.

☐ If direct or indirect wetland impacts are greater than 0.05 acres, a compensatory mitigation plan in accordance with the Department's Replacement criteria which provides compensation at a minimum one to one acre ratio.

☐ **If compensatory mitigation onsite is determined not feasible:**
A check, number _____, in the amount of \$_____ payable to the National Fish and Wildlife Foundation, N.A. 1237, as compensatory mitigation for _____ acres of impact in wetlands, in accordance with the Pennsylvania Wetland Replacement Project.

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16. Registration of a GP-11:
Please place an "X" next to the appropriate box indicating the worksheet(s) provided:

☒ N/A because not registering use of GP-11

☐ E&S Plan

☐ Project Inventory

☐ Bridge and/or Culvert Replacement Projects or Projects That Change the Waterway Opening

☒
☐
☐
☐

SECTION F. SITE PLAN

Please place an "X" next to each item to ensure it is shown on the site plan. Unless otherwise specified in the permit, all items are required to ensure a complete Registration package.

YES	NO		YES	NO	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Name: <u>Please see Section 7.</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	100 year Flood Elevation OR FEMA map
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Limits and Flow Direction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Limits of Earth Disturbance Associated with Activity
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Stream Impacts on site (including dimensions)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of Property Lines Relative to the Project
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetlands on site (including acres)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing Utilities, ROWs, Easements
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetland Impacts on site (including acres)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing Buildings, Roadway, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Other Waters (i.e. pond, lakes, wetlands)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proposed Buildings, Roadways, ROW etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Site Specific / Standard Drawings location(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Photograph location(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other _____

SECTION G. IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Please provide the project's total impacts for each category in the table provided below.

Please complete and provide a separate chart detailing the information for each impact to waters and wetlands. Include the identifier developed in Section E.9. for each location. All impact acreages and number of impacts should be totaled on each page and then the project's total impacts provided in the table below.

The [Additional Impacts Associated with Project Work Site \(3150-PM-BWEW0554\)](#) worksheet may be used but is not required.

Total Impacts for the Project	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts	<u>0.188</u> ac	2 number	<u>0.205</u> ac	2 number
Total Impacts to Wetlands	<u>0.010</u> ac	1 number	<u>0.041</u> ac	1 number
Total Impacts for this Project	<u>0.198</u> ac	3 number	<u>0.246</u> ac	3 number

Please complete and provide this chart (as many as is needed) as part of Section G of the [General Permit Registration \(3150-PM-BWEW0500\)](#) for impact locations.

ADDITIONAL IMPACTS ASSOCIATED WITH PROJECT WORK SITE

Provide the unique identifier (from Section E.9.), latitude and longitude, total area and dimensions of impact to waters (including streams, lakes, ponds, etc) and/or wetlands associated with your project for each category below.

The impacts for each identifier below should be totaled and provided at the bottom of the page, then each page totaled. An account of total impacts for the project is to be provided in the chart found in Section G of the General Permit Registration Form.

Identifier <u>S-BB1</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>40° 15' 13.58" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>79° 57' 44.33" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> <i>N/A</i>	<u>0.003</u> ac	<u>5'</u> x <u>30'</u>	<u>0.006</u> ac	<u>50'</u> x <u>5'</u>
	Floodway <input type="checkbox"/> <i>N/A</i>	<u>0.182</u> ac	<u>318'</u> x <u>25'</u>	<u>0.197</u> ac	<u>172'</u> x <u>50'</u>
Total Impacts to Waters (a)		<u>0.185</u> ac		<u>0.203</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> <i>N/A</i>		<u>0.000</u> ac	<u> </u> ' x <u> </u> '	<u>0.000</u> ac	<u> </u> ' x <u> </u> '
Total Impacts for this location (c)		<u>0.185</u> ac		<u>0.203</u> ac	

Identifier <u>S-BB1 (a)</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>40° 15' 13.44" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>79° 57' 44.28" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input type="checkbox"/> <i>N/A</i>	<u>0.003</u> ac	<u>2'</u> x <u>72'</u>	<u>0.002</u> ac	<u>34'</u> x <u>2'</u>
	Floodway (See S-BB1) <input type="checkbox"/> <i>N/A</i>	<u>0.000</u> ac	<u> </u> ' x <u> </u> '	<u>0.00</u> ac	<u> </u> ' x <u> </u> '
Total Impacts to Waters (a)		<u>0.003</u> ac		<u>0.002</u> ac	
Impacts to Wetlands (b) <input checked="" type="checkbox"/> <i>N/A</i>		<u>0.000</u> ac	<u> </u> ' x <u> </u> '	<u>0.000</u> ac	<u> </u> ' x <u> </u> '
Total Impacts for this location (c)		<u>0.003</u> ac		<u>0.002</u> ac	

Identifier <u>W-BB3</u>		* 43,560 square feet per acre			
Impact Latitude (DMS) <u>40° 15' 03.10" N</u>		Temporary Impacts		Permanent Impacts	
Impact Longitude (DMS) <u>79° 57' 33.79" W</u>		Area* (in acres)	Dimensions* (in feet)	Area* (in acres)	Dimensions* (in feet)
Impacts to Waters	Stream <input checked="" type="checkbox"/> <i>N/A</i>	ac	x		
	Floodway <input checked="" type="checkbox"/> <i>N/A</i>	<u>0.000</u> ac	<u> </u> ' x <u> </u> '	<u>0.000</u> ac	<u> </u> ' x <u> </u> '
Total Impacts to Waters (a)		<u>0.000</u> ac		<u>0.000</u> ac	
Impacts to Wetlands (b) <input type="checkbox"/> <i>N/A</i>		<u>0.010</u> ac	<u> </u> ' x <u> </u> '	<u>0.041</u> ac	<u> </u> ' x <u> </u> '
Total Impacts for this location (c)		<u>0.010</u> ac		<u>0.041</u> ac	

Total Impacts for "Page <u>1</u> of <u>1</u>" (same as above)	Temporary Impacts (acreage & number of impacts)		Permanent Impacts (acreage & number of impacts)	
Total Waters Impacts (sum of a)	<u>0.188</u> ac	2 number	<u>0.205</u> ac	2 number
Total Impacts to Wetlands (sum of b)	<u>0.010</u> ac	1 number	<u>0.041</u> ac	1 number
Total Impacts for this page (sum of c)	<u>0.198</u> ac	3 number	<u>0.246</u> ac	3 number



- ☐ Category I
☐ Category II
☐ Category III

Applicant / Project Name: Equitrans, LP/ Equitrans Expansion Project

County(s): Allegheny, Greene, Washington

PASPGP-4 CUMULATIVE IMPACTS PROJECT SCREENING FORM

The following questionnaire must be completed and submitted to determine the appropriate Pennsylvania State Programmatic General Permit-4 (PASPGP-4) review procedure. Incomplete submissions will be returned. An "Overall Project," as defined for this form, includes all regulated activities that are reasonably related and necessary to accomplish the "Overall Project" purpose. An "Overall Project" must have a clear purpose, be able to function, and have independent utility. All regulated activities, including the direct and indirect impacts occurring as a result of the regulated activities, which are associated with the "Overall Project", should be considered cumulatively when completing this form. For linear projects, all impacts to waters and wetlands associated with the "Overall Project" should be added together and cumulatively viewed as impacts associated with the "Overall Project", which must have a defined beginning and end point. For linear projects, the application shall include a plan that depicts the location of the beginning and end points of the overall project, and all proposed crossings. See the PASPGP-4 permit document at: www.nab.usace.army.mil/Wetlands%20Permits and Part II, for the definition of Independent Utility and Single and Complete Project (discussion of "Overall Project").

The PASPGP-4 authorizes the discharge of dredged or fill materials and/or the placement of structures, for a single and complete project, including all attendant features, both temporary and/or permanent, which individually or cumulatively results in impacts to 1.0 acre or less of waters of the United States including jurisdictional wetlands. These discharges and placement of structures must comply with all the terms, conditions, and processing procedures identified in this PASPGP-4. Refer to the definitions and sketches in PASPGP-4, Part II for calculating the 1.0-acre eligibility threshold for linear projects.

