



April 1, 2019

By FEDERAL EXPRESS

Mr. Edward J. Muzic, P.E.
Civil Engineer Manager
Department of Environmental Protection
Waterways and Wetlands – South Central Regional Office
909 Elmerton Avenue
Harrisburg, PA 17110

Re: Supplemental Information
E07-459 Major Amendment
Application No. E07-459
APS No. 879354
Woodbury Township, Blair County

Dear Mr. Muzic:

On behalf of our client, Sunoco Pipeline L.P. (SPLP), Tetra Tech, Inc. provides the following supplemental information to the Pennsylvania Department of Environmental Protection (DEP), regarding the above-referenced Chapter 105 Major Amendment. The supporting attachments represent the status of the correspondences with the PNDI agencies.

1. Attachment A: PNDI Receipt (as already provided in the original major amendment request)
2. Attachment B: Submitted February 26, 2019 DCNR PNDI correspondence
3. Attachment C: Received March 1, 2019 DCNR PNDI correspondence.
4. Attachment D: Submitted and received March 27, 2019 USFWS PNDI correspondence.

Based on these correspondences we will address the DCNR and USFWS PNDI concerns with the following commitments:

1. SPLP will survey for the Thick-leaved Meadow-rue and submit a report to the DCNR in accordance with the March 1, 2019 correspondence (Attachment C).
2. SPLP will conduct emergent bat surveys to allow for in-season tree clearing in accordance with the USFWS March 27, 2019 correspondence (Attachment D)

We are providing three hard copies and three CDs containing this letter and supporting attachments.

Should you have questions regarding this correspondence, please do not hesitate to contact me at 412-921-8163 or via e-mail at Robert.Simcik@tetrattech.com.

Sincerely,



Robert F. Simcik, P.E.
Project Manager
Tetra Tech, Inc.

Enclosures: Attachments A – D

cc: Debby Nizer, USACE-Baltimore District
Matthew Gordon, SPLP
Monica Styles, SPLP
Christopher Embry, SPLP
Larry Gremminger, ETP
Brad Schaeffer, Tetra Tech, Inc.

Attachment A

1. PROJECT INFORMATION

Project Name: **Mariner East 2 Piney Creek 16" Reroute**

Date of Review: **1/28/2019 02:56:18 PM**

Project Category: **Energy Storage, Production, and Transfer, Energy Transfer, Pipeline (e.g., gas, oil) -- NEW (construction of new line in a new location)**

Project Area: **6.05 acres**

County(s): **Blair**

Township/Municipality(s): **WOODBURY**

ZIP Code: **16693**

Quadrangle Name(s): **FRANKSTOWN**

Watersheds HUC 8: **Upper Juniata**

Watersheds HUC 12: **Piney Creek**

Decimal Degrees: **40.435380, -78.266172**

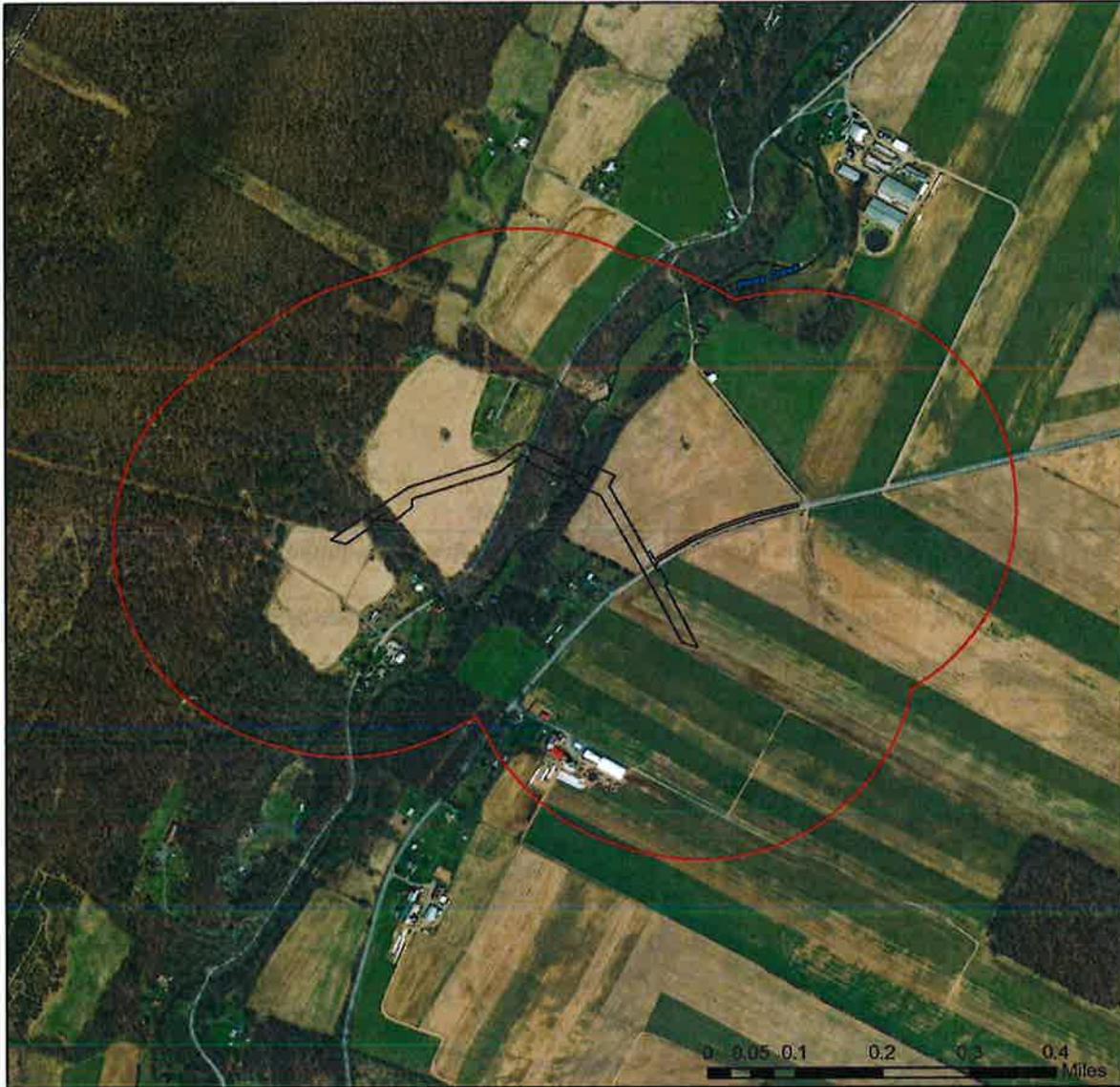
Degrees Minutes Seconds: **40° 26' 7.3674" N, 78° 15' 58.2207" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	Conservation Measure	No Further Review Required, See Agency Comments
PA Department of Conservation and Natural Resources	Potential Impact	FURTHER REVIEW IS REQUIRED, See Agency Response
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	Avoidance Measure	See Agency Response

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate there may be potential impacts to threatened and endangered and/or special concern species and resources within the project area. If the response above indicates "No Further Review Required" no additional communication with the respective agency is required. If the response is "Further Review Required" or "See Agency Response," refer to the appropriate agency comments below. Please see the DEP Information Section of this receipt if a PA Department of Environmental Protection Permit is required.

Mariner East 2 Piney Creek 16" Reroute

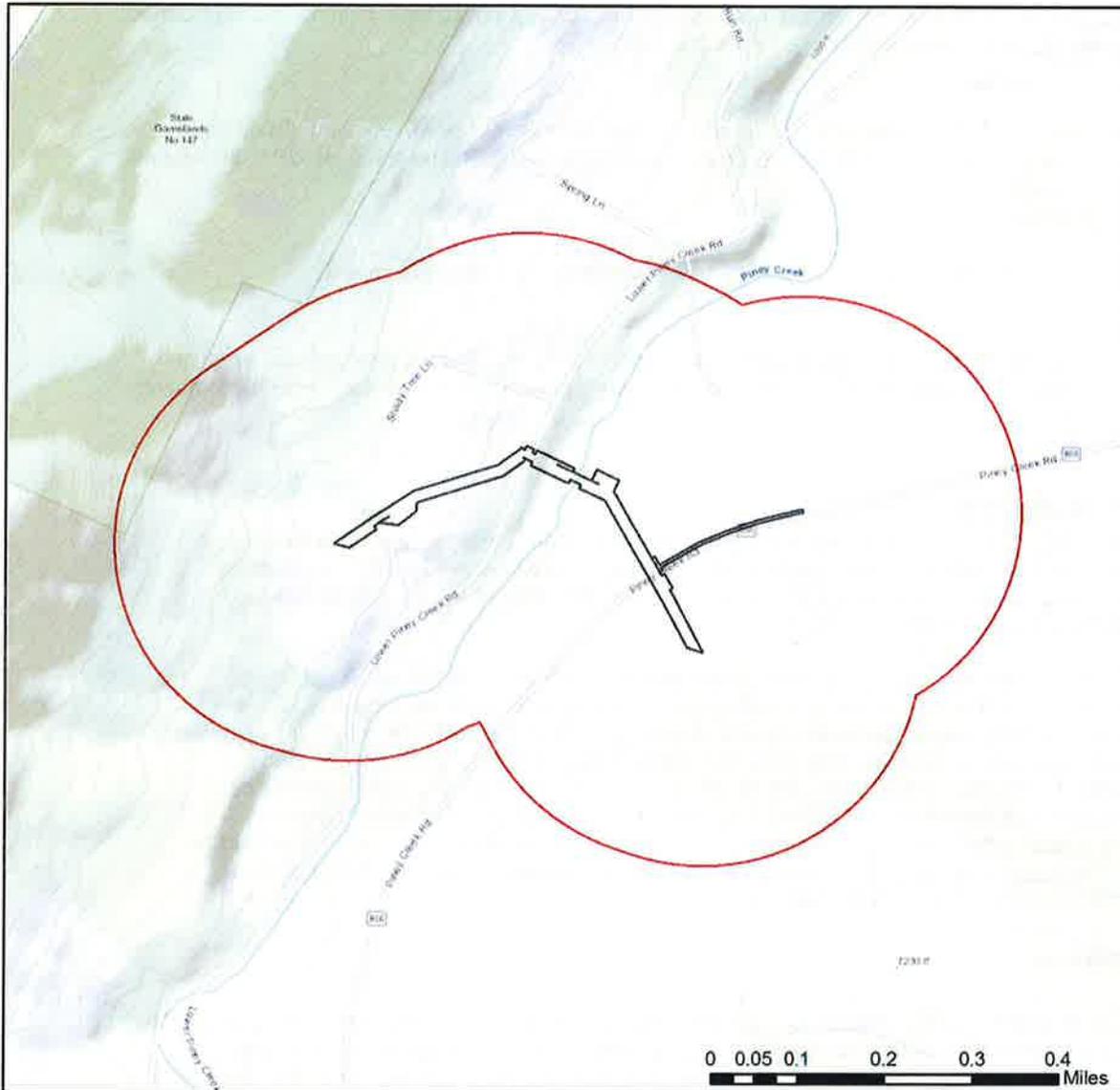


- Project Boundary
- Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community



Mariner East 2 Piney Creek 16" Reroute



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Sources: Esri, HERE, Garmin, Intermap, InCREMENT P Corp., GEBCO, USGS, FAO, NPS,



RESPONSE TO QUESTION(S) ASKED

Q1: Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?

Your answer is: No

Q2: How many acres of woodland, forest, forested fencerows and trees will be cut, cleared, removed, disturbed or flooded (inundated) as a result of carrying out all aspects or phases of this project? [Round acreages UP to the nearest acre (e.g., 0.2 acres = 1 acre).]

Your answer is: 1 to 10 acres

Q3: Is tree removal, tree cutting or forest clearing necessary to implement all aspects of this project?

Your answer is: Yes

Q4: How many acres of woodland, forest, forested fencerows and trees will be cut, cleared, removed, disturbed or flooded (inundated) as a result of carrying out all aspects or phases of this project? [Round acreages UP to the nearest acre (e.g., 0.2 acres = 1 acre).]

Your answer is: 1 to 10 acres

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

Conservation Measure: Potential impacts to state and federally listed species which are under the jurisdiction of both the Pennsylvania Game Commission (PGC) and the U.S. Fish and Wildlife Service may occur as a result of this project. As a result, the PGC defers comments on potential impacts to federally listed species to the U.S. Fish and Wildlife Service. No further coordination with the Pennsylvania Game Commission is required at this time.

PA Department of Conservation and Natural Resources

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here:

<https://conservationexplorer.dcnr.pa.gov/content/survey-protocols>)

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Thalictrum coriaceum	Thick-leaved Meadow-rue	Endangered	Threatened	Flower late May - June

PA Fish and Boat Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE:

Avoidance Measure: Conduct any tree cutting, tree inundation (flooding), and prescribed burning between November 15 and March 31. ALSO, when conducting timber harvesting (rather than land clearing for development), implement the Fish and Wildlife Service's Forest Management Guidelines for Indiana Bat Swarming Habitat found at <https://www.fws.gov/northeast/pafo/endangered/forestry.html>.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:
_____ (Signature)

Avoidance Measure: Conduct any tree cutting, tree inundation (flooding), and prescribed burning from October 1 to March 31. ALSO, when conducting timber harvesting (rather than land clearing for development), implement the Fish and Wildlife Service's Forest Management Guidelines in Indiana Bat Summer Habitat found at <https://www.fws.gov/northeast/pafo/endangered/forestry.html>.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:
_____ (Signature)

SPECIAL NOTE: If you agree to implement the above Avoidance Measure, no further coordination with this agency regarding threatened and endangered species and/or special concern species and resources is required. If you are not able to comply with the Avoidance Measures, you are required to coordinate with this agency - please send project information to this agency for review (see "What to Send" section).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found [here](#). This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).

***Note:** U.S.Fish and Wildlife Service requires applicants to mail project materials to the USFWS PA field office (see AGENCY CONTACT INFORMATION). USFWS will not accept project materials submitted electronically (by upload or email).

Check-list of Minimum Materials to be submitted:

___ 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.

___ A map with the project boundary and/or a basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

In addition to the materials listed above, USFWS REQUIRES the following

___ **SIGNED** copy of a Final Project Environmental Review Receipt

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

___ 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.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <https://conservationexplorer.dcnr.pa.gov/content/resources>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

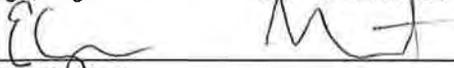
PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Elizabeth Norment
Company/Business Name: Tetra Tech
Address: 301 Ellicott St.
City, State, Zip: Buffalo NY 14203
Phone: (716) 541-9225 Fax: (716) 899-9920
Email: elizabeth.norment@tetratech.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.



applicant/project proponent signature

01/28/2019

date

Attachment B



February 26, 2019

Jason Ryndock
Pennsylvania Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street
P.O. Box 8552
Harrisburg, PA 17105-8552

**RE: Additional Coordination on PNDI File Number 675711
Mariner East II: Pennsylvania Pipeline Project
Modification to Convert HDD to Open Cut Installation
Blair County, Pennsylvania**

Dear Mr. Ryndock:

On behalf of Sunoco Pipeline, L.P. (SPLP), Tetra Tech, Inc. (Tetra Tech) is submitting supplemental materials in response to a Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review (receipt number 675711) for the SPLP Pennsylvania Pipeline Project (Project). The PNDI indicated no impact anticipated from the Pennsylvania (PA) Game Commission or PA Fish and Boat Commission (PAFBC), but the U.S. Fish and Wildlife Service (USFWS) requested avoidance measures regarding tree cutting and the PA Department of Conservation and Natural Resources (PADCNR) required further review to determine the potential impact to the state-endangered plant thick-leaved meadow rue (*Thalictrum coriaceum*). Subsequently, a botanical habitat survey of the proposed construction area was conducted by Tetra Tech on February 9, 2019 to evaluate the habitats encountered in the proposed workspace and assess the suitability for *Thalictrum coriaceum* presence. A habitat survey report, *Piney Creek 16" Reroute Botanical Habitat Assessment* was completed after this field effort and is provided in Attachment A.

SPLP is requesting a major Chapter 105 permit modification from the Pennsylvania Department of Environmental Protection (PADEP) for a change in the installation method for the 16-inch diameter pipeline in Woodbury Township, Blair County. This area was previously reviewed for protected species as a Horizontal Directional Drill (HDD) in a different alignment. The 20" pipeline was installed in the original corridor, but the HDD had several factors including geological constraints that forced the planned installation of the 16" pipe to be reevaluated and changed to a reroute that accommodates conventional open trench construction for most of the proposed route, with supplemental conventional auger bores under roads and streams.

Project Description and Minimization Efforts

The new installation method will involve the open-trench installation of the 16" pipeline, including the crossings of streams S8r, S-M30, and S-M33. Specific locations of proposed impacts to waters of the Commonwealth are detailed in the PADEP Chapter 105 Revised Aerial Site Plans provided in Attachment B. The stream crossings will be done with the appropriate dam and pump bypass installed to convey stream flow across the workspace and outlet downstream within the proposed limit-of-disturbance (LOD), such that work will be conducted in a dry stream channel. After the stream bypass is in place, the trench will be excavated, and the pipe will be installed. In order to efficiently complete all construction activities and minimize resource impacts for the 16-inch pipe, SPLP is proposing a 50-foot-wide LOD across all three impacted streams. Measures to minimize and/or eliminate any scour of the streambank such as using geotextile at the outlet pump or flume will be used. Most stream crossings happen within 12-24 hours, sometimes exceeding that timeframe due to presence of rock or the size of the stream.

Timber mats and bridges will be placed within the travel lane where streams are crossed to avoid soil compaction, allow for trench excavation, segregation of the wetland topsoil and stream substrate material,

and stockpiling of excavated materials in adjacent upland areas. Once the pipes and appropriate trench plugs are installed, the trench will be backfilled, and restored per the approved Erosion and Sediment Control Plans approved by PADEP, including returning the area to pre-existing elevations and hydrology, and revegetated.

Appropriate Best Management Practices (BMPs) for Erosion and Sediment Control, including processes and control devices (e.g. silt fence, filter sock) will be used to avoid any sediment leaving the workspace areas. The revised Erosion and Sediment Control Plan of the proposed open cut crossing is provided as Attachment C.

Project Information Provided

The location of the proposed 16" reroute, the survey results, PNDI receipt 675711, and all relevant previous project correspondence with PADCNr is provided in the report in Attachment A. The location of the Project site and scope of the proposed change to be reviewed is provided in the revised Chapter 105 aerial site plans in Attachment B. The proposed Erosion and Sediment control design and Project installation method is provided in Attachment C.

SPLP appreciates your timely review of this request for the PAFBC's clearance to change the installation method of the Project at this wetland/stream complex crossing. PADEP requires SPLP coordinate with PADCNr to support the modification to SPLP's received PADEP Chapter 105 Water Encroachment and Obstruction permit and U.S. Army Corps of Engineers Section 404 permit. Please contact me by telephone at 716-541-9217 or by e-mail at pat.green@tetratech.com with any questions you may have.

Sincerely,

Tetra Tech, Inc.



Pat Green
Ecological Services Manager

Enclosures: Attachments

cc:

M. Gordon, SPLP
M. Styles, SPLP
B. Schaeffer, Tetra Tech
R. Dingle, Tetra Tech

Attachment A
Botanical Habitat Assessment

To: Jason Ryndock
PA Department of Conservation and Natural Resources

Date: February 7, 2019

Subject: Piney Creek 16" Reroute Botanical Habitat Assessment
PNDI File Number: 675711
Pennsylvania Pipeline Project
[Previous PNDI No. 22275]
Sunoco Logistics, L.P.
Woodbury Township, Blair County, Pennsylvania

Project Description

This habitat assessment report was prepared in response to a potential species of special concern (SOSC) occurrence identified in Pennsylvania Natural Diversity Index (PNDI) Environmental Review Receipt No. 675711 for the Piney Creek 16" reroute (Piney Creek Reroute) which is provided in Attachment A – Agency Coordination. The Piney Creek Reroute is a proposed reroute to the previously permitted Pennsylvania Pipeline Project (Project or PPP) due to a necessary reroute of the Project's 16" pipeline. The proposed Piney Creek Reroute is located in Woodbury Township, Blair County, Pennsylvania (PA), approximately 10 miles east of Frankstown, PA.

Project Background

Large project information was initially provided to the PA DCNR by Tetra Tech in 2014. Mr. Jason Ryndock and Mr. Frederick Sechler of the PA DCNR utilized the initial large project information to define areas of concern (AOCs) where botanical surveys were required for the specific SOSC and communities of concern (COC) listed in the PNDI search receipts 22275, dated January 30, 2014 and Update 22275, dated March 13, 2014. All previously cleared PNDI search receipts are provided in the original botanical survey report titled *Botanical Survey Report PNDI No. 22275 (Update 22275) Pennsylvania Pipeline Project – August 2015 (2015 PPP Botanical Survey Report)*.

A survey for thick-leaved meadow-rue (*Thalictrum coriaceum*) AOC W15 and AOC ALT W5, located in Blair County, Pennsylvania was assigned due to potential habitat suitability within the PA DCNR defined AOC polygons. A locally documented population of *T. coriaceum* was located within the Project buffer and potentially suitable stony woodland habitat may exist within the Project buffer.

AOC W15 and AOC ALT W5 were combined due to their proximity to one another, similarity in target SOSC request, and similar potential habitat throughout each AOC. Areas of Concern W15 and ALT W5 are comprised of five distinct habitat types including: Broadleaf Terrestrial Woodland (BTW), Broadleaf Terrestrial Forest (BTF), CBTF, Riverine Broadleaf Terrestrial Woodland (RBTW), and Terrestrial Herbaceous Opening (THO). AOC W15 and AOC ALT W5 were generally dominated by broadleaf terrestrial woodlands and broadleaf terrestrial forests. Habitats are illustrated on the aerial habitat maps for AOC W8 (2015 PPP Botanical Survey Report). No potential habitat suitability for *T. coriaceum* exists within habitat areas A, B, C, D, H, J, K, or L. Habitat G is considered good potential habitat for *T. coriaceum*. Poor potential habitat suitability for *T. coriaceum* is present within habitats B, D, F, and K. No *T. coriaceum* or any other SOSC was identified within AOC W15 and AOC ALT W5 during the 2014 and subsequent 2015 field investigations (2015 PPP Botanical Survey Report). The lack of substantial habitat suitability for the thick-leaved meadow-rue within AOC W15 and AOC ALT W5 is likely due to a general lack in suitable habitat characteristics and the moderate disturbances within the AOCs. Where potential habitat exists, there are more suitable SOSC specific habitat characteristics and a lower level of anthropologic disturbances.

As stated in the PA DCNR No Impact Determination Clearance Letter, dated January 15, 2016, no impacts were anticipated to *T. coriaceum* or any other SOSC within the PA DCNR defined AOC W15 near Piney Creek because no SOSCs were identified within this AOC (Attachment A – Agency Coordination).

Results

Field investigations conducted on February 6, 2019, were led by Tetra Tech environmental scientist Korey McCluskey, under Wild Plant Management Permit Number 18-624. As illustrated on the Aerial Habitat Maps provided as Figure 1 of Attachment B, the majority of the Piney Creek Reroute occurs within managed agricultural [corn] fields. Botanical habitat assessment field surveys were conducted by two qualified botanists. A 25-foot buffer was applied to the proposed Piney Creek Reroute limit of disturbance (LOD) and potential habitat suitability was assessed. A survey of observable vegetation was conducted but was limited due to the presence of roughly 0-3" of snow and ice during field investigations. Topography, geology, soil conditions, and levels of anthropogenic disturbances were all assessed during the survey effort to aid in the suitability determinations of each identified habitat. Three new habitats were evaluated during the Piney Creek Reroute habitat assessment and are detailed in the Habitat Suitability Table provided as Table 1 of Attachment C.

Habitat ALT F

Habitat ALT F is a broadleaf terrestrial woodland and an extension of the previously surveyed Habitat F. Habitat ALT F is located in a rocky, wooded stream valley of an unnamed tributary to Piney Creek that is tightly bounded by managed agricultural fields (Attachment B - Figure 1). Habitat ALT F has filtered to partial sunlight and is dominated by sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), red oak (*Quercus rubra*), garlic mustard (*Alliaria petiolata*), christmas fern (*Polystichum acrostichoides*), Morrow's honeysuckle (*Lonicera morrowii*), and an unidentified grape species (*Vitis* sp.). Due to the seasonal timing of the field effort for this assessment the species list provided for Habitat F in the 2015 PPP Botanical Survey Report may be more inclusive and indicative of the species present in Habitat ALT F. Habitat ALT F has poor suitability for *T. coriaceum* due to a moderate to high level of anthropogenic disturbances within the habitat and its prevalence of invasive species (Attachment C - Table 1).

Habitat ALT G

Habitat ALT G is a riverine broadleaf terrestrial forest and extends from the previously surveyed Habitat G to the south (Attachment B - Figure 1). Habitat ALT G represents a bouldery, mesic, forested stream valley of Piney Creek. This habitat, unlike Habitat G, is comprised of a relatively intact stand of forest along Piney Creek that has not been recently anthropogenically disturbed. Habitat ALT G is bounded to the east and west by managed agricultural fields. Habitat ALT G has a slightly denser canopy than Habitat G, exhibits filtered sunlight to shaded conditions, and contains numerous sandstone and limestone floats along the wooded slopes down to the Piney Creek floodplain. Habitat ALT G is a mid-successional forest dominated by sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), American elm (*Ulmus americana*), black cherry (*Prunus serotina*), red oak (*Quercus rubra*), garlic mustard (*Alliaria petiolata*), christmas fern (*Polystichum acrostichoides*), Morrow's honeysuckle (*Lonicera morrowii*), Virginia creeper (*Parthenocissus quinquefolia*), and an unidentified grape species (*Vitis* sp.). Due to the seasonal timing of the field effort for this assessment the species list provided for Habitat G in the 2015 PPP Botanical Survey Report may be more inclusive and indicative of the species present in Habitat ALT G. Habitat ALT G has good suitability for *T. coriaceum* due to a lower level of recent

anthropogenic disturbances, the presence of bouldery hillsides with sandstone and limestone floats, mesic conditions, and relatively intact nature of the wooded stream valley (Attachment C - Table 1).

Habitat ALT AG

Habitat ALT AG represents the managed agricultural [corn] fields present along the majority of the proposed Piney Creek Reroute. Habitat ALT AG represents the multiple managed agricultural fields along the proposed Piney Creek Reroute (Attachment B - Figure 1). Habitat ALT AG has full sunlight and is dominated by planted crops. Habitat ALT AG has no suitability for *T. coriaceum* due to a general lack of suitable habitat characteristics (Attachment C - Table 1).

Conclusions

During this botanical habitat assessment, it was determined that Habitat ALT F has poor habitat suitability for *T. coriaceum* due to the degree of disturbances and prevalence of invasive species. Habitat ALT G contains good habitat suitability for *T. coriaceum* due to a lower level of recent anthropogenic disturbances, the presence of bouldery hillsides with sandstone and limestone floats, mesic conditions, and relatively intact nature of the wooded stream valley (Attachment C - Table 1). Habitat ALT AG has no potential habitat suitability for *T. coriaceum* due to a general lack of suitable habitat characteristics. Photographs of each newly evaluated habitat are included in the Habitat Photographs of Attachment D. A current copy of the wild plant management permit for the lead botanist (Korey McCluskey) has been provided as Attachment E.

Attachment A
Agency Coordination

1. PROJECT INFORMATION

Project Name: **Mariner East 2 Piney Creek 16" Reroute**

Date of Review: **1/28/2019 02:56:18 PM**

Project Category: **Energy Storage, Production, and Transfer, Energy Transfer, Pipeline (e.g., gas, oil) -- NEW (construction of new line in a new location)**

Project Area: **6.05 acres**

County(s): **Blair**

Township/Municipality(s): **WOODBURY**

ZIP Code: **16693**

Quadrangle Name(s): **FRANKSTOWN**

Watersheds HUC 8: **Upper Juniata**

Watersheds HUC 12: **Piney Creek**

Decimal Degrees: **40.435380, -78.266172**

Degrees Minutes Seconds: **40° 26' 7.3674" N, 78° 15' 58.2207" W**

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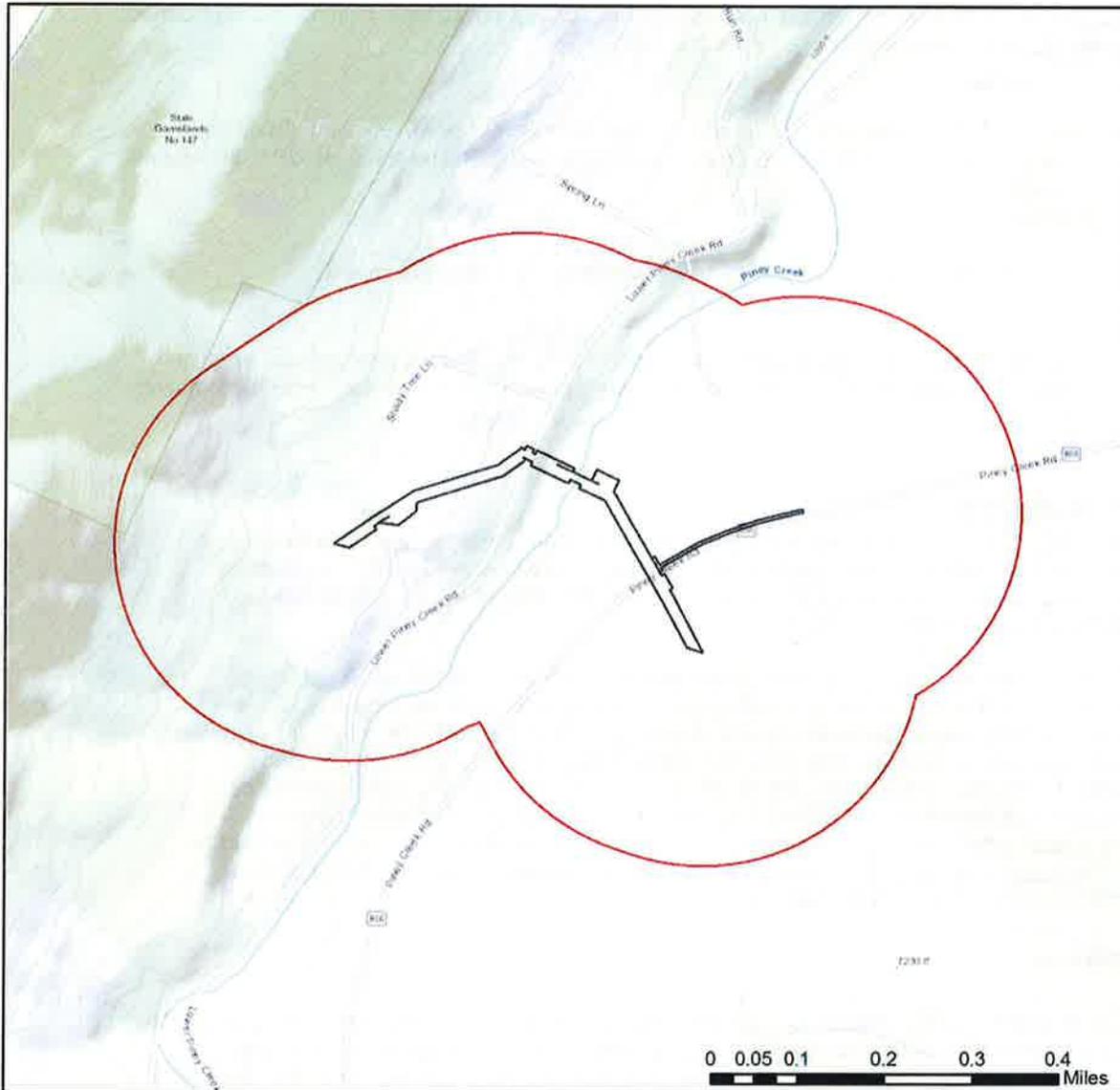


- Project Boundary
- Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community



Mariner East 2 Piney Creek 16" Reroute



- Project Boundary
- Buffered Project Boundary

Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, InCREMENT P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
Sources: Esri, HERE, Garmin, Intermap, InCREMENT P Corp., GEBCO, USGS, FAO, NPS,



RESPONSE TO QUESTION(S) ASKED

Q1: Will the entire project area (including any discharge), plus a 300 feet buffer around the project area, all occur in or on an existing building, parking lot, driveway, road, road shoulder, street, runway, paved area, railroad bed, maintained (periodically mown) lawn, crop agriculture field or maintained orchard?