Determination of PASPGP-4 eligibility – For Category I and II Activities, PADEP/County Conservation Districts will review the applications, if applicable, and verify if work is authorized by PASPGP-4. For Category III Activities, the Corps reviews applications and makes a case by case determination that work is eligible for authorization under PASPGP-4.

Applications for activities that individually or cumulatively impact more than 1.0 acre of waters of the United States, including jurisdictional wetlands, including all attendant features, both temporary and permanent, for a single and complete project; or that impact greater than 250 linear feet of streams, rivers, or other watercourses, except fish habitat enhancement structures authorized under PADEP GP-1 and bank rehabilitation and protection, authorized under PADEP GP-3 that affect 500 linear feet or less, are sent to the Corps as a Category III Activity, under PASPGP-4, Part IV, C, 2. The 1.0 acre area measurement includes the sum total of all waters of the United States including both jurisdictional wetlands and streams, rivers, other watercourses.

- For linear projects, the 250 linear foot Category III Activity threshold for stream impacts is applied to the total cumulative impacts of all crossings associated with the overall linear project, regardless of the type of PADEP authorization or combination of authorizations used to approve the overall project.
- Overall linear projects that have cumulative permanent and temporary impacts to waters of the United States, including jurisdictional wetlands, which exceed 1.0 acre, may still be eligible for PASPGP-4 authorization through a Category III review, provided no single and complete project exceeds the 1 acre threshold (see PASPGP-4, Part II for definition of single and complete project and acreage calculations). This verification of eligibility will be made by the Corps of Engineers.
- For phased projects, including phased linear projects, an overall project plan depicting all previously authorized or proposed impacts to waters and/or wetland is required as part of the application. A plan depicting phase I of the overall project would be submitted with any applications associated with phase I. At a later date, when applications associated with phase II are submitted, an overall plan that depicts the impacts for phase I and phase II is required. For example, if a utility line was previously authorized to run from point A to point B, and the permittee now wants to expand the utility line to point C, the plan will depict from point A to point C. In such a case, the overall project has been expanded to extend from point A to point C; the portion from point A to point B is needed for the section from point B to point C to function and meet the overall project purpose. If plan is not submitted as part of application, the application for the purposes of PASPGP-4 will be considered incomplete and the application may be sent to the Corps as a Category III Activity.

SECTION A: PROPOSED IMPACTS

Provide the size of impacts to waters and/or wetlands associated with your application, including temporary and/or permanent impacts, and direct and indirect impacts.

Included in this calculation are the areas directly and indirectly affected by the regulated activities, including the area of waters and/or wetlands filled, drained and/or flooded as a result of the regulated activities. See PASPGP-4, Part II, Definitions, for calculation of linear footage of stream impact, and Part IV, C, 2 for thresholds which require a Corps review of application (Category III Activity).

PADEP GP-11 allows for the registration of multiple overall projects at one time through submission of a project/work site table that identifies each of the separate overall projects. For work associated with PADEP GP-11 registrations, impacts associated with each project/work site should be listed separately. This can be done through a separate PASPGP-4 Project Screening Form for each project/work site, or submission of a separate document/table that identifies each separate project/work site, the proposed work and impact information, as required by this section.

		square feet	linear feet
Permanent Impacts	to waters:	0	0
	to wetlands:	2,935	
Temporary Impacts	to waters:	14,982	644
	to wetlands:	10,219	

SECTION B: OTHER CHAPTER 105/SECTION 10/404 AUTHORIZATIONS

YES NO

- ☐ ☒ 1. If known, has any work associated with the Overall Project been previously authorized by the Corps or DEP? If YES, please complete the table below. If additional space is needed, please attach the applicable information. Include the type of authorization or permit, permit or authorization number(s), date(s) of issuance, and permitted impacts (including square feet and/or linear footage), if applicable, with your application/registration form(s). Types of authorizations or permits may be abbreviated and include: Corps Nationwide Permit, Corps Individual Permit, Corps PASPGP, DEP General Permit, DEP Individual Permit (Dam and/or Encroachment) or DEP Environmental Assessment. See PASPGP-4, Part IV, C, 3 for applications which require a Corps review (Category III Activity).

EXAMPLES:

- If application is associated with the expansion of a residential development, i.e., construction of phase II, the authorizations and impacts, if applicable, associated with construction of phase I are to be identified and listed.
- If application is associated with a linear project, i.e., sewer line, waterline, utility line, etc., and the proposed work is an extension or additional phase being added to a previous segment, the authorizations, and impacts, if applicable, associated with construction of the previous segment(s) are to be identified and listed. For example, if a utility line is constructed from point A to point B, and a year later an extension of the line to point C is proposed, the authorizations and impacts associated with construction of point A to point B should be listed/identified. In this case, the overall project is from point A to point C, as the portion from point A to point B is needed for the section from point B to point C to function and meet the overall project purpose.

Authorization Type	Authorization Number	Date (mm/dd/yyyy)	Permitted Impacts	
			wetlands	waters

YES NO

- ☐ ☒ 2. Are additional Corps and/or DEP authorizations required for your proposed work to function and have independent utility? If YES, please complete the table below. If additional space is needed, please attach the applicable information.

EXAMPLES:

- Development of a residential subdivision may require the filling of waters and/or wetlands for the construction of access roads, utility line crossings, and/or lot development. In such a case, if application is only for the utility lines, the work and impacts associated with the road crossings and lot development need to be identified. For the overall development to function, the road crossings and lot development are needed, not just utilities.
- If widening of a road for construction of a turn lane is needed to facilitate an industrial development, applications associated for the industrial development to construct utility lines and lot development need to include the work and impacts associated with the construction of the turn lane. The construction of the turn lane is needed for the industrial development to function; the two projects are not separate independent projects.

- c. If the application is associated with a linear project, such as an underground electric line or waterline, and additional permits are needed for the utility lines to function, i.e., convey electricity or water from source to user, the additional work and impacts need to be identified. For the overall utility line to function the entire line needs to be constructed; a segment that will not function does not have independent utility.

Authorization Type	Date (if known)	Anticipated Impacts	
		wetlands	waters

SECTION C: ACTIVITIES RELATED TO RESIDENTIAL, COMMERCIAL AND INSTITUTIONAL DEVELOPMENTS

The term "Subdivision", for the purposes of this form, is defined as the division or redivision of a lot, tract or parcel of land into two or more lots, tracts, parcels or other divisions of land including changes to existing lot lines.

YES NO

- ☐ ☒ 1. Does the Overall Project involve the construction or expansion of a residential, commercial or institutional subdivision or development? If YES, proceed to question 2. If NO, leave questions 2 and 3 blank.
- ☐ ☐ 2. Does greater than 0.25 acres of wetlands exist within the property boundary (not including those being directly impacted as part of this application)? If YES, provide wetland acreage: _____ acres. If NO, leave question 3 blank.
- ☐ ☐ 3. Are you proposing to protect the wetland area(s) through a deed restriction or conservation easement that follows the Corps' Model Conservation Instruments? If YES, attach a copy of the proposed deed restriction or conservation easement to this form and submit with your application/registration form. Model Conservation Instruments are available at www.nab.usace.army.mil/Wetlands%20Permits/. Failure to submit a proposed deed restriction or conservation easement with permit application/registration form requires a Category III review under PASPGP-4, Part IV, C, 24.

SECTION D: CERTIFICATION

I certify that the information provided on this form is true and correct to the best of my knowledge and information. If any of the information and/or plans is found to be in error, falsified, and/or incomplete, your Chapter 105/PASPGP-4 authorization/verification may be subject to modification, suspension, or revocation in accordance with applicable regulations.