Your answer is: No

Q2: How many acres of woodland, forest, forested fencerows and trees will be cut, cleared, removed, disturbed or flooded (inundated) as a result of carrying out all aspects or phases of this project? [Round acreages UP to the nearest acre (e.g., 0.2 acres = 1 acre).]

Your answer is: 1 to 10 acres

Q3: Is tree removal, tree cutting or forest clearing necessary to implement all aspects of this project?

Your answer is: Yes

Q4: How many acres of woodland, forest, forested fencerows and trees will be cut, cleared, removed, disturbed or flooded (inundated) as a result of carrying out all aspects or phases of this project? [Round acreages UP to the nearest acre (e.g., 0.2 acres = 1 acre).]

Your answer is: 1 to 10 acres

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jurisdictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

Conservation Measure: Potential impacts to state and federally listed species which are under the jurisdiction of both the Pennsylvania Game Commission (PGC) and the U.S. Fish and Wildlife Service may occur as a result of this project. As a result, the PGC defers comments on potential impacts to federally listed species to the U.S. Fish and Wildlife Service. No further coordination with the Pennsylvania Game Commission is required at this time.

PA Department of Conservation and Natural Resources

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

DCNR Species: (Note: The Pennsylvania Conservation Explorer tool is a primary screening tool, and a desktop review may reveal more or fewer species than what is listed below. After desktop review, if a botanical survey is required by DCNR, we recommend the DCNR Botanical Survey Protocols, available here:

<https://conservationexplorer.dcnr.pa.gov/content/survey-protocols>)

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window
Thalictrum coriaceum	Thick-leaved Meadow-rue	Endangered	Threatened	Flower late May - June

PA Fish and Boat Commission

RESPONSE:

No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE:

Avoidance Measure: Conduct any tree cutting, tree inundation (flooding), and prescribed burning between November 15 and March 31. ALSO, when conducting timber harvesting (rather than land clearing for development), implement the Fish and Wildlife Service's Forest Management Guidelines for Indiana Bat Swarming Habitat found at <https://www.fws.gov/northeast/pafo/endangered/forestry.html>.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:

(Signature)

Avoidance Measure: Conduct any tree cutting, tree inundation (flooding), and prescribed burning from October 1 to March 31. ALSO, when conducting timber harvesting (rather than land clearing for development), implement the Fish and Wildlife Service's Forest Management Guidelines in Indiana Bat Summer Habitat found at <https://www.fws.gov/northeast/pafo/endangered/forestry.html>.

As the project proponent or applicant, I certify that I will implement the above Avoidance Measure:

(Signature)

SPECIAL NOTE: If you agree to implement the above Avoidance Measure, no further coordination with this agency regarding threatened and endangered species and/or special concern species and resources is required. If you are not able to comply with the Avoidance Measures, you are required to coordinate with this agency - please send project information to this agency for review (see "What to Send" section).

* Special Concern Species or Resource - Plant or animal species classified as rare, tentatively undetermined or candidate as well as other taxa of conservation concern, significant natural communities, special concern populations (plants or animals) and unique geologic features.

** Sensitive Species - Species identified by the jurisdictional agency as collectible, having economic value, or being susceptible to decline as a result of visitation.

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email* the following information to the agency(s). Instructions for uploading project materials can be found [here](#). This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies. Alternatively, applicants may email or mail their project materials (see AGENCY CONTACT INFORMATION).

***Note:** U.S.Fish and Wildlife Service requires applicants to mail project materials to the USFWS PA field office (see AGENCY CONTACT INFORMATION). USFWS will not accept project materials submitted electronically (by upload or email).

Check-list of Minimum Materials to be submitted:

___ 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.

___ A map with the project boundary and/or a basic site plan (particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)

In addition to the materials listed above, USFWS REQUIRES the following

___ **SIGNED** copy of a Final Project Environmental Review Receipt

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

___ 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.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at <https://conservationexplorer.dcnr.pa.gov/content/resources>.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: Elizabeth Norment
Company/Business Name: Tetra Tech
Address: 301 Ellicott St.
City, State, Zip: Buffalo NY 14203
Phone: (716) 541-9225 Fax: (716) 899-9920
Email: elizabeth.norment@tetratech.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.



applicant/project proponent signature

01/28/2019

date

January 15, 2016

PNDI Large Project Number: 22275

Preston Smith

Korey McCluskey

Tetra Tech

661 Andersen Drive

Pittsburgh, PA 15220

Email: preston.smith@tetrattech.com, Korey.McCluskey@tetrattech.com (hard copy not to follow)

Re: Sunoco Mariner East 2 Pipeline

Trans-Pennsylvania (multiple counties and municipalities)

Dear Mr. Smith and Mr. McCluskey,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Large Project Number 22275 for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources of concern under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only. **The proposed project will affect State Forest Lands within the Gallitzin and Tuscarora State Forest Districts.** Further coordination with the Bureau of Forestry is required (see "Projects on State Forest Lands").

No Impact Anticipated per Survey (with Avoidance/Mitigation/Monitoring)

PNDI records indicate species or resources under DCNR's jurisdiction are located in the vicinity of the project. On March 13, 2014, DCNR requested a botanical survey for thirty-one state-listed species. TetraTech, Inc. conducted extensive botanical surveys in 2014 and 2015 throughout specific Areas of Concern (AOC) within the proposed pipeline project corridor. Sixty-three separate occurrences of PA Threatened & Endangered and PA plant species of concern were identified. Eight of the sixty-three occurrences were identified outside of the AOC's. Below is a summary of the botanical survey findings with anticipated impacts, recommended conservation actions, and final DCNR determinations.

AOC W10

One population of *Andropogon glomeratus* (Bushy Bluestem; PA Proposed Rare) was identified within the proposed limit-of-disturbance. Impacts to this population are unavoidable. However, it is unlikely this population is naturally occurring. Therefore, it is not a conservation concern. No mitigation is required.

DCNR Determination: No Impact Anticipated

Area between AOC W10 and AOC ALT W1

Four populations of *A. glomeratus* were documented within this area. Pop. 3 is located directly within the proposed right-of-way. Impacts to this population are unavoidable. However, it is unlikely this population is naturally occurring. Therefore, it is not a conservation concern. No mitigation is required.

Three populations of *Viola appalachiensis* (Appalachian Blue Violet; PA Proposed Rare) were also identified. Implementation of limit-of-disturbance (LOD) reductions or "neck downs" of the proposed temporary right-of-way (ROW) will avoid impacts to Pop. 1 and minimize impacts to Pop. 2 and Pop. 3. In addition, orange construction fencing will be installed to further safeguard Pop. 2. This species is fairly disturbance tolerant, and the majority of the population will likely persist.

One population of *Actaea podocarpa* (Mountain Bugbane; PA Proposed Rare) was found at a stream crossing location and cannot be directly avoided. Sunoco Pipeline, L.P. (SPLP) proposes to sod-excavate this population and restore the area with the same sod upon restoration (all within 24-48 hours). A botanist will be present on site to monitor all activities from pre-construction to restoration. The success of the restoration will be monitored two days following restoration activities and again

at 4 and 8 weeks (or, if sod-excavation is conducted outside the growing season, a similar monitoring schedule at the earliest appropriate time). A monitoring report will be submitted to DCNR for review detailing the success of the sod-excavation.

DCNR Determination: No Impact Anticipated (*A. glomeratus*); No Impact Anticipated per Avoidance (*V. appalachiensis*); No Impact Anticipated per Avoidance with Monitoring (*A. podocarpa*)

AOC ALT W1

Four populations of *A. glomeratus* and two populations of *Scirpus ancistrochaetus* (Northeastern Bulrush; PA Proposed Threatened, Federally Listed) were identified within this area. *A. glomeratus* Pop. 5 and *S. ancistrochaetus* Pop. 1 will be avoided by HDD bore. DCNR will defer all management recommendations for the *S. ancistrochaetus* populations to U.S. Fish and Wildlife Service.

DCNR Determination: No Impact Anticipated (*A. glomeratus*); defer to USFWS (*S. ancistrochaetus*)

AOC W14

Twenty populations of *Antennaria virginica* were identified within AOC W14. Populations 1, 2, 11, 12, 13, 14, 18, 19, and 20 were observed outside of the proposed LOD and will not be impacted. Populations 4, 5, 6, 10, and 15 were observed within the proposed LOD, but will be avoided by narrowing the ROW.

Populations 3, 8, and 16 are unavoidable. A long temporary LOD reduction will be utilized at Pop. 17 to reduce impacts. In addition, minimal impacts will occur to Pop. 7 and Pop. 9. Soil segregation and replacement will be used to mitigate impacts to these populations. SPLP has agreed to conduct monitoring of these populations for three (3) years annually to document recolonization and success of the minimization and mitigation strategies.

DCNR determination: No Impact Anticipated per Avoidance/Mitigation/Monitoring

AOC E1

Five populations of *Carex shortiana* (Short's Sedge; PA Proposed Rare) were identified within AOC E1. Populations 1, 2, and 3 are located outside LOD, and will not be impacted. Populations 4 and 5 are located within LOD, but a HDD bore will be utilized to travel beneath these populations, avoiding any potential impacts.

DCNR Determination: No Impact Anticipated per Avoidance

AOC E2

Six populations of *Polygala polygama* (Racemed Milkwort; PA Proposed Endangered) were documented within AOC E2 on Tuscarora State Forest. Populations 1, 2, 3, and 5 are located within the proposed temporary ROW for the project. Populations 4 and 6 are located outside of the proposed LOD and will not be impacted. Minimal impacts to populations 1, 2, 3, and 5 are expected, but will be further minimized with a pipeline realignment and LOD shift through the state forest. This route shift was routed to the south of the known populations to avoid the majority of impacts and has already been agreed upon by the PA DCNR and the Tuscarora SF District Forester. According to TetraTech, approximately 5-15 individuals will be impacted by this project (7 -22% of the population).

DCNR Determination: Since this population occurs on state forest land, DCNR Natural Heritage Section defers to and recommends further coordination with the Tuscarora State Forest District Forester Gene Odato and Kelly Sitch of DCNR.

AOC E3

Six populations of *Ribes missouriensis* (Missouri Gooseberry; PA Endangered) were identified within AOC E3. Populations 1, 2, and 3 were observed outside of the proposed LOD and therefore will not be impacted. Pop. 5 is located in the proposed corridor, but will be avoided with the implementation of LOD reduction or "neck downs" of the temporary ROW. Minimal impacts to Pop. 4 and Pop. 6 are anticipated, with narrow "neck downs" of the temporary ROW and relocation of proposed additional work spaces serving as minimization measures.

DCNR Determination: No Impact Anticipated per Avoidance

conserve

sustain

enjoy

AOC E4

One population of *R. missouriensis* was documented within AOC E4. It is outside the LOD and will not be impacted by this project.

DCNR Determination: No Impact Anticipated per Avoidance

AOC E6

Four populations of *Opuntia humifusa* (Eastern Prickly-pear Cactus; PA Rare) were identified within AOC E6. All four populations were observed outside of the proposed LOD and therefore will not be impacted.

DCNR Determination: No Impact Anticipated per Avoidance

AOC E14

A survey for *Carex aquatilis* (Water Sedge; PA Threatened) was conducted in AOC E14 in Berks County, PA. A population of *C. aquatilis* was previously documented at this site. No *C. aquatilis* was found within AOC E14, but *C. stricta* (tussock sedge), a similarly looking species, was identified. A voucher specimen was sent to Carnegie Museum for identification confirmation. The sedge was confirmed to be *C. stricta*. Therefore, no impacts to any species within DCNR's jurisdiction within AOC E14 are anticipated.

DCNR Determination: No Impact Anticipated per Survey

AOC E17

Two populations of *Desmodium nuttallii* (Nuttall's Tick-trefoil; PA Proposed Threatened) were identified within AOC E17. These populations were observed outside of the proposed LOD and will not be impacted.

DCNR Determination: No Impact Anticipated per Avoidance

AOC E19

Three populations of *Packera anonyma* (Plain Ragwort; PA Rare) and two populations of *Phemeranthus teretifolius* (Round-leaved Fame-flower; PA Threatened) were found within AOC E19. A serpentine grassland community of concern was also delineated. The populations and associated plant community are located outside of the proposed LOD and will not be impacted.

DCNR Determination: No Impact Anticipated per Avoidance

Per SPLP's agreements to avoid, minimize impacts, and conduct mitigation and monitoring of the PA Threatened and Endangered and PA plant species of concern as described above, DCNR has determined that no impact is likely. DCNR looks forward to receiving monitoring reports for the *Actaea podocarpa* and *Antennaria virginica* populations.

PROJECTS ON STATE FOREST LANDS:

A portion of this project takes place on the Tuscarora State Forest (District 3). The DCNR Bureau of Forestry's *State Forest Resource Management Plan* sets forth guidelines for ecologically-sound management of State Forest Lands and resources including protection of wetlands, wildlife, native wild plants and invasive species management. **This letter applies to PNDI impacts only and does not authorize the initiation of any work on State Forest Lands. Further coordination with the Bureau of Forestry is required.** If you have not already done so, please contact Gene Odato, District Forester for Tuscarora State Forest, at 717-536-3191, and Terrence G. Stemmler, District Forester for Gallitzin State Forest at 814-472-1862, for additional information.

conserve

sustain

enjoy

DCNR recommends the following steps to help prevent the spread of invasive species:

- The area of disturbance should be minimized to the fullest extent that would allow for construction. This will help to lessen the area of soil and vegetation disturbance associated with this project.
- If possible, please clean all construction equipment and vehicles thoroughly (especially the undercarriage and wheels) before they are brought on site. This will remove invasive plant seeds from the equipment and undercarriages of the vehicles that may have been picked up at other sites.
- Avoid using seed mixes that include invasive plant species (e.g. crown vetch) to re-vegetate the area. Please also attempt to use weed-free straw or hay mixes when possible. More information about Pennsylvania invasive plants can be found here: <http://www.dcnr.state.pa.us/conservationscience/invasivespecies/index.htm>

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 Ecological Information Specialists, Jason Ryndock (717-705-2822; c-jryndock@pa.gov) or Frederick Sechler (717-705-2823; c-frsechle@pa.gov).