Signature of Applicant

3/17/2016

Date

Stephanie Frazier – Supervisor Permitting - Environmental
Name Typed or Printed

Equitrans Expansion Project - Allegheny and Washington County
Impact Summary Table

Waters Name	Stream/ Wetland Type	Applicable Permits	Latitude (N)			Longitude (W)			PA Code 25 Chapter 93 Designated Use	Temporary Stream Impact			Permanent Stream Impact			Installation Method	Wetlands Onsite	Temporary Wetland Impact	Permanent Wetland Impact	
			DD	MM	SS	DD	MM	SS		Length (ft)*	Width (ft)**	Area (ft ²)	Length (ft)*	Width (ft)**	Area (ft ²)		Area (ft ²)	Area (ft ²)	Area (ft ²)	
S-BB1 - Lobbs Run	Intermitent	GP-5	40	15	13.58	79	57	44.33	WWF	5	30	150	5	50	250	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-BB1 (a) - UNT to Lobbs Run	Intermitent	GP-5	40	15	13.44	79	57	44.28	WWF	2	72	144	2	34	68	open cut trench and timber mat crossing	N/A	N/A	N/A	
W-BB3	PEM	GP-5/8	40	15	3.10	79	57	33.79	WWF	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	2993	427	1791	
S-BB2 - UNT to Lobbs Run	Ephemeral	Waived under 105.12(a)(2)	40	14	57.63	79	57	28.24	WWF	1	30	30	1	69	69	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-BB5 - Monongahela River	Perennial	GP-5	40	14	27.78	79	56	53.36	WWF	891	1.6	1425.6	891	1.6	1425.6	HDD Bore	N/A	N/A	N/A	
S-BB4 - Bunola Run	Perennial	GP-5/8	40	14	16.16	79	56	48.27	WWF	20	25	500	20	50	1000	open cut trench and timber mat crossing	N/A	N/A	N/A	
S-BB4 - Bunola Run (crossing, workspace in floodplain)	Perennial	GP-5/8	40	14	16.16	79	56	48.27	WWF	20	16	320	N/A	N/A	N/A	timber mat crossing	N/A	N/A	N/A	
W-BB13-UP	PFO/PSS	N/A	40	14	18.96	79	56	41.25	WWF	N/A	N/A	N/A	N/A	N/A	N/A	No longer crossing	11620	N/A	N/A	
W-BB11	PFO	GP-5/8	40	14	12.94	79	56	44.64	WWF	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	2492	488	1168	
W-BB10	PFO	GP-5/8	40	14	0.91	79	56	37.43	WWF	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	1016	607	409	
W-BB9	PFO	GP-5/8	40	13	59.84	79	56	36.56	WWF	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	709	679	30	
W-BB8	PFO	GP-5/8	40	13	58.86	79	56	32.90	WWF	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	1619	N/A	1328	
W-BB7	PEM	JPA	40	13	51.07	79	56	11.39	WWF	N/A	N/A	N/A	N/A	N/A	N/A	covered under JPA	87132	N/A	N/A	
W-BB6	PEM	GP-5/8	40	13	46.26	79	56	4.77	WWF	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	4031	N/A	3070	
S-BB3 - Kelly Run	Perennial	GP-5/8	40	13	41.59	79	55	57.39	WWF	30	25	750	30	50	1500	open cut trench and timber mat crossing	N/A	N/A	N/A	
W-BB12-WP	PFO/PSS	GP-5/8	40	13	33.35	79	55	43.02	WWF	N/A	N/A	N/A	N/A	N/A	N/A	open cut trench and timber mat crossing	250	220	2	
Allegheny County Totals (applying for General Permits):										961	67.6	2995.6	941	101.6	3925.6	sf	108,869	1,994	2,937	sf
												0.07			0.09	acre	2.50	0.05	0.07	acre
Washington County Totals:										8	132	324	8	153	387	sf	2,993	427	1,791	sf
												0.01			0.01	acre	0.07	0.01	0.04	acre
Washington County Totals (applying for General Permits)										7	102	294	7	84	318	sf	2,993	427	1,791	sf
												0.01			0.01	acre	0.07	0.01	0.04	acre
Project Totals:										969	199.6	3319.6	949	254.6	4312.6	sf	111,862	2,421	7,798	sf
																	2.57	0.06	0.18	acre

Note:
* As measured transversely from top of bank to top of bank
** As measured along centerline of stream from where water is directed out of the stream to where it is returned to the stream

Washington County

UNT - unnamed tributary
GP - General Permit
WWF - warm water fish
N/A - not applicable

SECTION 8.0 - PROJECT DESCRIPTION

8.1 DESCRIPTION

Equitrans, L.P. (Equitrans) proposes the Equitrans Expansion Project (Project) located in Allegheny, Washington and Greene Counties, Pennsylvania and Wetzel County, West Virginia. The Project is designed to transport natural gas from the northern portion of the Equitrans system south to the interconnection with Mountain Valley Pipeline LLC's proposed pipeline, as well as to existing interconnects with Texas Eastern Transmission, LP and Dominion Transmission, Inc. The Project will also increase system reliability, efficiency, and operational flexibility for the benefit of all Equitrans customers.

The portion of the Project within Washington County proposes to install one 20" natural gas pipeline (H-318) approximately 1.2 miles long within a 100' construction right-of-way and 50' permanent right-of-way. The pipeline will generally run east-west and will be located in Forward Township, Allegheny County, and Union Township, Washington County, Pennsylvania, in the northern portion of Equitrans' system. The H-318 pipeline will move gas from new modifications at the existing Applegate Gathering System, which is operated by EQT Gathering, LLC (EQT Gathering), to a new Hartson tie-in at Equitrans' existing H-148 pipeline for delivery south.

8.2 STREAM AND WETLAND CROSSINGS

Construction activities will include clearing and grubbing within the right of way, trenching, boring, pipe installation, and site restoration. This project will require crossings through numerous streams and wetlands.

The Washington County portion of the project will involve crossing 3 streams, Lobbs Run and unnamed tributaries (UNTs) to Lobbs Run, and crossing 1 wetland to install the pipeline. The streams and wetlands will be open cut. Temporary timber bridges will be used to move equipment across the streams and wetlands that are open cut. Construction of the pipeline will result in approximately 132 linear feet and 324 square feet of temporary stream impacts and 427 square feet of temporary wetland impacts in Washington County. Within the permanently maintained right-of-way the project will result in approximately 153 square feet of stream impacts and 1,791 square feet of wetland impacts. A waiver is being requested under Chapter 105.12(a)(2) for 1 stream crossing as the drainage area is less than 100 acres. Once the pipeline is installed, the streams and wetlands will be restored to their original topographic condition. BMPs will be used during all phases of construction.

8.3 PENNSYLVANIA NATURAL DIVERSITY INVENTORY PROJECT ENVIRONMENTAL REIVEW

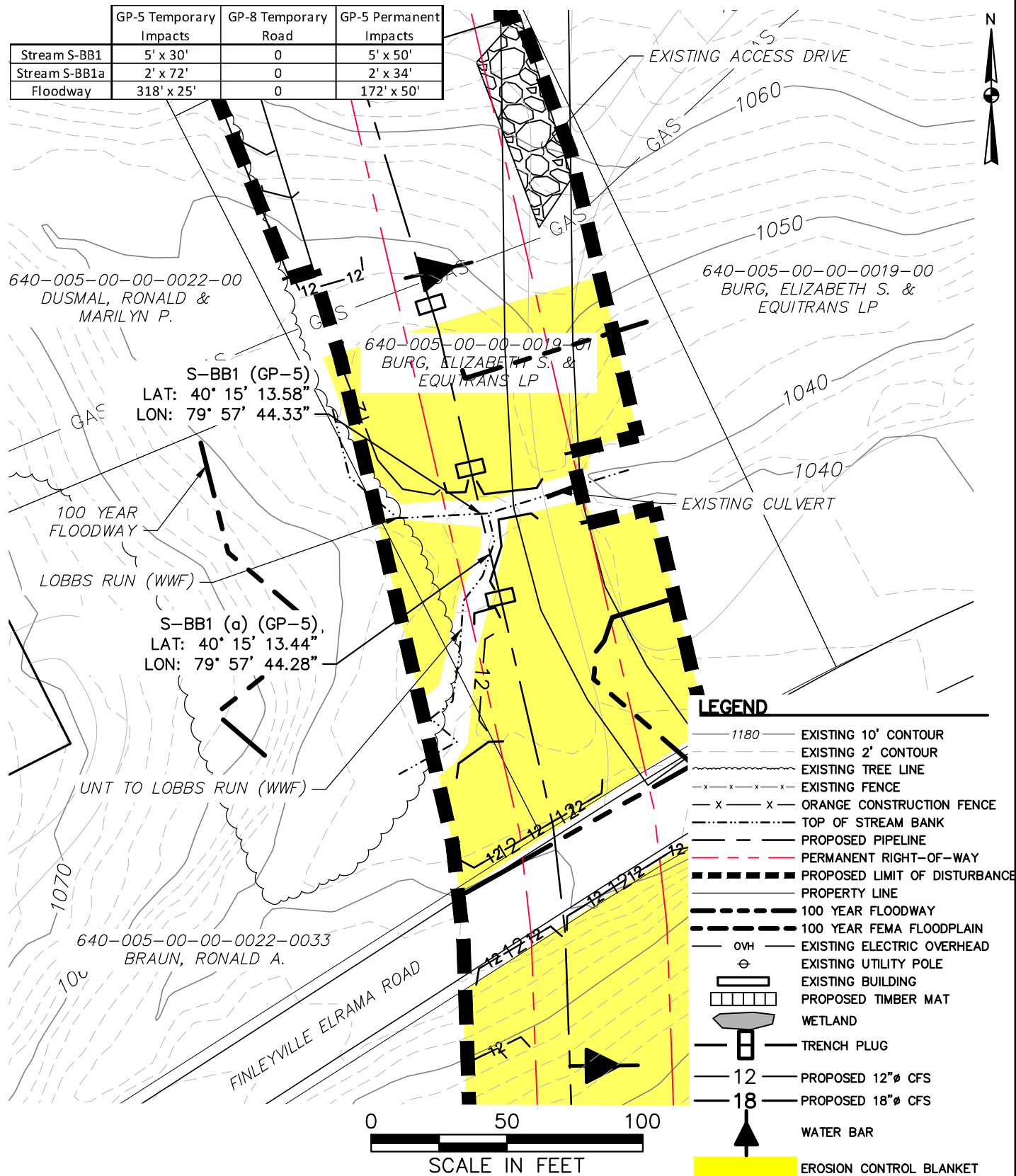
A large project PNDI was submitted to the PA Department of Conservation and Natural Resources (DCNR), PA Fish and Boat Commission, PA Game Commission, and US Fish and Wildlife Service (USFWS) on June 24, 2015 (Section 13.0).

DCNR responded that based on the PNDI review that there was the potential to impact several plant species. Field surveys to identify these species are planned for late spring and summer 2016, during the appropriate flowering time.

The PA Game Commission, PA Fish and Boat Commission and USFWS responded that no impacts are anticipated within the vicinity of the project.

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	GP-5 Temporary Impacts	GP-8 Temporary Road	GP-5 Permanent Impacts
Stream S-BB1	5' x 30'	0	5' x 50'
Stream S-BB1a	2' x 72'	0	2' x 34'
Floodway	318' x 25'	0	172' x 50'



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE — WASHINGTON COUNTY
GP-5 FOR S-BB1/S-BB1(a)
PLAN

SCALE: 1" = 50'

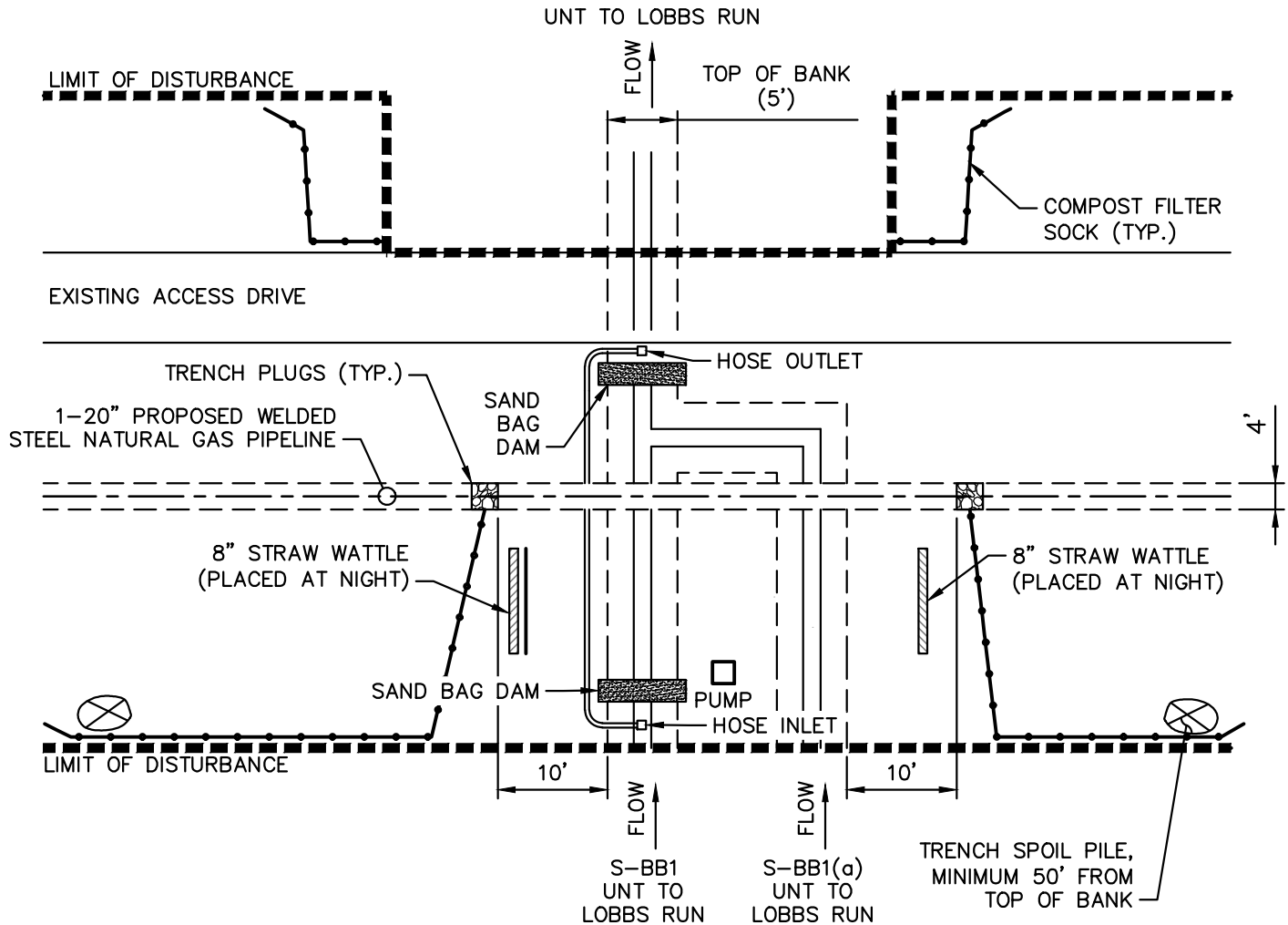
DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 1 OF 4

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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
3. THE RIGHTS-OF-WAY AND EASEMENTS SHOWN ON THIS PLAN ARE THE RESPONSIBILITY OF EQUITRANS, LP TO SECURE WITH THE INDIVIDUAL PROPERTY OWNER. THE RIGHTS-OF-WAYS AND EASEMENTS SHOWN ON THIS PERMIT DRAWING REPRESENT THE BEST AVAILABLE PROPERTY INFORMATION AS PROVIDED TO TETRA TECH NUS, INC. BY EQUITRANS, LP. THE RIGHTS-OF-WAYS AND EASEMENTS SHALL BE VERIFIED AND LOCATED IN THE FIELD BY EQUITRANS, LP.