Sincerely,

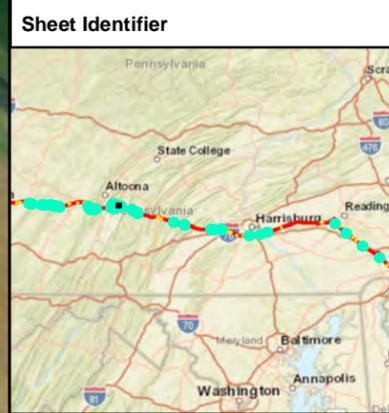


Greg Podnieszinski, Section Chief
Natural Heritage Section, DCNR Bureau of Forestry

Attachment B
Figure 1 - Aerial Habitat Map



- Legend**
- Piney Creek 16" Reroute Botanical Survey Area
 - Previously Permitted Botanical Survey Corridor
 - Area of Concern
- Habitat Type**
- Agriculture or Fallow Field
 - Broadleaf Terrestrial Forest
 - Broadleaf Terrestrial Woodland
 - Riverine Broadleaf Terrestrial Forest
 - Riverine Broadleaf Terrestrial Woodland



AOC W15/ALT W5
FIGURE 1
AERIAL HABITAT MAP
PINEY CREEK 16" REROUTE
PENNSYLVANIA PIPELINE PROJECT
SUNOCO LOGISTICS, L.P.
BLAIR COUNTY, PA



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

PGH_P\GIS\SUNOCO\MARINER_EAST_2\PIXO\PENNSYLVANIA_PIPELINE_BOTANICAL\HABITAT_20160207_AKD_020719_TT

Attachment C
Table 1 – Habitat Suitability Table

Table 1.
Habitat Suitability Table

Area of Concern (AOC)	PA DCNR AOC Notes	Habitat Area	Habitat Type	Northing	Easting	Suitable Habitat Present ¹ / Plants Present ²
						<i>Thalictrum coriaceum</i>
AOC W15 & ALT W5	<i>T. coriaceum</i> population located within project buffer; potential stony woodland habitat.	A	Broadleaf Terrestrial Woodland (BTW)	40.43332	-78.29377	None / No
		B	Broadleaf Terrestrial Forest (BTF)	40.43197	-78.28925	None / No
		C	Coniferous - Broadleaf Terrestrial Forest (CBTF)	40.43100	-78.28598	None / No
		D	Broadleaf Terrestrial Forest (BTF)	40.43275	-78.28076	None / No
		E	Broadleaf Terrestrial Forest (BTF)	40.43462	-78.27389	Poor / No
		F	Broadleaf Terrestrial Woodland (BTW)	40.43364	-78.26860	Poor / No
		G	Riverine Broadleaf Terrestrial Woodland (RBTW)	40.43298	-78.26640	Good / No
		H	Terrestrial Herbaceous Opening (THO)	40.42974	-78.25163	None / No
		I	Broadleaf Terrestrial Forest (BTF)	40.42813	-78.24357	Poor / No
		J	Broadleaf Terrestrial Woodland (BTW)	40.42631	-78.23554	None / No
		K	Broadleaf Terrestrial Forest (BTF)	40.42418	-78.29616	None / No
		L	Terrestrial Herbaceous Opening (THO)	40.41662	-78.30242	None / No
		ALT F	Broadleaf Terrestrial Woodland (BTW)	40.43429	-78.26932	Poor / -
		ALT G	Riverine Broadleaf Terrestrial Forest (RBTW)	40.43511	-78.26509	Good / -
		ALT AG	Agriculture / Fallow Field (AG/FF)	40.43494	-78.26751	None / -
		40.43347	-78.26319			

¹ **Suitable Habitat Present:** None – No potential habitat present; Good – Some good potential habitat present; Moderate – some moderate potential habitat present; Poor – some poor potential habitat present; Possible – Possibly some potential habitat present.

*2019 Habitat Assessment designations were assigned outside of the growing season and recommended survey window for the *T. coriaceum*, therefore habitat designations were assigned based on a survey of visible vegetative, geologic, and apparent habitat characteristics.

	Habitats that were surveyed during the 2014 and 2015 survey field investigations; <u>not</u> revisited during the 2019 Habitat Assessment of AOC W15.
	Poor Suitability
	Moderate Suitability
	Good Suitability

² **Plants Present:** Presence / Absence surveys were not conducted for the alternate habitats surveyed for the Piney Creek 16" Reroute because the habitat assessment was conducted outside of the appropriate survey window for the *T. coriaceum*.

Attachment D
Habitat Photographs



Habitat ALT. F – Represents the Broadleaf Terrestrial Woodland (BTW) habitat present along the northern bank of an unnamed tributary to Piney Creek, where the proposed modification will deviate from the original route. View to the east-southeast. 02/06/2019.



Habitat ALT. F – Represents the Broadleaf Terrestrial Woodland (BTW) habitat present along the northern bank of an unnamed tributary to Piney Creek. View to the northwest. 02/06/2019.



Habitat ALT. G – Represents the riverine mesic broadleaf terrestrial forest (RBTF) habitat present along both sides of Piney Creek where the proposed modification will cross the creek. View to the east across the Piney Creek stream valley. 02/06/2019.



Habitat ALT. G – Represents the riverine mesic broadleaf terrestrial forest (RBTF) habitat present along both sides of Piney Creek. View to the north. 02/06/2019.



Habitat ALT. G – Represents the riverine mesic broadleaf terrestrial forest (RBTF) habitat present along both sides of Piney Creek. View to the west-northwest at the boulder hillside. 02/06/2019.



Habitat ALT. G – Represents the riverine mesic broadleaf terrestrial forest (RBTF) habitat present along both sides of Piney Creek. View to the south-southeast along Piney Creek. 02/06/2019.



Habitat ALT. G – Represents the riverine mesic broadleaf terrestrial forest (RBTF) habitat present along both sides of Piney Creek. View to the southwest, from the eastern side of Piney Creek. 02/06/2019.



Habitat ALT. AG – Represents the managed agricultural (AG/FF) habitat present along the proposed reroute on either side of Habitat ALT. G. View to the northeast. 02/06/2019.



Habitat ALT. AG – Represents the managed agricultural (AG/FF) habitat present along the proposed reroute on either side of Habitat ALT. G. View to the northwest. 02/06/2019.

Attachment E
Wild Plant Management Permit

WILD PLANT MANAGEMENT PERMIT

Date: April 3, 2018

Permit No. 18-624

THIS PERMIT IS ISSUED TO:

Korey McCluskey for collection of Pennsylvania Endangered and Threatened plant species for
submission as voucher specimens while conducting botanical studies and research in Pennsylvania.

THE PERMITTEE MUST CARRY THIS PERMIT DURING THE REMOVAL, COLLECTION, OR TRANSPLANTING OF PA
ENDANGERED AND PA THREATENED PLANT SPECIES AND WILL PRESENT THIS PERMIT FOR INSPECTION UPON
REQUEST. THE PERMITTEE MUST ALSO COMPLY WITH CHAPTER 45, SECTION 47 AND 48 RELATING TO
REPORT INFORMATION.

PERMIT CONDITIONS:

Vouchers are to be deposited in an accredited institution. Notify land managers before conducting
permitted activities. Permittee shall report results to the Bureau of Forestry, Ecological Services.
Land owner permission must be acquired before conducting work.



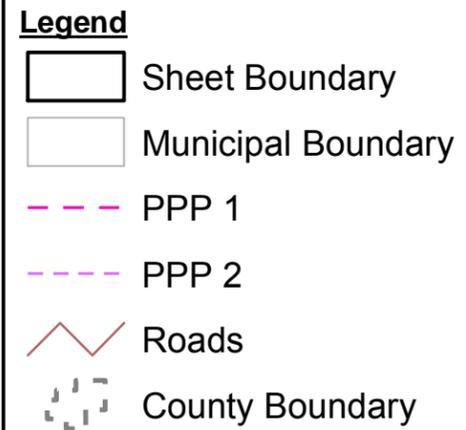
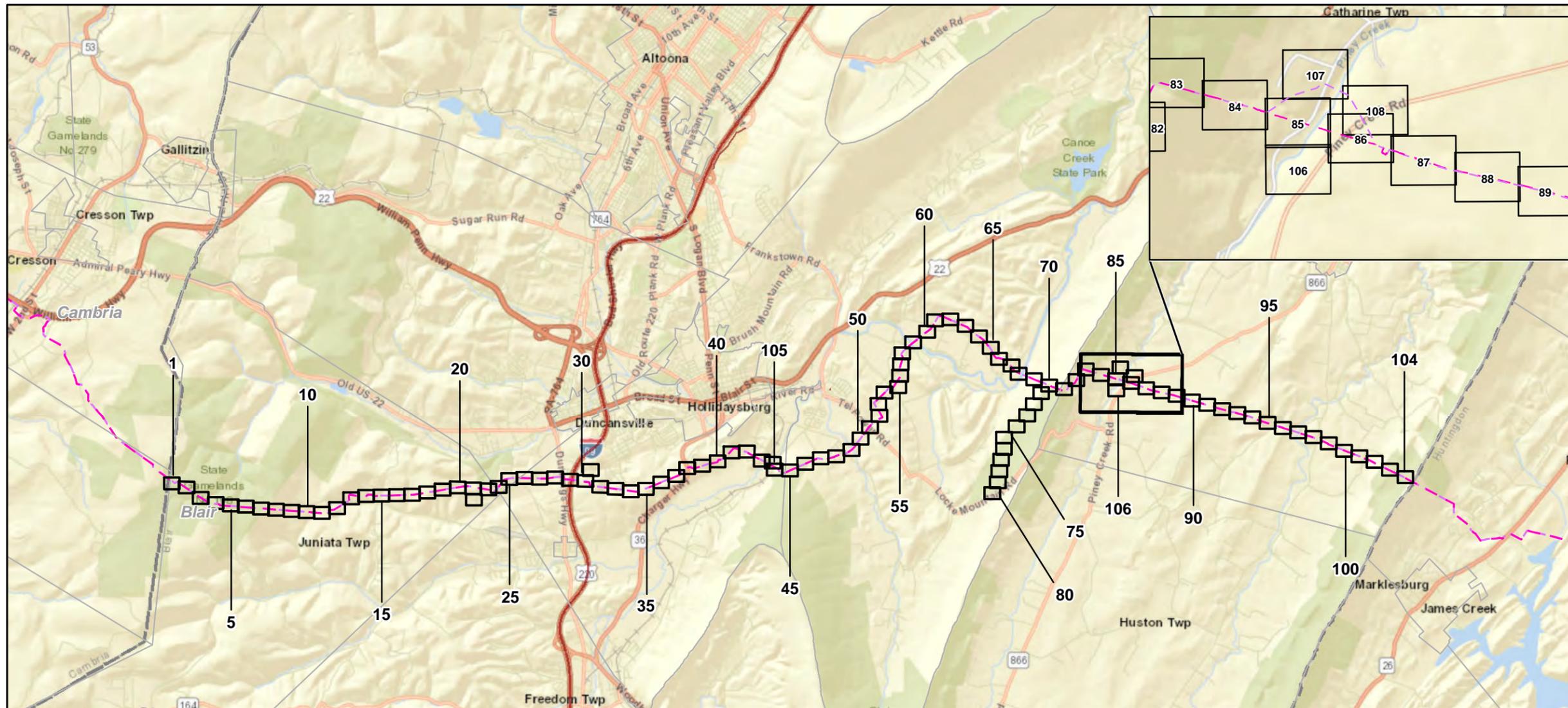
DCNR, BUREAU OF FORESTRY, WILD PLANT PROGRAM MANAGER

THIS PERMIT WILL EXPIRE **APRIL 3, 2019**

NONTRANSFERRABLE

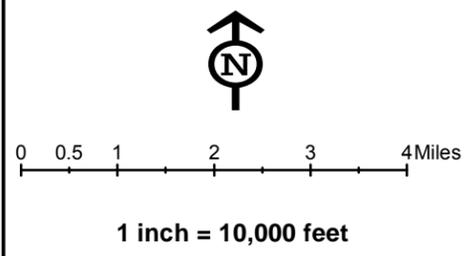
THIS PERMIT MAY BE REVOKED FOR GOOD CAUSE.

Attachment B
Revised PADEP Chapter 105 Site Plan Sheets



Mapset Legend

Sheet Boundary	Permanent ROW	ME1 12" Pipeline	Existing Water Line	PEM Extension
Site Specific Drawing	Temporary ROW	12" ME1 Permanent ROW	Stream Photo	PFO Extension
PPP 1	ATWS	8" Centerline	PEM Photo	PSS Extension
PPP 2	Permanent Access Road	8" Pipeline Maintenance Corridor	PFO Photo	PEM Wetland
PPP 1, Bore	Temporary Access Road	Existing Buried Cable	PSS Photo	PFO Wetland
PPP 1, HDD	ROW - Travel LOD (Travel Lane)	Existing Electric Line	Ephemeral Stream	PSS Wetland
PPP 2, Bore	ROW - Travel and Clearing LOD (Clearing LOD)	Existing Fiberoptic Cable	Intermittent Stream	Pond
PPP 2, HDD	Station LOD	Existing Gas Line	Perennial Stream	Municipal Boundary
Pullback String	Hay Bale Discharge (See E&S Plan, Att 12)	Existing Phone Line	Chapter 105 Floodway	Parcels
Bore Pits	Direct Discharge (See E&S Plan, Att 12)	Existing Sanitary Sewer	Waived Ch. 105 Floodway	Contours
Existing Block Valve	Water Source (See E&S Plan, Att 12)	Existing Septic System	Ch. 106 Floodplain Fringe	Roads
New Block Valve		Existing Storm Sewer		
Block Valve Setting LOD		Existing TV Line		
Permanent Easement (no surface disturbance)		Existing Utility (unknown)		



Site Plan Sheet Key for the Sunoco Pennsylvania Pipeline Project, Blair County, PA.
Sheet 1 of 1

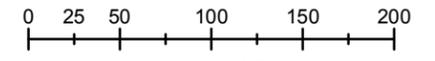
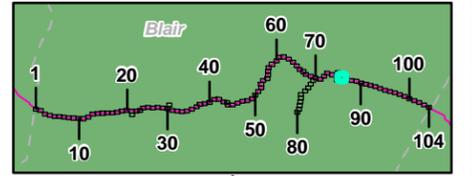
Prepared By: **TETRA TECH** **Date:** 1/2019

Base Map: ESRI ArcGIS Online, Roads from NRCS Geospatial Data Giveaway, 100-Year Floodplain from FEMA National Flood Hazard Layer, downloaded 10/2015. Coordinate System: NAD 83 Stateplane, PA South, Feet

P:\GIS\Projects\1121C5958-PPP\7\XD\Permits\CountyPermits\Blair\County\SheetKey_4

BAT CLEARING RESTRICTION AREA
 No Tree Clearing from 4/1 - 11/14

- Legend**
- Sheet Boundary
 - PPP 1
 - PPP 2
 - PPP 1, Bore
 - PPP 1, Flexbor
 - PPP 1, HDD
 - PPP 2, Bore
 - PPP 2, Flexbor
 - PPP 2, HDD
 - Pullback String
 - Permanent Easement (no surface disturbance)
 - Permanent ROW
 - Temporary ROW
 - ATWS
 - Permanent Access Road
 - Temporary Access Road
 - ROW-Travel LOD
 - ROW-Travel and Clearing LOD
 - Existing Block Valve
 - New Block Valve
 - Block Valve Setting LOD
 - Station LOD
 - Bore Pits
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - Pond
 - Ephemeral Stream
 - Intermittent Stream
 - Perennial Stream
 - Chapter 105 Floodway
 - Waived Floodway
 - Ch. 106 Floodplain Fringe



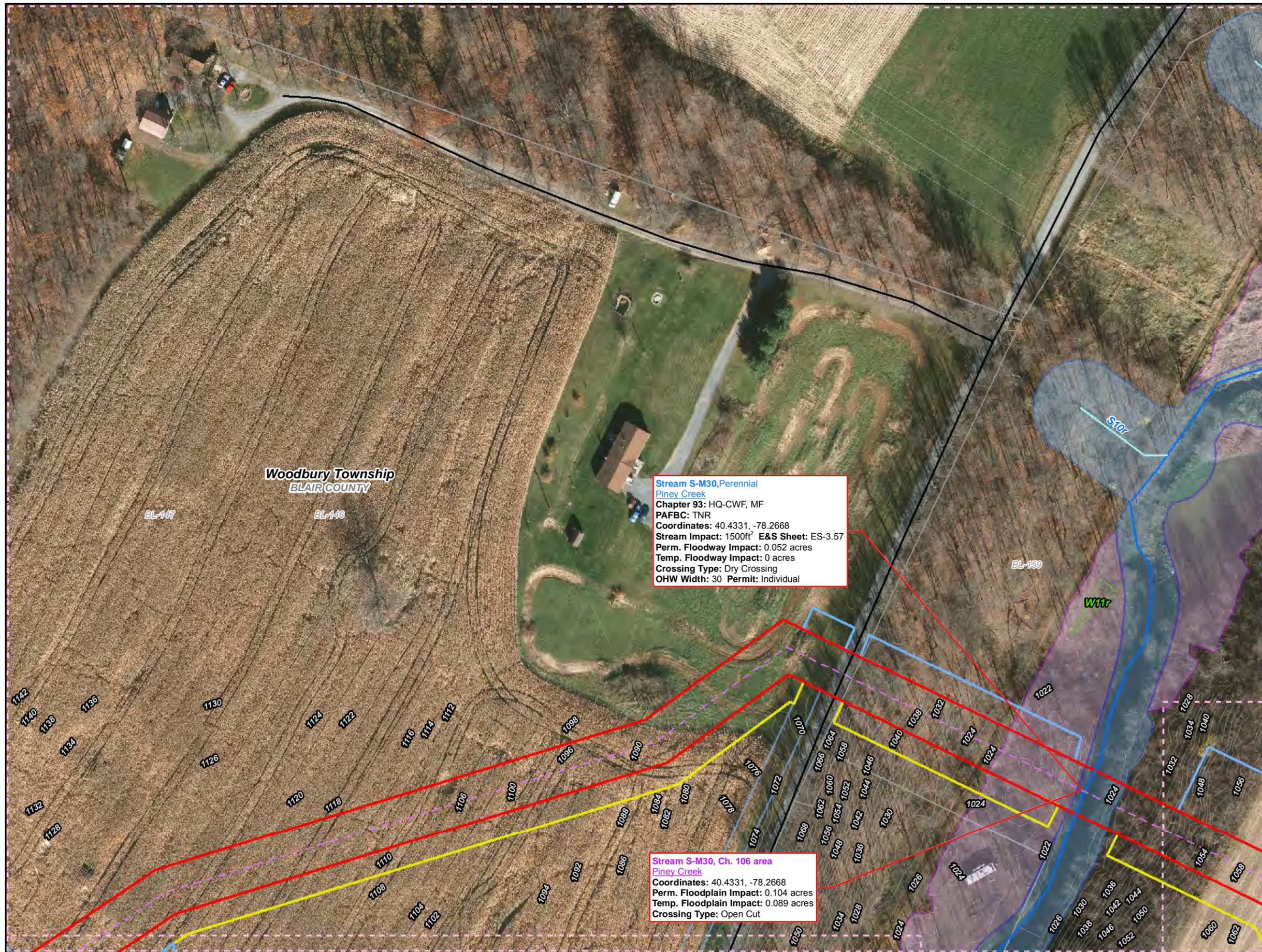
1 inch = 100 feet

**Site Plan for the Sunoco
 Pennsylvania Pipeline Project,
 Blair County, PA.**
 Sheet 86 of 108

Prepared By:	Date:
TETRA TECH	1/2019

Base Map: SPLP 2014-2016, Roads from NRCS Geo-spatial Data Giveaway, 100-Year Floodplain from FEMA NFHL, downloaded 9/2016. Aquatics, TT 2013-2018.
 Coordinate System: NAD 83 Stateplane, PA South, Feet

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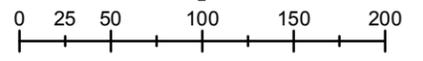
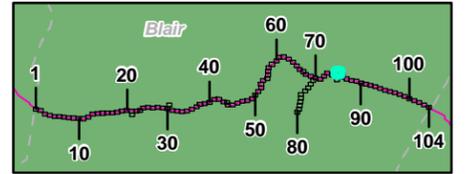
Woodbury Township
BLAIR COUNTY

Stream S-M30, Perennial
Piney Creek
Chapter 93: HQ-CWF, MF
PAFBC: TNR
Coordinates: 40.4331, -78.2668
Stream Impact: 1500ft² E&S Sheet: ES-3.57
Perm. Floodway Impact: 0.052 acres
Temp. Floodway Impact: 0 acres
Crossing Type: Dry Crossing
OHW Width: 30 Permit: Individual

Stream S-M30, Ch. 106 area
Piney Creek
Coordinates: 40.4331, -78.2668
Perm. Floodplain Impact: 0.104 acres
Temp. Floodplain Impact: 0.089 acres
Crossing Type: Open Cut

Legend

- Sheet Boundary
- PPP 1
- PPP 2
- PPP 1, Bore
- PPP 1, Flexbor
- PPP 1, HDD
- PPP 2, Bore
- PPP 2, Flexbor
- PPP 2, HDD
- Pullback String
- Permanent Easement (no surface disturbance)
- Permanent ROW
- Temporary ROW
- ATWS
- Permanent Access Road
- Temporary Access Road
- ROW-Travel LOD
- ROW-Travel and Clearing LOD
- Existing Block Valve
- New Block Valve
- Block Valve Setting LOD
- Station LOD
- Bore Pits
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Pond
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- Chapter 105 Floodway
- Waived Floodway
- Ch. 106 Floodplain Fringe



1 inch = 100 feet

Site Plan for the Sunoco
Pennsylvania Pipeline Project,
Blair County, PA.
Sheet 107 of 108

Prepared By:



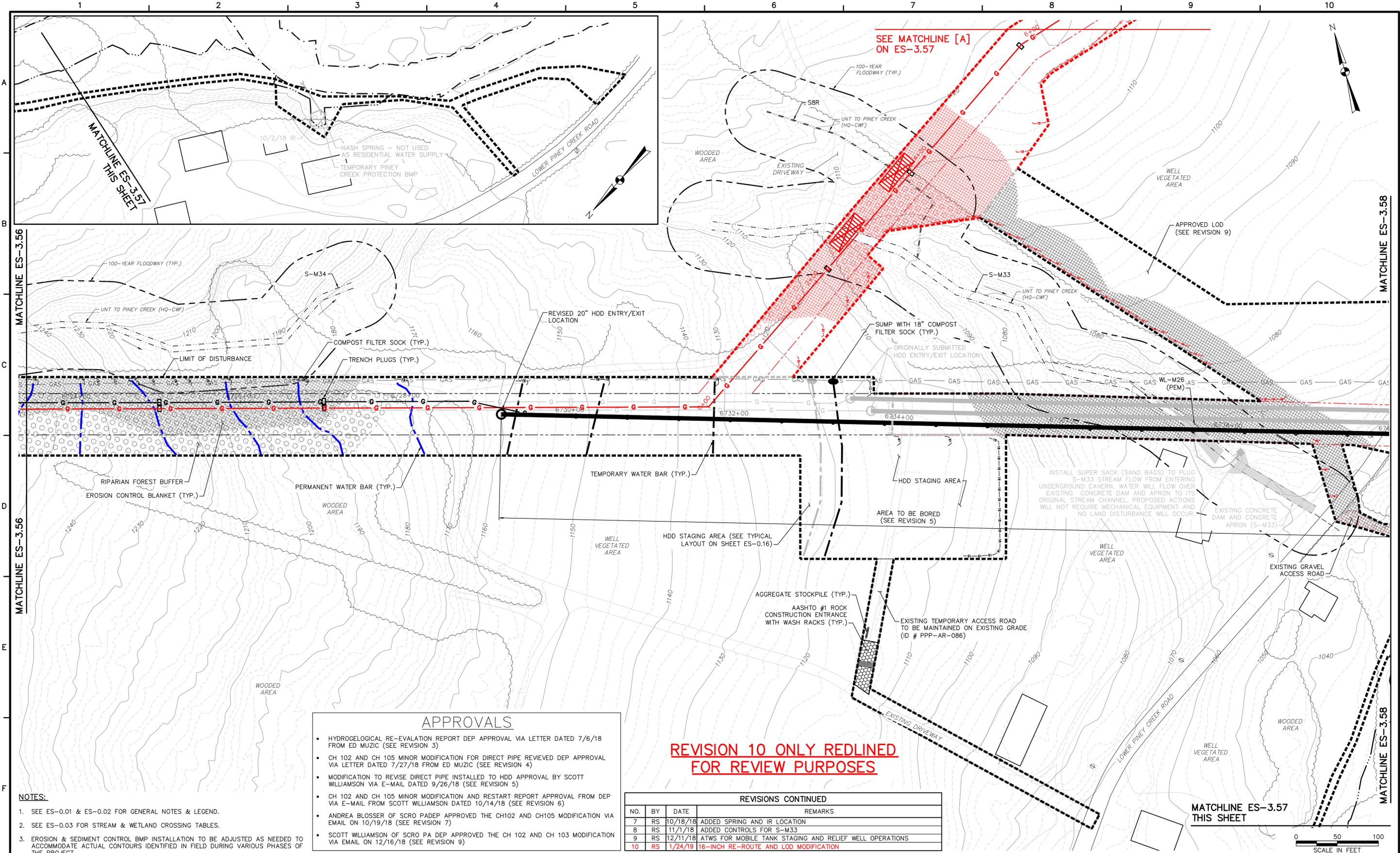
Date:

1/2019

Base Map: SPLP 2014-2016, Roads from NRCS Geo-spatial Data Giveaway, 100-Year Floodplain from FEMA NFHL, downloaded 9/2016. Aquatics, TT 2013-2018.
Coordinate System: NAD 83 Stateplane, PA South, Feet

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Attachment C
Revised Erosion and Sediment Control Plan Sheets



SEE MATCHLINE [A]
ON ES-3.57

**REVISION 10 ONLY REDLINED
FOR REVIEW PURPOSES**

APPROVALS

- HYDROGEOLOGICAL RE-EVALUATION REPORT DEP APPROVAL VIA LETTER DATED 7/6/18 FROM ED MUZIC (SEE REVISION 3)
- CH 102 AND CH 105 MINOR MODIFICATION FOR DIRECT PIPE REVIEWED DEP APPROVAL VIA LETTER DATED 7/27/18 FROM ED MUZIC (SEE REVISION 4)
- MODIFICATION TO REVISE DIRECT PIPE INSTALLED TO HDD APPROVAL BY SCOTT WILLIAMSON VIA E-MAIL DATED 9/26/18 (SEE REVISION 5)
- CH 102 AND CH 105 MINOR MODIFICATION AND RESTART REPORT APPROVAL FROM DEP VIA E-MAIL FROM SCOTT WILLIAMSON DATED 10/14/18 (SEE REVISION 6)
- ANDREA BLOSSER OF SCRO PADEP APPROVED THE CH102 AND CH105 MODIFICATION VIA EMAIL ON 10/19/18 (SEE REVISION 7)
- SCOTT WILLIAMSON OF SCRO PA DEP APPROVED THE CH 102 AND CH 103 MODIFICATION VIA EMAIL ON 12/16/18 (SEE REVISION 9)

NOTES:

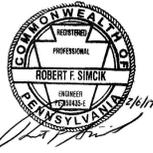
1. SEE ES-0.01 & ES-0.02 FOR GENERAL NOTES & LEGEND.
2. SEE ES-0.03 FOR STREAM & WETLAND CROSSING TABLES.
3. EROSION & SEDIMENT CONTROL BMP INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.

REVISIONS CONTINUED				
NO.	BY	DATE	REMARKS	
7	RS	10/18/18	ADDED SPRING AND IR LOCATION	
8	RS	11/1/18	ADDED CONTROLS FOR S-M33	
9	RS	12/11/18	ATWS FOR MOBILE TANK STAGING AND RELIEF WELL OPERATIONS	
10	RS	1/24/19	16-INCH RE-ROUTE AND LOD MODIFICATION	



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

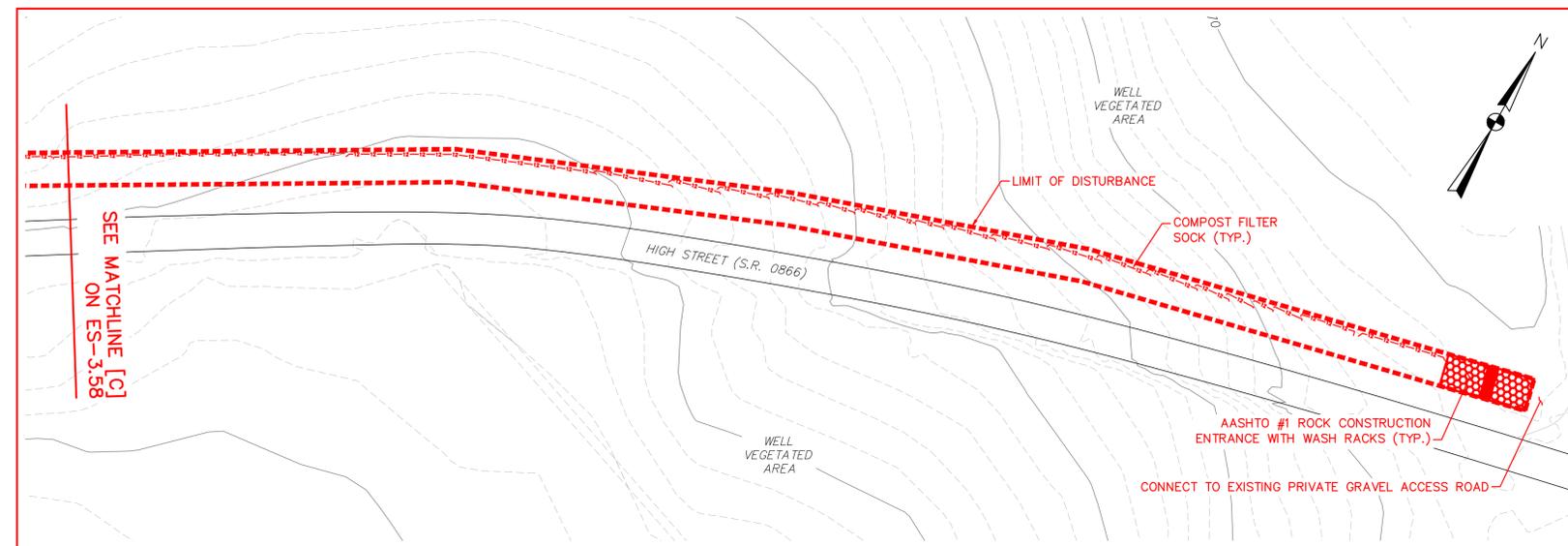
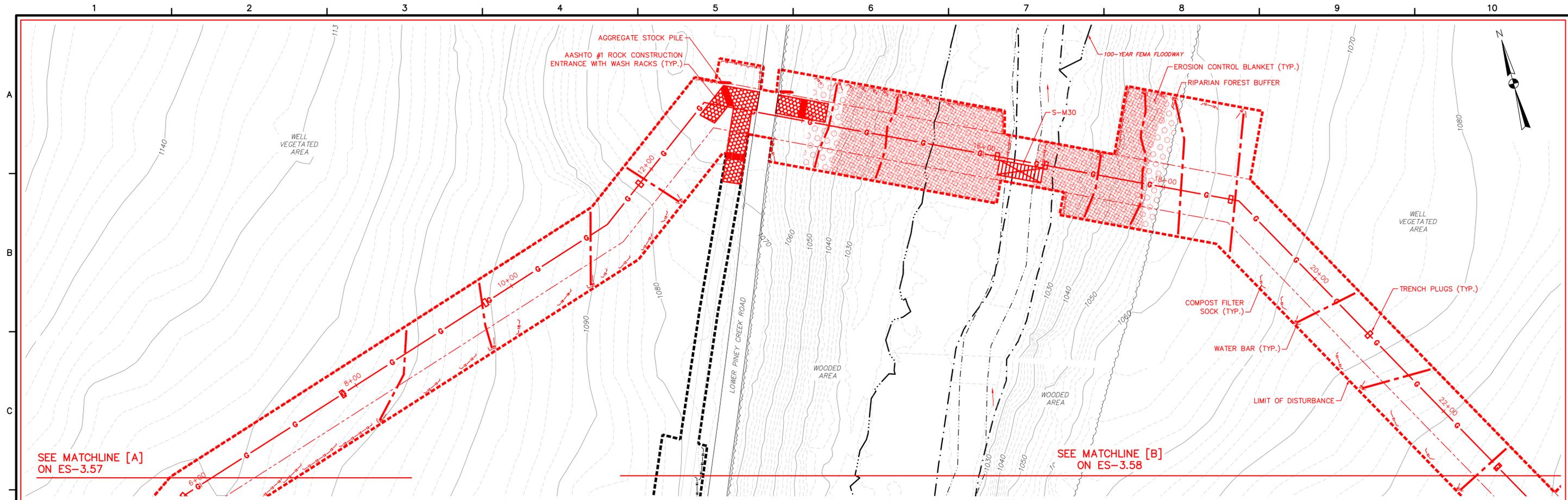
REVISIONS				
NO.	BY	DATE	REMARKS	
1	RS	3/28/17	INCORPORATED THE SPECIAL CONDITIONS SET FORTH IN DEP'S CHAPTER 102 AND CHAPTER 105 PERMITS	
2	RS	5/25/17	DRAWINGS PROVIDED TO FIELD	
3	RS	6/20/18	CENTERLINE AND HDD MODIFICATION	
4	RS	7/12/18	CENTERLINE AND DIRECT PIPE MODIFICATION (REMOVED 9/27/18)	
5	RS	7/27/18	CENTERLINE AND HDD MODIFICATION	
6	RS	10/11/18	ADDITIONAL LOD FOR IR RESPONSE	



SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA
**PENNSYLVANIA PIPELINE PROJECT
CONSTRUCTION SPREAD 3**

1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES
BLAIR COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL &
SITE RESTORATION PLAN
SHEET 57 OF 73

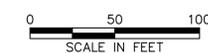
DATE:	2/6/2017
PROJECT NO.:	1121C05958
DESIGNED BY:	JB
DRAWN BY:	BH
CHECKED BY:	RS
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ES-3.57	
SHEET 3.57 OF 102	



NOTES:

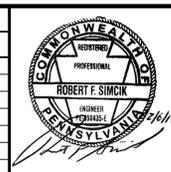
- SEE ES-0.01 & ES-0.02 FOR GENERAL NOTES & LEGEND.
- SEE ES-0.03 FOR STREAM & WETLAND CROSSING TABLES.
- EROSION & SEDIMENT CONTROL BMP INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.