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H318 PIPELINE - WASHINGTON COUNTY
GP-5 FOR S-BB1/S-BB1(a)
PLAN

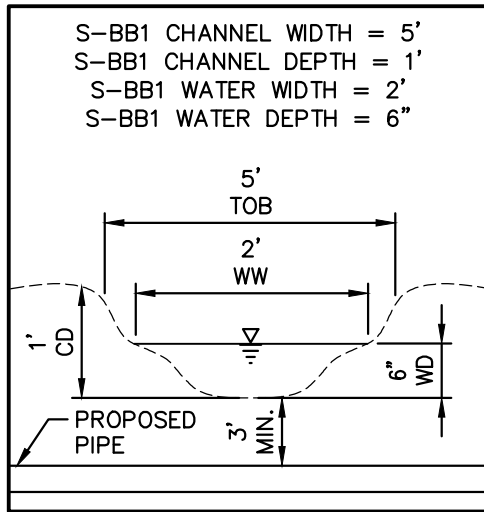
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DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
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SHEET: 2 OF 4

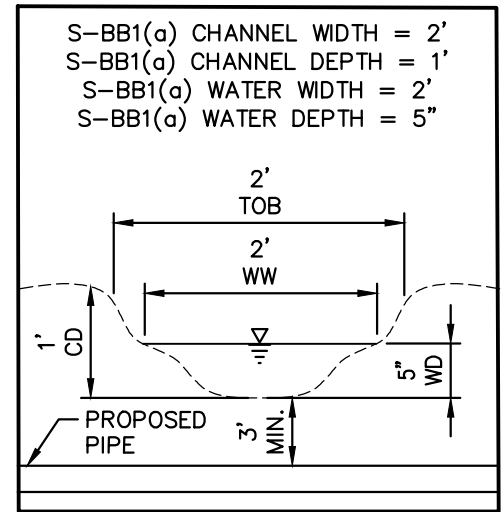
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FIGURE 2

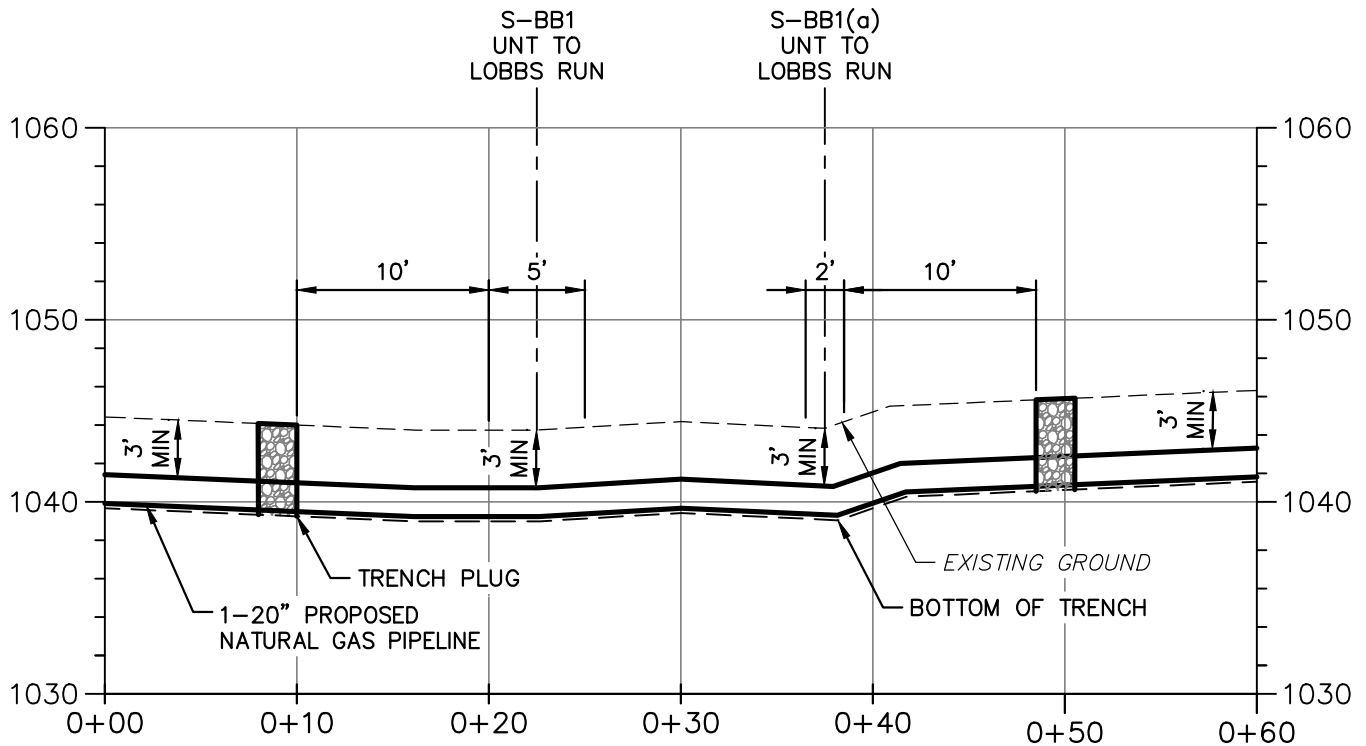
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S-BB1
NOT TO SCALE



S-BB1(a)
NOT TO SCALE



PROFILE FOR S-BB1/S-BB1(a) OPEN-CUT TRENCH PROFILE

SCALE: HORIZ: 1" = 10'
 VERT: 1" = 10'



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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-5 FOR S-BB1/S-BB1(a)
PROFILE

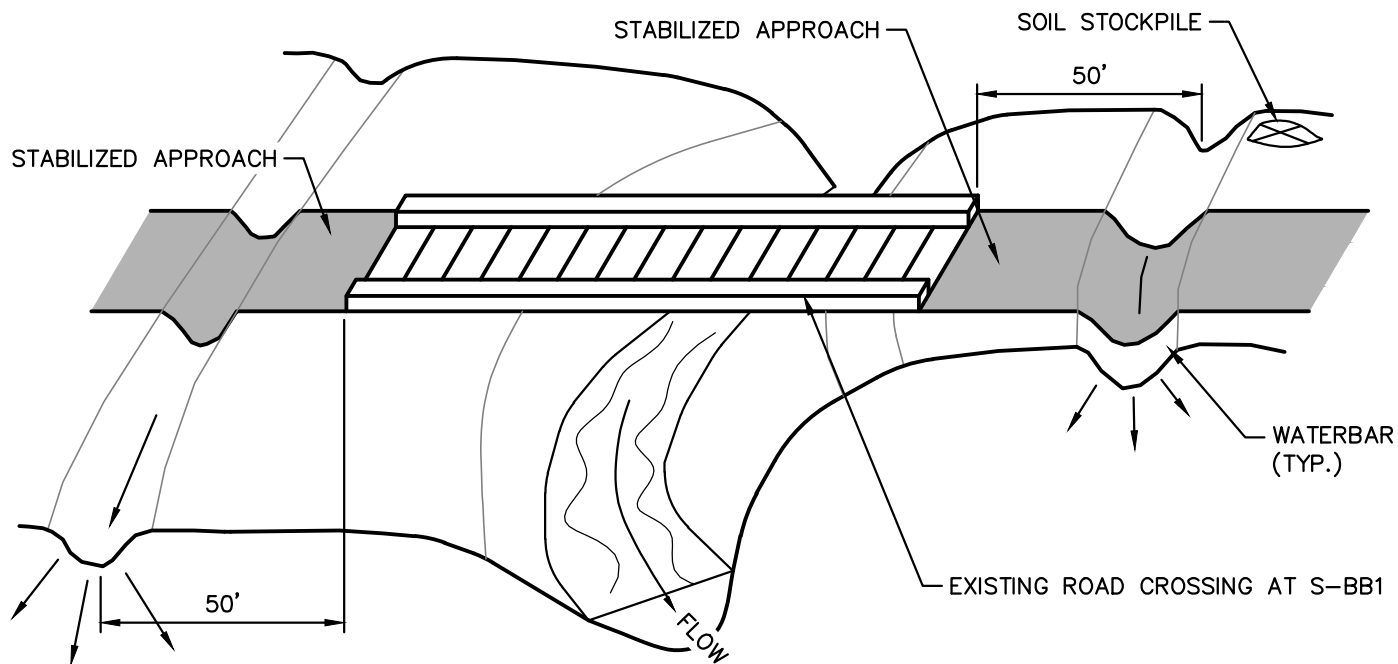
SCALE: AS NOTED

DATE: 03/14/16
 PROJECT NO.: 212IC-PB-00176
 DESIGNED BY: JS
 DRAWN BY: NN
 CHECKED BY: JS
 SHEET: 3 OF 4

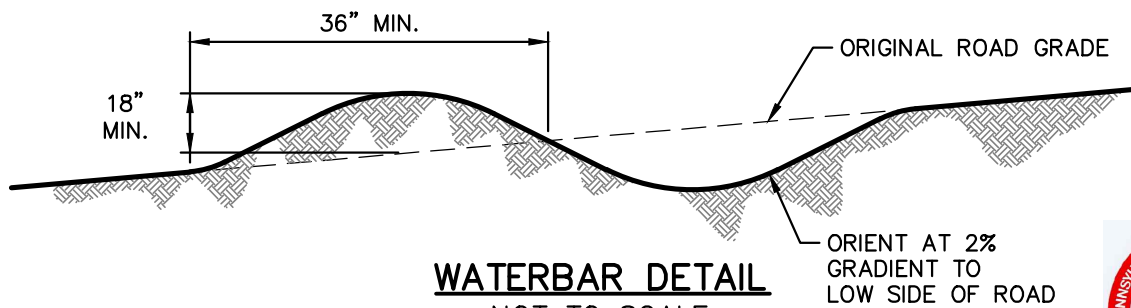
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FIGURE 3

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TEMPORARY STREAM CROSSING
NOT TO SCALE



WATERBAR DETAIL
NOT TO SCALE

NOTE:
APPROACH TO CROSSING NOT TO EXCEED A DEPTH OF 6" ABOVE ORIGINAL GRADE



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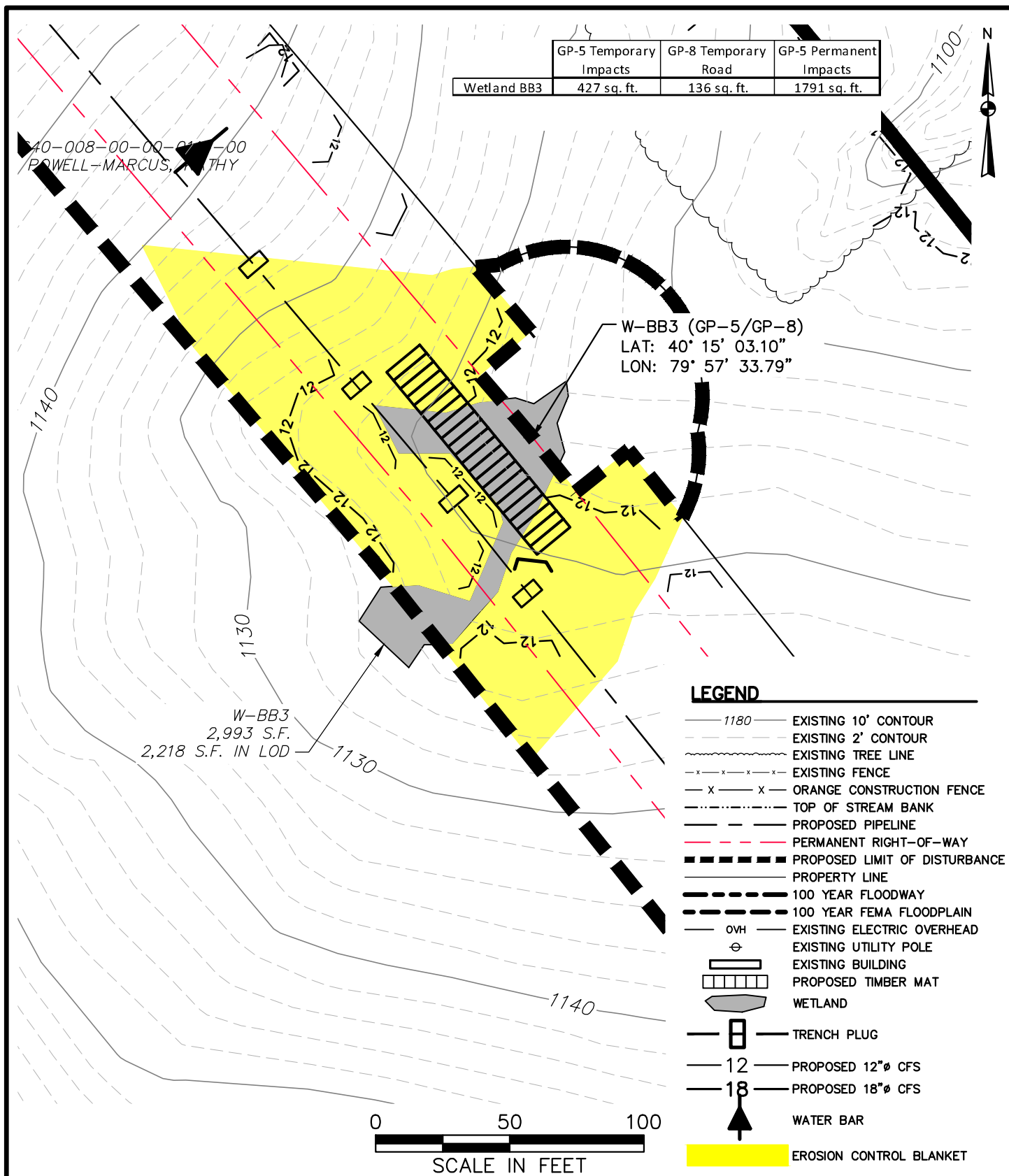
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EQUITRANS, LP
EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-5 FOR S-BB1
STREAM CROSSING
SCALE: NOT TO SCALE

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
DRAWN BY: NN
CHECKED BY: JS
SHEET: 4 OF 4
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FIGURE 4

\\nuss010fp1\cadd\$_212 - OGA\O&G\EQT\00176 - EEP\GPs\H318\CCD Comment Responses\H318 - 00176GP005.dwg PLOT JOE.HERBSTRIIT 3/9/2016 12:04:19 PM



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EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-5/GP-8 FOR W-BB3

PLAN

SCALE: 1" = 50'

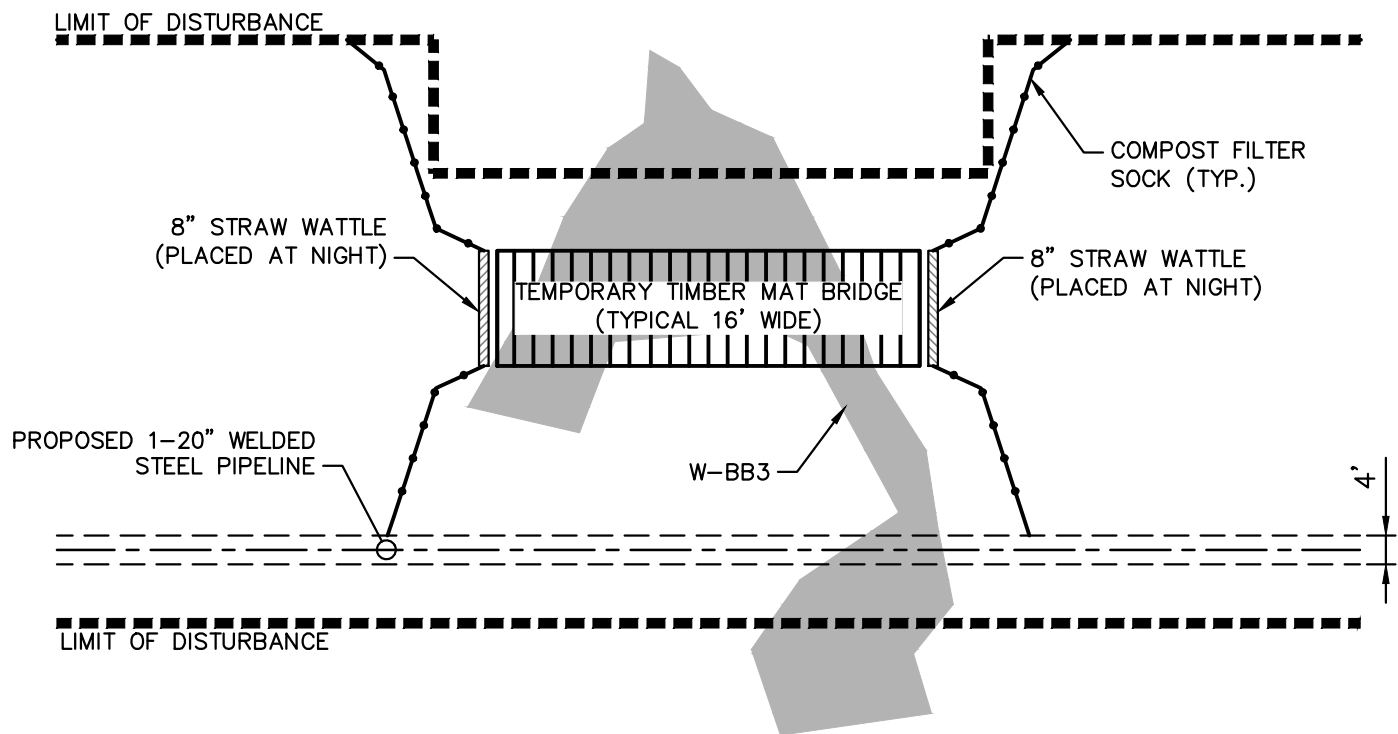
DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
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FIGURE 1