**RE-ROUTE ONLY REDLINED
FOR REVIEW PURPOSES**



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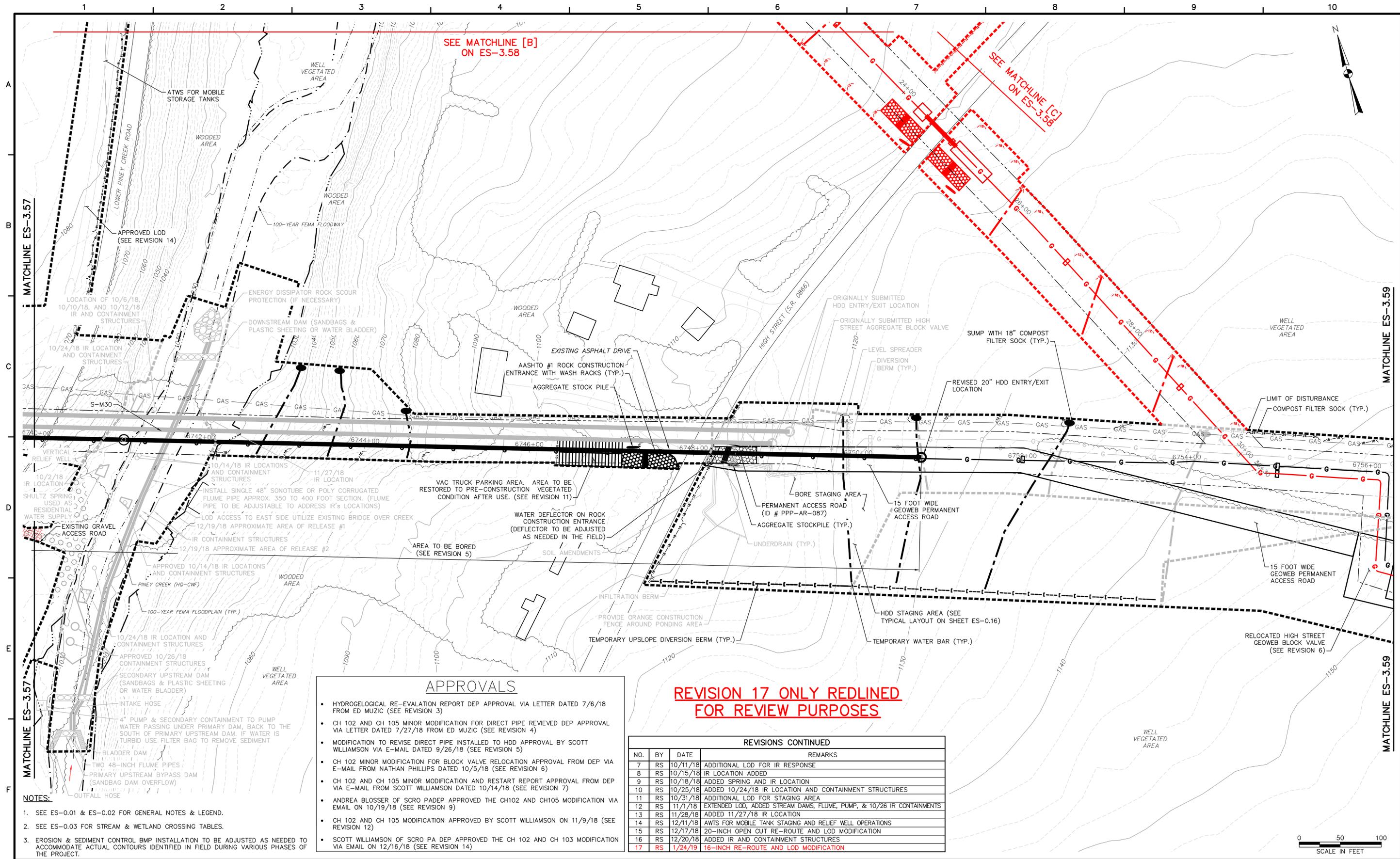
REVISIONS			
NO.	BY	DATE	REMARKS



SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA
**PENNSYLVANIA PIPELINE PROJECT
CONSTRUCTION SPREAD 3**

1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES
BLAIR COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL &
SITE RESTORATION PLAN
SHEET 57 OF 73

DATE:	2/6/2017
PROJECT NO.:	112IC05958
DESIGNED BY:	JB
DRAWN BY:	BH
CHECKED BY:	RS
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ES-3.57-RR	
SHEET 3.57 OF 102	



SEE MATCHLINE [B]
ON ES-3.58

SEE MATCHLINE [C]
ON ES-3.58

**REVISION 17 ONLY REDLINED
FOR REVIEW PURPOSES**

APPROVALS

- HYDROGEOLOGICAL RE-EVALUATION REPORT DEP APPROVAL VIA LETTER DATED 7/6/18 FROM ED MUZIC (SEE REVISION 3)
- CH 102 AND CH 105 MINOR MODIFICATION FOR DIRECT PIPE REVIEWED DEP APPROVAL VIA LETTER DATED 7/27/18 FROM ED MUZIC (SEE REVISION 4)
- MODIFICATION TO REVISE DIRECT PIPE INSTALLED TO HDD APPROVAL BY SCOTT WILLIAMSON VIA E-MAIL DATED 9/26/18 (SEE REVISION 5)
- CH 102 MINOR MODIFICATION FOR BLOCK VALVE RELOCATION APPROVAL FROM DEP VIA E-MAIL FROM NATHAN PHILLIPS DATED 10/5/18 (SEE REVISION 6)
- CH 102 AND CH 105 MINOR MODIFICATION AND RESTART REPORT APPROVAL FROM DEP VIA E-MAIL FROM SCOTT WILLIAMSON DATED 10/14/18 (SEE REVISION 7)
- ANDREA BLOSSER OF SCRO PA DEP APPROVED THE CH102 AND CH105 MODIFICATION VIA EMAIL ON 10/19/18 (SEE REVISION 9)
- CH 102 AND CH 105 MODIFICATION APPROVED BY SCOTT WILLIAMSON ON 11/9/18 (SEE REVISION 12)
- SCOTT WILLIAMSON OF SCRO PA DEP APPROVED THE CH 102 AND CH 103 MODIFICATION VIA EMAIL ON 12/16/18 (SEE REVISION 14)

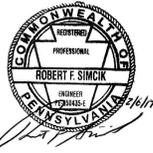
REVISIONS CONTINUED

NO.	BY	DATE	REMARKS
7	RS	10/11/18	ADDITIONAL LOD FOR IR RESPONSE
8	RS	10/15/18	IR LOCATION ADDED
9	RS	10/18/18	ADDED SPRING AND IR LOCATION
10	RS	10/25/18	ADDED 10/24/18 IR LOCATION AND CONTAINMENT STRUCTURES
11	RS	10/31/18	ADDITIONAL LOD FOR STAGING AREA
12	RS	11/1/18	EXTENDED LOD, ADDED STREAM DAMS, FLUME, PUMP, & 10/26 IR CONTAINMENTS
13	RS	11/28/18	ADDED 11/27/18 IR LOCATION
14	RS	12/11/18	AWTS FOR MOBILE TANK STAGING AND RELIEF WELL OPERATIONS
15	RS	12/17/18	20-INCH OPEN CUT RE-ROUTE AND LOD MODIFICATION
16	RS	12/20/18	ADDED IR AND CONTAINMENT STRUCTURES
17	RS	1/24/19	16-INCH RE-ROUTE AND LOD MODIFICATION

- NOTES:**
1. SEE ES-0.01 & ES-0.02 FOR GENERAL NOTES & LEGEND.
 2. SEE ES-0.03 FOR STREAM & WETLAND CROSSING TABLES.
 3. EROSION & SEDIMENT CONTROL BMP INSTALLATION TO BE ADJUSTED AS NEEDED TO ACCOMMODATE ACTUAL CONTOURS IDENTIFIED IN FIELD DURING VARIOUS PHASES OF THE PROJECT.

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

REVISIONS			
NO.	BY	DATE	REMARKS
1	RS	3/28/17	INCORPORATED THE SPECIAL CONDITIONS SET FORTH IN DEP'S CHAPTER 102 AND CHAPTER 105 PERMITS
2	RS	5/25/17	DRAWINGS PROVIDED TO FIELD
3	RS	6/8/18	CENTERLINE AND HDD MODIFICATION
4	RS	7/12/18	CENTERLINE AND DIRECT PIPE MODIFICATION (REMOVED 9/27/18)
5	RS	9/26/18	CENTERLINE AND HDD MODIFICATION
6	RS	9/27/18	LOD AND BLOCK VALVE RELOCATION MODIFICATION



SUNOCO PIPELINE L.P.
SINKING SPRING, PENNSYLVANIA
**PENNSYLVANIA PIPELINE PROJECT
CONSTRUCTION SPREAD 3**

1-20" & 1-16" PROPOSED WELDED STEEL NATURAL GAS LIQUIDS PIPELINES
BLAIR COUNTY CONSERVATION DISTRICT
EROSION & SEDIMENT CONTROL &
SITE RESTORATION PLAN
SHEET 58 OF 73

DATE:	2/6/2017
PROJECT NO.:	1121C05958
DESIGNED BY:	JB
DRAWN BY:	BH
CHECKED BY:	RS
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ES-3.58	
SHEET 3.58 OF 102	

Attachment C

March 1, 2019

PNDI Number: 675711

Version: Final_1; 1/28/19

Pat Green

Tetra Tech

301 Ellicott Street

Buffalo, NY 14203

Email: pat.green@tetrattech.com (hard copy will not follow)

**Re: Mariner East 2 Piney Creek 16" Reroute
Woodbury Township, Blair County, PA**

Dear Mr. Green,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **675711 (Final_1)** 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.

Scientific Name	Common Name	PA Current Status	PA Proposed Status
<i>Thalictrum coriaceum</i>	Thick-leaved Meadow-rue	Endangered	Threatened

Survey Request

DCNR requests a survey for the following species within Habitat ALT G (as delineated in Tetra Tech's Piney Creek 16" Reroute Botanical Habitat Assessment, dated February 7, 2019).

- ***Thalictrum coriaceum* (Thick-leaved Meadow-rue):** documented on a wooded, rocky, limestone slope; prefers upland woods; flowers late May – June
- ✓ A botanical survey for the above species should be conducted by a qualified botanist at the appropriate time of year. Please submit the resulting report to our office for review. Contact our office prior to the survey for detailed information about the species or for a list of qualified surveyors.
- ✓ **Your botanist should carefully review the new DCNR Botanical Survey Protocols available at <https://conservationexplorer.dcnr.pa.gov/content/survey-protocols>.** These protocols are recommended to ensure that 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.
- ✓ All target and non-target state-listed species found during the botanical survey should be reported to our office. **Please submit a completed Botanical Field Survey Form for each occurrence or population identified: <http://www.gis.dcnr.state.pa.us/PNDI/2015%20Field%20Survey%20Form.pdf>.** Mitigation measures and monitoring may be requested if state-listed species are found on or adjacent to the 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 and a permit has not been acquired, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative, description of project changes 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

A handwritten signature in black ink that reads "Greg Podnieszinski". The signature is written in a cursive style and is centered within a light gray rectangular box.

Greg Podnieszinski, Section Chief
Natural Heritage Section

Attachment D

Schaeffer, Brad

From: Shellenberger, Pamela <pamela_shellenberger@fws.gov>
Sent: Wednesday, March 27, 2019 3:17 PM
To: Green, Pat
Cc: Gary Mowad
Subject: Re: [EXTERNAL] Fwd: Sunoco PPP Emergence Survey Bat Tree Clearing

Hi Pat,

Thanks for submitting the emergence survey proposal, which outlines that an emergence survey will be conducted on 9 PRTs within the Piney and Everett portions of the above referenced project. The Service concurs with the methods proposed. Please submit a survey report following the emergence survey.

Also, regarding your voice message from today. The October 2016 letter can remain valid as long as there has not been a change in the project scope/scale and as long as no new species occurrences are found within the project area since the date of the letter.

Thank you,

Pamela Shellenberger

U.S. Fish & Wildlife Service
Pennsylvania Field Office
110 Radnor Rd; Suite 101
State College, PA 16801
814 234-4090 x7459
<http://www.fws.gov/northeast/pafo/>

On Wed, Mar 27, 2019 at 9:36 AM Green, Pat <Pat.Green@tetrattech.com> wrote:

Hi Pam,

I worked with Allstar and have attached the emergence survey proposal for the Piney Creek and Everett areas of concern. Please feel free to reach out if there are any issues or you have any questions while reviewing the proposed plan. If you don't mind, can you please confirm you received this email? Thank you!

Have a good one!

Pat Green | Ecological Services Manager

Main: 716.541.9217 | Cell: 585.975.9782 | Fax: 716.849.9420

From: Shellenberger, Pamela <pamela_shellenberger@fws.gov>
Sent: Monday, March 25, 2019 12:41 PM
To: Gary Mowad <gmeconsulting@aol.com>
Cc: Green, Pat <Pat.Green@tetrattech.com>
Subject: Re: [EXTERNAL] Fwd: Sunoco PPP Emergence Survey Bat Tree Clearing

Gary,

We will need to see an emergence survey proposal prior to giving the thumbs up. I'd like to know specifically where the emergence surveys will occur and how many trees are proposed to be surveyed at each site. Please submit a brief proposal to me and I am happy to review it and turn it around as soon as possible.

Thank you,

Pamela Shellenberger

U.S. Fish & Wildlife Service

Pennsylvania Field Office

110 Radnor Rd; Suite 101

State College, PA 16801

814 234-4090 x7459

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

On Mon, Mar 25, 2019 at 11:04 AM Gary Mowad <gmecconsulting@aol.com> wrote:

Good morning Pam,

Any chance Sunoco can get a thumbs up email for the two planned tree clearing sites? They will be using the fws emergence survey guidance. Thanks a bunch, Gary.

On Mar 21, 2019, at 1:20 PM, Shellenberger, Pamela <pamela_shellenberger@fws.gov> wrote:

Hi Gary,

Thank you for submitting this Habitat Assessment from ASE. Through this assessment they have demonstrated that there are potential roost trees within the AOI. However, this report does not discuss how Sunoco proposes to remove these trees and with what survey methods. The report says that trees will be removed during the inactive season (November 15-March 31), and it is still within that window. However, discussions with you indicated that the company will not be able to conduct the tree clearing during this time. Therefore, please provide additional information that describes how and when these trees will be removed and what survey methods will be followed.

Thank you,

Pamela Shellenberger

U.S. Fish & Wildlife Service

Pennsylvania Field Office

110 Radnor Rd; Suite 101

State College, PA 16801

814 234-4090 x7459

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

On Thu, Mar 21, 2019 at 3:24 PM Gary Mowad <gmecconsulting@aol.com> wrote:

Hi Pam,

Here is the emergence survey request again just in case it did not make it through. Please let me know your thoughts. Thanks million, Gary

Begin forwarded message:

From: Gmec Consulting <gmecconsulting@aol.com>
Date: March 19, 2019 at 1:13:43 PM CDT
To: pamela_shellenberger@fws.gov, robert_m_anderson@fws.gov
Subject: Sunoco PPP Emergence Survey Bat Tree Clearing

Pam,

The Sunoco PPP pipeline needs to make some mirco re-routes. They will need to drop some trees in two separate locations. The first is the Everett reroute in which 9 potential roost trees will need to be felled after April 1. The second area is for the Piney reroute in which one potential roost tree needs to be dropped. Sunoco would like to fell these trees using the USFWS Emergence Survey protocols. The attached report was prepared by Allstar Ecology and provides further detail for the requested action. Sunoco would like USFWS concurrence via email before proceeding. They will follow-up by submitting the required Emergence Survey form. Thank you for taking time out of your busy schedule to give this a quick review. Figure 3, sheets 1,2 and 3 seem to sum up the request most succinctly. Thanks a bunch, Gary.

GMEC

Gary Mowad Environmental Consulting

GMECConsulting@aol.com

GMenvironmentalconsulting.com

Ms. Pamela Shellenberger
Fish and Wildlife Biologist
United States Fish and Wildlife Service
110 Radnor Road, Suite 101
State College, PA 16801

March 26, 2019

**RE: Emergence Survey Proposal
Pennsylvania Pipeline Project
Blair County, Pennsylvania**

Ms. Shellenberger,

On behalf of Tetra Tech Inc. (Tetra Tech) via Sunoco Logistics LP (Sunoco), AllStar Ecology, LLC (ASE) requests to conduct an emergence survey in order to clear trees within the revised LOD outside of the winter tree clearing period for two portions (Piney & Everett) of the Pennsylvania Pipeline Project (Figure 1). The emergence survey is necessary because the project is proposing to clear identified Indiana bat (*Myotis sodalis*) potential roost trees (PRTs) outside of the winter tree clearing window. On March 11, 2019, ASE bat biologist Eric Schroder conducted a walkover of the proposed clearing areas to quantify the number of potential roost trees that needed emergence surveys (Figure 2). The *2018 Range-Wide Indiana Bat Summer Survey Guidelines* will be followed for emergence surveys. Emergence surveys will be conducted on nine potential roosts (Table 1, Figure 3). If the emergence surveys are negative, Sunoco will cut the trees as soon as safely possible. ASE qualified biologists will conduct the emergence surveys and be present when the trees are felled to ensure no bats are present, injured, or killed. If the emergence survey is positive or visual inspection of the downed tree reveals bats are present, then the USFWS will be contacted to discuss how to proceed.

Table 1. PRTs documented within the proposed clearing area.

PRT #	Tree Species	Diameter at Breast Height	Latitude	Longitude	Photo #
01	<i>Fraxinus americana</i>	15	40.416568	-78.383427	1
02	<i>Fraxinus americana</i>	13	40.416132	-78.381745	2
03	<i>Acer rubrum</i>	7	40.416188	-78.381567	3
04	<i>Carya ovata</i>	11	40.416046	-78.381212	4
05	<i>Carya ovata</i>	8	40.416011	-78.381118	5
08	<i>Ulmus americana</i>	5	40.416054	-78.379186	6
09	<i>Carya ovata</i>	15	40.415409	-78.379514	7
10	<i>Carya ovata</i>	17	40.415413	-78.379513	8
11	<i>Ulmus rubra</i>	16	40.412273	-78.371804	9

*Note: PRT #'s are not sequential due to some PRTs being located outside of the proposed LOD and northern long-eared bat PRTs being exempt under the 4d rule due to the portion of the project not being located within ¼ mile of a known hibernaculum or within 150-feet of a known maternity roost according to IPaC. More detailed information on each individual PRT can be located in Attachment A.

Please contact me with any questions or concerns.

Thank you,



Eric Schroder
Bat Biologist
AllStar Ecology, LLC
304-816-3490 (office line)
eric.schroder@allstarecology.com

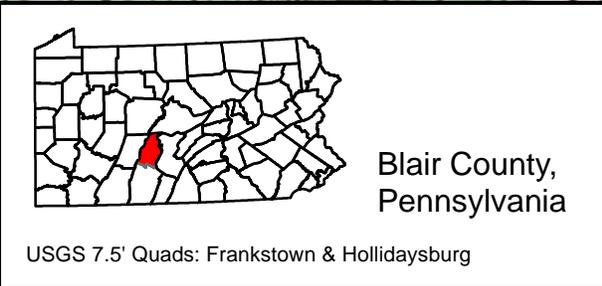
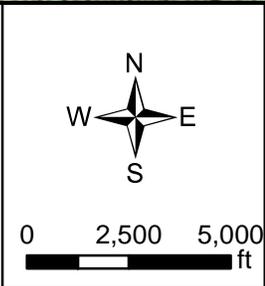
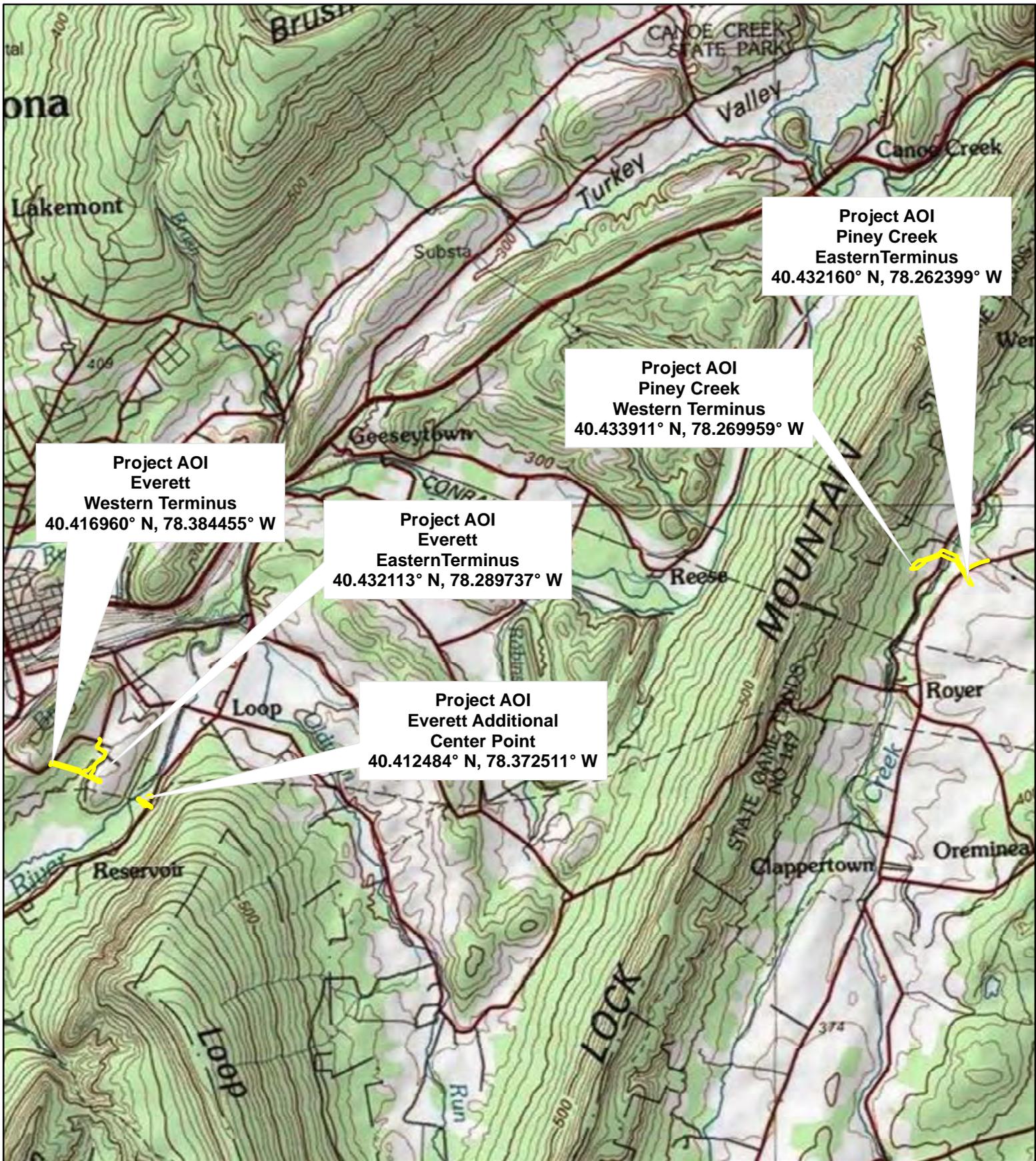
Attachments:

Figure 1- Project Location Map

Figure 2- Cover Type & PRT Map

Figure 3- Photo Exhibit

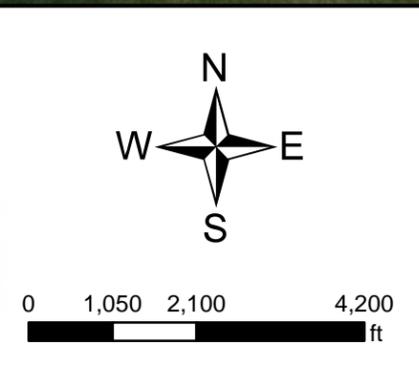
Attachment A- Bat Habitat Assessment Pennsylvania Pipeline Project (Piney and Everett Portions)



Tetra Tech, Inc.	
Figure 1 Project Location Map Pennsylvania Pipeline Project	
Date: 03/13/2019	Version: #1



Notes:
 1. PRTs and cover types were identified during onsite habitat assessment carried out by AllStar Ecology, LLC, on March 11, 2019.
 2. Background is ESRI aerial imagery.



- Area of Interest (AOI)
- Limits of Disturbance (LOD)
- 1-Oak-Maple-Hickory
- 2-Maple-Ash
- 3-Shrubs
- 4-Herbaceous/Developed
- Bat Data Point (DP)
- Potential Roost Tree (PRT)

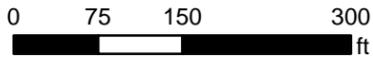
Tetra Tech, Inc.

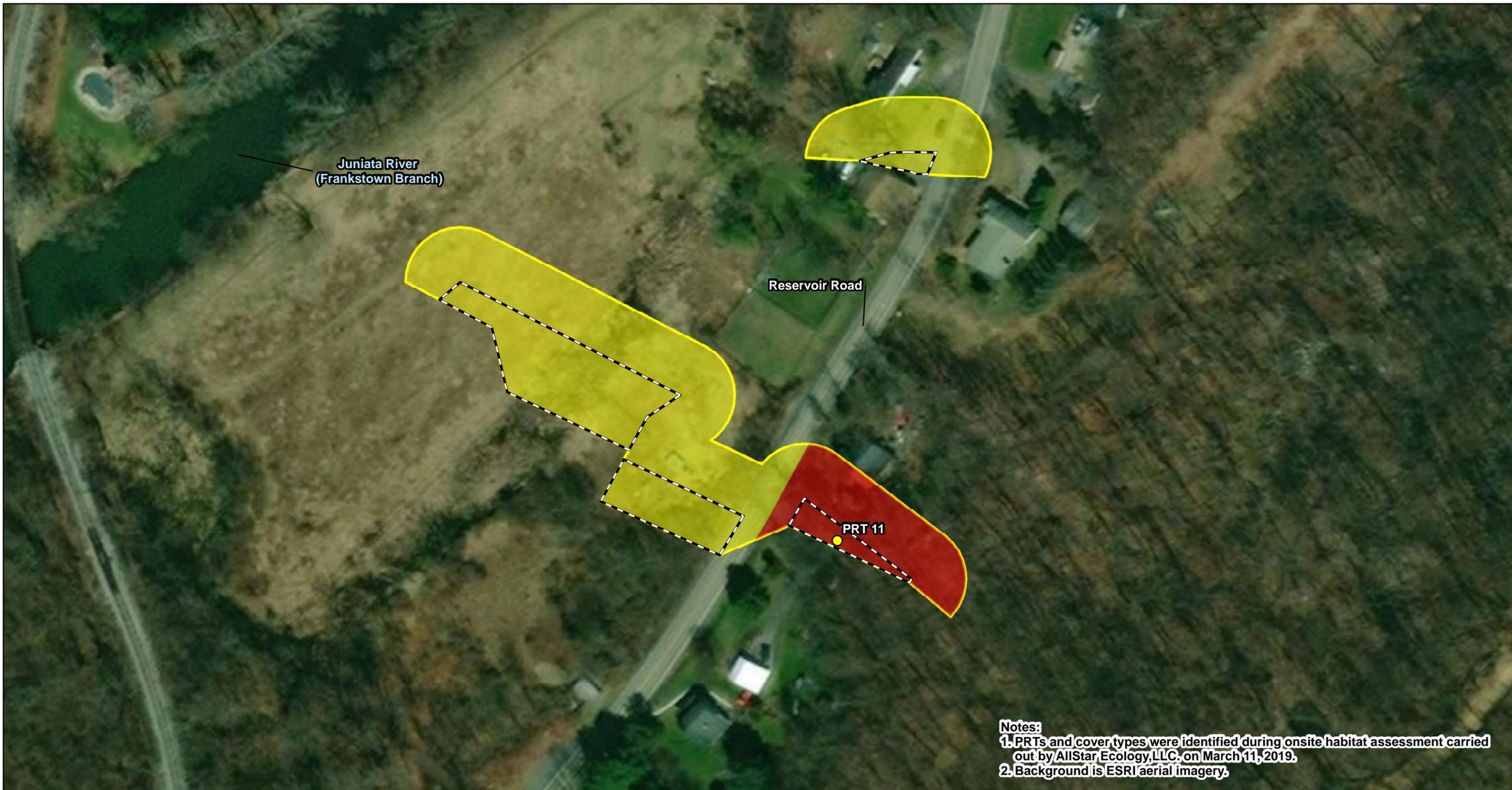
Figure 2
 Cover Type and PRT Map
 Pennsylvania Pipeline Project

Date: 03/12/2019	Index
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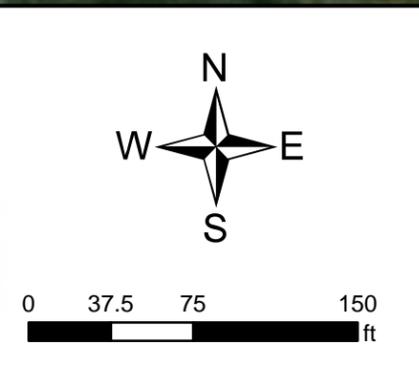


Notes:
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 2. Background is ESRI aerial imagery.

 ALLSTAR ECOLOGY Natural Resource Specialists	 	 Blair County, Pennsylvania	<table border="0"> <tr> <td> Area of Interest (AOI)</td> <td> 1-Oak-Maple-Hickory</td> <td> Bat Data Point (DP)</td> </tr> <tr> <td> Limits of Disturbance (LOD)</td> <td> 2-Maple-Ash</td> <td> Potential Roost Tree (PRT)</td> </tr> <tr> <td></td> <td> 3-Shrubs</td> <td></td> </tr> <tr> <td></td> <td> 4-Herbaceous/Developed</td> <td></td> </tr> </table>	 Area of Interest (AOI)	 1-Oak-Maple-Hickory	 Bat Data Point (DP)	 Limits of Disturbance (LOD)	 2-Maple-Ash	 Potential Roost Tree (PRT)		 3-Shrubs			 4-Herbaceous/Developed		<p align="center">Tetra Tech, Inc.</p> <p align="center">Figure 2 Cover Type and PRT Map Pennsylvania Pipeline Project</p> <table border="1"> <tr> <td>Date: 03/12/2019</td> <td>Sheet 1</td> </tr> </table>	Date: 03/12/2019	Sheet 1
 Area of Interest (AOI)	 1-Oak-Maple-Hickory	 Bat Data Point (DP)																
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Date: 03/12/2019	Sheet 1																	



Notes:
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 2. Background is ESRI aerial imagery.