NOTES:

1. TOPO AND SITE FEATURE CREATED USING <http://www.pasda.psu.edu>.
2. TOPSOIL STOCKPILES SHALL BE LOCATED A MINIMUM OF 50' AWAY FROM THE EDGE OF THE WETLAND.
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PLAN
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EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
GP-5/GP-8 FOR W-BB3

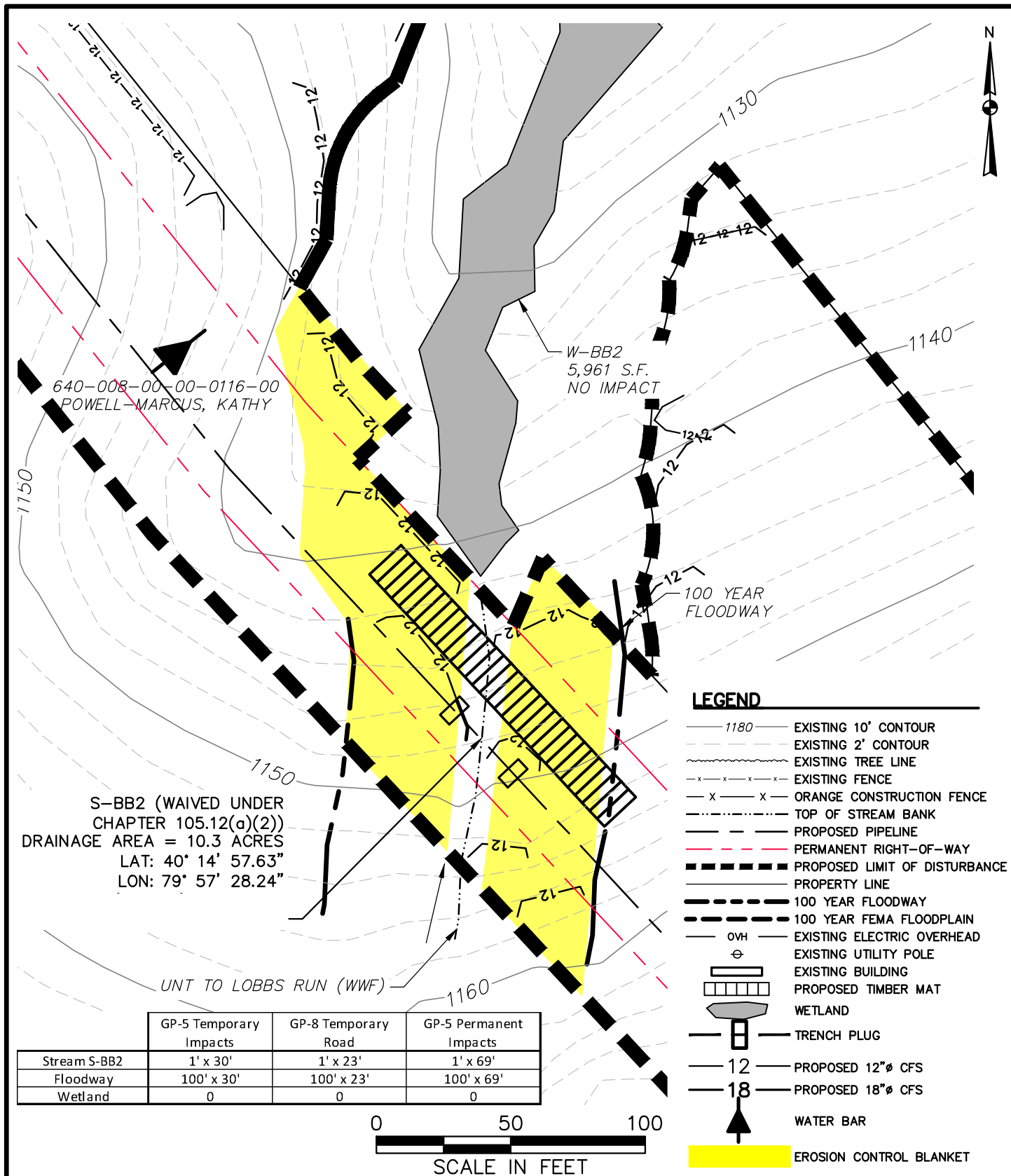
PLAN

SCALE: NOT TO SCALE

DATE: 03/14/16
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FIGURE 2



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EQUITRANS EXPANSION PROJECT
H318 PIPELINE - WASHINGTON COUNTY
WAIVED UNDER CHAPTER 105.12(a)(2)
FOR S-BB2 PLAN
SCALE: 1" = 50'

DATE: 03/14/16
PROJECT NO.: 212IC-PB-00176
DESIGNED BY: JS
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FIGURE 1



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Pennsylvania Field Office
110 Radnor Road, Suite 101
State College, Pennsylvania 16801-4850

February 18, 2016

Dale Sparks
Environmental Solutions & Innovations, Inc.
4525 Este Avenue
Cincinnati, OH 45232

RE: USFWS Project #2015-0578

Dear Mr. Sparks:

Thank you for your letter of December 17, 2015, which requested our review of mist-net survey results for the Pennsylvania portion of the proposed Equitrans Expansion project. This project is located in Allegheny, Greene, and Washington Counties, Pennsylvania. The following comments are provided pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) to ensure the protection of endangered and threatened species.

Indiana bat

The proposed project is located within the range of the Indiana bat (*Myotis sodalis*), a species that is federally listed as endangered. Due to proposed forest clearing associated with construction of the pipeline, summer surveys were recommended to determine whether Indiana bats are present. According to the December 2015 survey report, surveys were conducted at 10 sites within the project area between July 26 and August 9, 2015, in accordance with the Fish and Wildlife Service's Indiana bat summer survey guidelines. During these surveys, 94 bats of three species were captured, but this did not include any federally listed bat species. Based on these survey results, we have concluded that Indiana bats are either not present in the project area, or are present in such low densities that they were not detected. In addition, the project is not within an area that is known to be occupied by a maternity colony, or within the fall swarming habitat associated with any known Indiana bat hibernacula. Consequently, we have determined that tree-clearing related to installation of the proposed natural gas pipeline construction project is not likely to adversely affect the Indiana bat.

Northern long-eared bat

The proposed project is located within the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*). No northern long-eared bats were captured during the summer 2015 surveys.