Area of Interest (AOI)	1-Oak-Maple-Hickory	Bat Data Point (DP)
Limits of Disturbance (LOD)	2-Maple-Ash	Potential Roost Tree (PRT)
	3-Shrubs	
	4-Herbaceous/Developed	

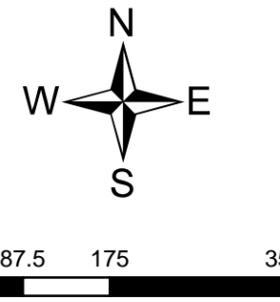
Tetra Tech, Inc.

Figure 2
Cover Type and PRT Map
Pennsylvania Pipeline Project

Date: 03/12/2019	Sheet 2
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Notes:
 1. PRTs and cover types were identified during onsite habitat assessment carried out by AllStar Ecology, LLC, on March 11, 2019.
 2. Background is ESRI aerial imagery.

 <p>ALLSTAR ECOLOGY Natural Resource Specialists</p>	 <p>0 87.5 175 350 ft</p>	 <p>Blair County, Pennsylvania</p>	<table border="0"> <tr> <td> Area of Interest (AOI)</td> <td> 1-Oak-Maple-Hickory</td> <td> Bat Data Point (DP)</td> </tr> <tr> <td> Limits of Disturbance (LOD)</td> <td> 2-Maple-Ash</td> <td> Potential Roost Tree (PRT)</td> </tr> <tr> <td></td> <td> 3-Shrubs</td> <td></td> </tr> <tr> <td></td> <td> 4-Herbaceous/Developed</td> <td></td> </tr> </table>	 Area of Interest (AOI)	 1-Oak-Maple-Hickory	 Bat Data Point (DP)	 Limits of Disturbance (LOD)	 2-Maple-Ash	 Potential Roost Tree (PRT)		 3-Shrubs			 4-Herbaceous/Developed		<p>Tetra Tech, Inc.</p> <p>Figure 2 Cover Type and PRT Map Pennsylvania Pipeline Project</p>	<p>Date: 03/12/2019</p> <p>Sheet 3</p>
 Area of Interest (AOI)	 1-Oak-Maple-Hickory	 Bat Data Point (DP)															
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	 3-Shrubs																
	 4-Herbaceous/Developed																

**Figure 3. Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**

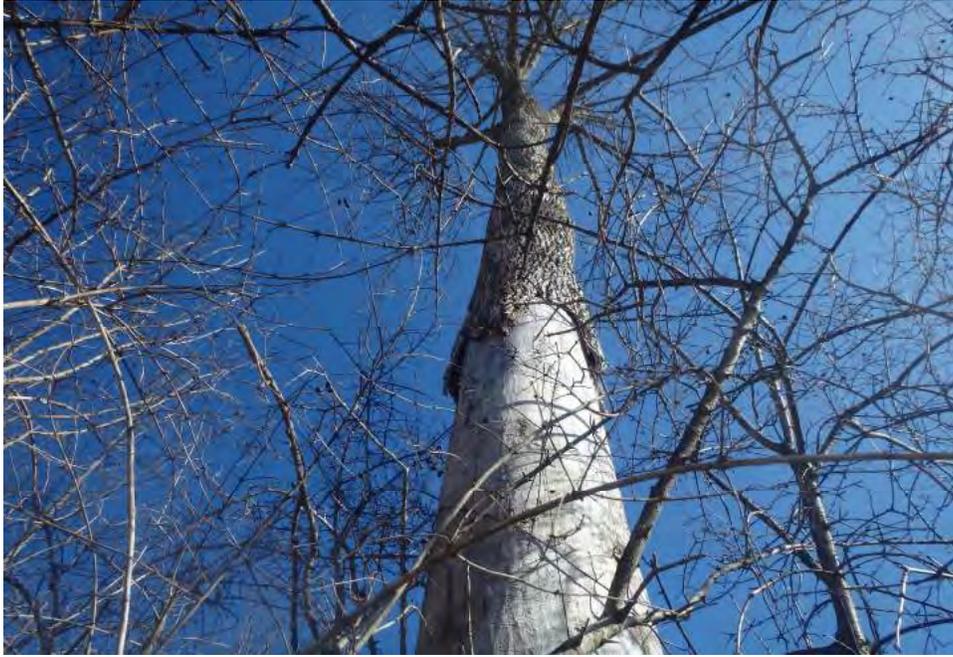


Photo 1. A view of PRT 01.

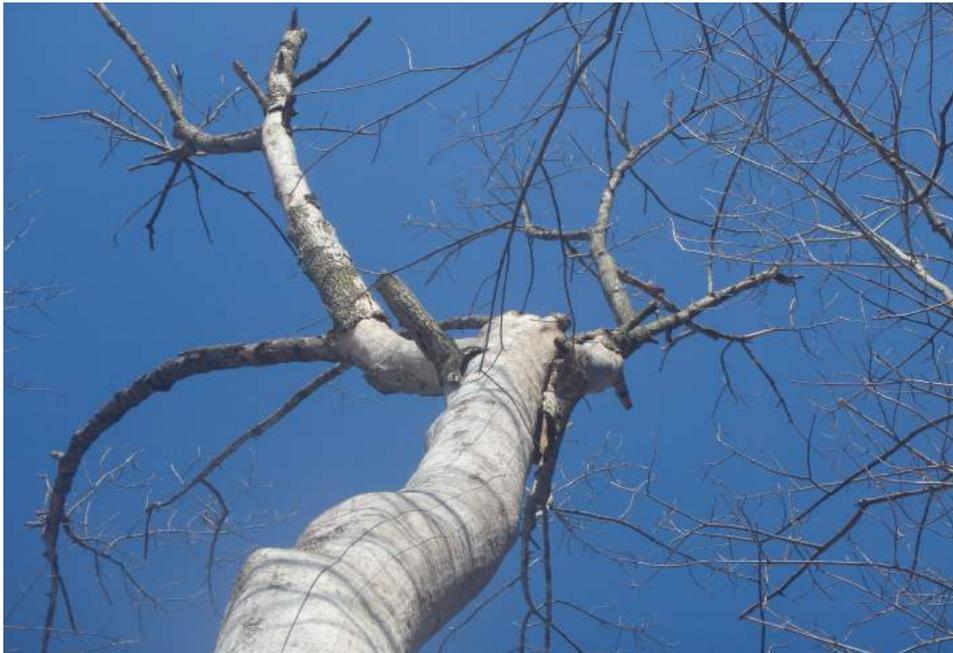


Photo 2. A view of PRT 02.

**Figure 3. Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 3. A view of PRT 03.

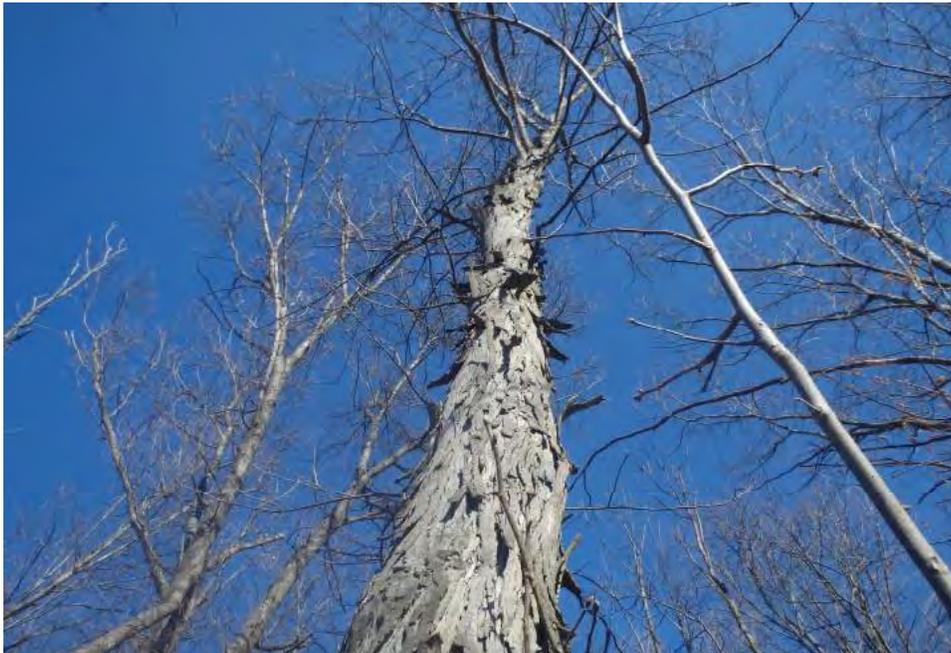


Photo 4. A view of PRT 04.

**Figure 3. Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 5. A view of PRT 05.



Photo 6. A view of PRT 08.

**Figure 3. Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**

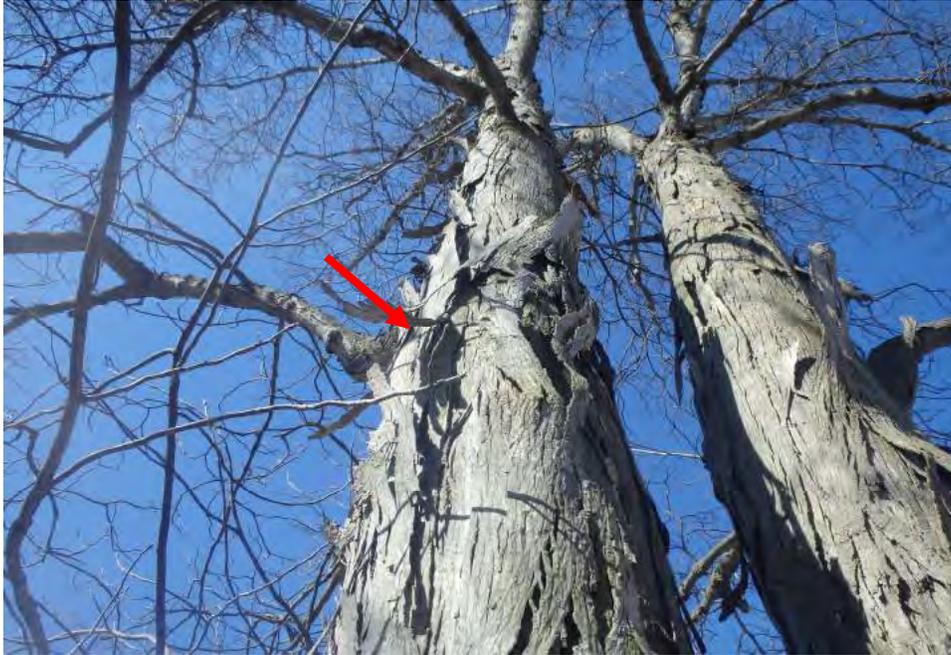


Photo 7. A view of PRT 09.

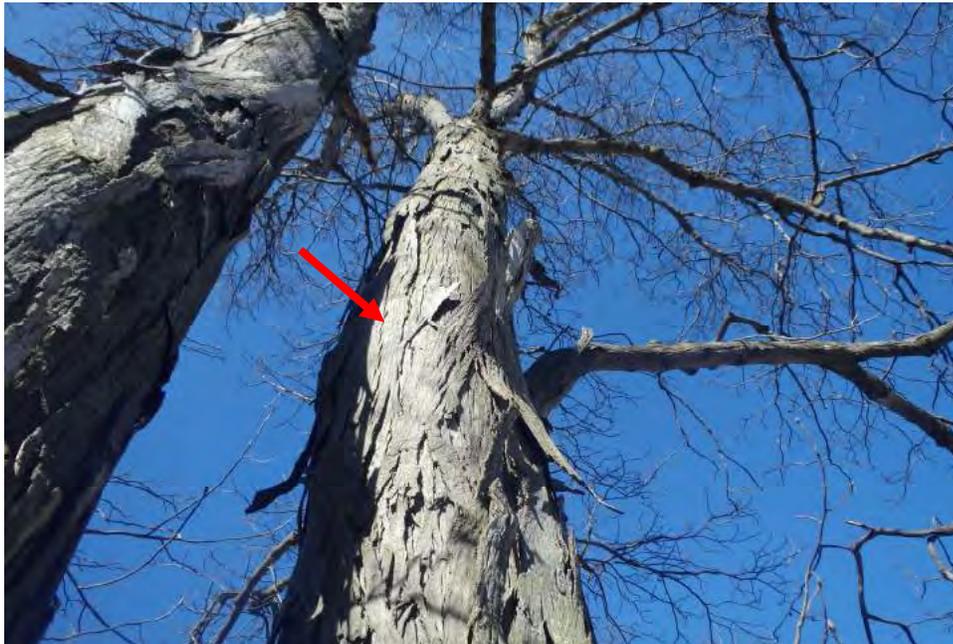


Photo 8. A view of PRT 10.

**Figure 3. Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 9. A view of PRT 11.



ALLSTAR ECOLOGY
Natural Resource Specialists

AllStar Ecology, LLC.

Attachment A. Bat Habitat Assessment Pennsylvania Pipeline Project (Piney and Everett Portions)

March 13, 2019

Delivery Method: Electronic Mail

ATTN: Pat Green
Ecological Services Manger
Tetra Tech
301 Ellicott Street
Buffalo, NY 14203

**Re: Bat Habitat Assessment
Pennsylvania Pipeline Project**
Blair County, PA
Tetra Tech, Inc.

Dear Mr. Green,

AllStar Ecology, LLC (ASE) is submitting this habitat assessment to Tetra Tech, Inc. (Tetra Tech) for portions of the Pennsylvania Pipeline Project. According to the IPaC report (Attachment 3) the AOI does not fall in aquatic or terrestrial critical habitat. The project is located in Blair County, PA and proposes 2.1 acres of forest clearing including the removal of 9 potential Indiana bat (*Myotis sodalis*) roost trees (9 secondary) and 1 potential northern long-eared bat (*Myotis septentrionalis*) roost tree (1 secondary). Detailed information is included in the body of this report. Please address any questions or comments regarding the scope of this project to:

Eric Schroder
Lead Bat Biologist/Environmental Scientist II
Federal Recovery Permit # : TE85228B-1
AllStar Ecology, LLC.
Office: (304) 816-3490
eric.schroder@allstarecology.com

1.0 PROJECT DESCRIPTION

Sunoco Logistics LP has proposed the construction of the Pennsylvania Pipeline Project (project) in Blair County, Pennsylvania (PA). This project involves the installation of a natural gas pipeline and associated infrastructure. The Everett portion of the project is located approximately 0.58 mile north of Reservoir, PA while the Piney portion is location approximately 0.87 mile north of Royer, PA . The western terminus of the Everett portion of the pipeline is located at 40.416960° N, 78.384455° W, while the eastern terminus of the Everett portion is located at 40.432113° N, 78.289737° W, on the United States Geological Survey (USGS) topographic map of the Frankstown and Hollidaysburg 7.5' Quadrangles (Figure 1). An additional area along the Everett portion of the pipeline was located at 40.412484° N, 78.372511° W on the USGS topographic map of the Frankstown and Hollidaysburg 7.5' Quadrangles. The western terminus of the Piney portion of the pipeline is located at 40.433911° N, 78.269959° W while the eastern terminus is located at 40.432160° N, 78.262399° W. The surveyed area was required due to a change in the construction plan. The Area of Interest (AOI) totaled 15.95 acres with an approximate Limit of Disturbance (LOD) of 9.80 acres. Tetra Tech, Inc, (Tetra Tech) is the lead environmental consultant on the project, and retained Allstar Ecology (ASE) to complete a bat habitat assessment on a small area of the project.

The AOI was primarily comprised of herbaceous grasses including meadow fescue (*Festuca pratensis*), orchard grass (*Dactylis glomerata*), red clover (*Trifolium pratense*), and white clover (*Trifolium repens*). Smaller forested portions were composed of shagbark hickory (*Carya ovata*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), white oak (*Quercus alba*), and white ash (*Fraxinus americana*). Per the Environmental Systems Research Institute (ESRI) aerial imagery data set, within a 0.25-mile buffer of the project, the survey area was approximately half forested (53.37%) (Figure 2).

The AOI for the Pennsylvania Pipeline Project is not within critical habitat according to the IPaC report. The project expansion requires less than 17 acres of forested land (2.1 acres), however potential disturbance to Indiana bats (IBATs), a federally endangered species, and