On January 14, 2016, the Service published a final rule that tailors protections for this species under the Endangered Species Act (81 FR 1900; see: <https://www.gpo.gov/fdsys/pkg/FR-2016-01-14/pdf/2016-00617.pdf>). Because your project is not located within 0.25 mile of a known northern long-eared bat hibernaculum or within 150 feet from a known, occupied maternity roost tree, any incidental take that might result from tree removal is not prohibited and no further consultation regarding this species is necessary. More information on the northern long-eared bat and the 4(d) rule can be found here:

<http://www.fws.gov/midwest/endangered/mammals/nleb/>

This response relates only to endangered or threatened species under our jurisdiction, based on an office review of the proposed project's location. No field inspection of the project area has been conducted by this office. Consequently, this letter is not to be construed as addressing potential Service concerns under the Fish and Wildlife Coordination Act or other authorities.

To avoid potential delays in reviewing your project, please use the above-referenced USFWS project tracking number in any future correspondence regarding this project.

If you have any questions regarding this matter, please contact Pamela Shellenberger of my staff at 814-234-4090.

Sincerely,

A handwritten signature in black ink, appearing to read "Lora L. Zimmerman", with a stylized flourish at the end.

Lora L. Zimmerman
Field Office Supervisor



Pennsylvania Fish & Boat Commission

Division of Environmental Services

Natural Gas Section
450 Robinson Lane
Bellefonte, PA 16823

January 5, 2016

IN REPLY REFER TO

SIR# 44257

Environmental Solutions & Innovations, Inc.
John Spaeth
4525 Este Avenue
Cincinnati, Ohio 45232

**RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No.
Equitrans Expansion Project.
GREENE County: - WASHINGTON County:**

Dear John Spaeth:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search “potential conflict” or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

On October 11, 2015, you conducted a mussel presence/absence survey at the proposed pipeline crossing of South Fork Tenmile Creek (39.90999 -80.09235). According to the resulting report, timed searches yielded four live individuals of three species: two Fragile Papershell (*Leptodea fragilis*) in the downstream indirect effects area, one Giant Floater (*Pyganodon grandis*) in the upstream indirect effects area, and one Fluted-shell (*Lasmigona costata*) in the direct effects area. I concur with the results of this evaluation. The project proposes to traverse South Fork Tenmile Creek via HDD techniques; therefore, I do not foresee the proposed project resulting in adverse impacts to the mussel species of special concern. If proposed crossing method on the South Fork Tenmile Creek changes, you will need to contact this office for further consultation and we will recommend moving mussels out of the affected areas.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated

Our Mission:

www.fish.state.pa.us

To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.

with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Gary Smith at 814-279-3080 and refer to the SIR # 44257. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

A handwritten signature in dark ink that reads "Heather Smiles". The signature is written in a cursive, flowing style.

Heather A. Smiles, Chief
Natural Gas Section

HAS/GAS/dn



February 17, 2016

Andrea MacDonald, Deputy SHPO

Attention: Kira M. Heinrich, Archaeological Project Reviewer (Western Region)

Pennsylvania State Historic Preservation Office

Commonwealth Keystone Building

400 North Street

Harrisburg, PA 17120

Subject: Equitrans Expansion Project (FERC Docket No. CP16-13-000)
Phase I Archaeological Survey Report, Greene, Allegheny, and Washington Counties,
Pennsylvania
ER No. 2015-1446-042
Request for Comment Pursuant to Section 106 of the National Historic Preservation Act

Dear Ms. MacDonald:

On behalf of Equitrans, LP of Pittsburgh, Pennsylvania, Tetra Tech, Inc., hereby submits one copy of a report, *Equitrans Expansion Project (FERC Docket No. CP16-13-000)—Phase I Archaeological Survey: Jefferson, Morgan, & Franklin Townships, Greene County; Forward Township, Allegheny County; and Union Township, Washington County, Pennsylvania*. The report describes the results of a Phase I archaeological survey for the Pennsylvania elements of the proposed project. An updated Project Review Form is also included with this submittal. Tetra Tech also previously submitted an architectural survey report on this project for your agency's review, which was sent on January 28, 2016.

Equitrans has applied to the Federal Energy Regulatory Commission (FERC) for a Certificate of Public Convenience and Necessity pursuant to Section 7(c) of the Natural Gas Act authorizing it to construct and operate the proposed project (FERC Docket No. CP16-13-000). Please review the report in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended. We would also specifically like to request comment on the Unanticipated Discoveries Plan for this project, found in Appendix I of the report.

To ensure accurate filing of your review, note that your agency may also have correspondence concerning this project under ER Nos. 2015-2081-042 and 2015-1694-042. The ER number employed here, 2015-1446-042, was provided on July 27, 2015, in response to our initial technical data submittal of July 8, 2015, and is the one we will be using to reference this project moving forward.

Should you require additional information to complete this review, contact me at (973)-630-8358 or by e-mail at chris.borstel@tetrattech.com.

Thank you for your assistance in this matter.

Sincerely yours,

A handwritten signature in blue ink, reading 'Christopher L. Borstel', written over a light blue circular stamp.

Christopher L. Borstel, Ph.D., RPA

Cultural Resources Specialist

Cc: S. Haugh, Tetra Tech

T. Pellerin, Tetra Tech

S. Frazier, Equitrans

Encl.

Tetra Tech, Inc.

1000 The American Road, Morris Plains, NJ 07950
Tel 973.630.8000 Fax 973.630.8025 www.tetrattech.com



PROJECT REVIEW FORM

Request to Initiate SHPO Consultation on
State and Federal Undertakings

SHPO USE ONLY

DATE RECEIVED:

ER NUMBER:

REV: 5/2012

SECTION A: GENERAL PROJECT INFORMATION

Is this a new submittal? ☐ YES ☐ NO OR ☒ This is additional information for ER Number: 2015-1446-042

Project Name Equitrans Expansion Project

County Multiple

Project Address Jefferson, Morgan, and Franklin Twps, Greene Co.; Forward Twp., Allegheny

City/State/ Zip See "Project Address"

Municipality See "Project Address"

SECTION B: PRIMARY CONTACT INFORMATION

Name Christopher L. Borstel, Ph.D., RPA

Phone (973) 630-8358

Company Tetra Tech, Inc.

Fax (973) 630-8025

Street/P.O. Box 1000 The American Road

Email chris.borstel@tetrattech.com

City/State/Zip Morris Plains NJ 07950

SECTION C: PROJECT DESCRIPTION

This project is located on:
(check all that apply) ☐ Federal property ☐ State property ☐ Municipal property ☒ Private property

List all Federal and State agencies and programs (funding, permits, licenses) involved in this project	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)
	Federal	Federal Regulatory Energy Commission	Docket No. CP16-13-000

Proposed Work – Attach project description, scope of work, site plans, and/or drawings

Project includes (check all that apply): ☒ Construction ☒ Demolition ☐ Rehabilitation ☐ Disposition

Total acres of project area: 315

Total acres of earth disturbance: 186

Are there any buildings or structures within the project area? ☒ Yes ☐ No Approximate age: ca. 1839-2015

This project involves properties listed in or eligible for listing in the National Register of Historic Places, or designated as historic by a local government

☒☐☐

Name of historic property or historic districts

Monongahela River Navigation System (NRE); P&LE RR Corridor (NRE)

Please print and mail completed form and all attachments to:

PHMC
State Historic Preservation Office
400 North St.
Commonwealth Keystone Building, 2nd Floor
Harrisburg, PA 17120-0093

Attachments – Please include the following information with this form



Map – 7.5' USGS quad showing project boundary and Area of Potential Effect



Description/Scope – Describe the project, including any ground disturbance and previous land use



Site Plans/Drawings – Indicate the location and age, if known, of all buildings in the project area



Photographs – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan

SHPO DETERMINATION (SHPO USE ONLY)

SHPO REVIEWER:

☐ There are NO HISTORIC PROPERTIES in the Area of Potential Effect☐ The project will have NO ADVERSE EFFECTS WITH CONDITIONS (see attached)☐ The project will have NO EFFECT on historic properties☐ SHPO REQUESTS ADDITIONAL INFORMATION (see attached)☐ The project will have NO ADVERSE EFFECTS on historic properties: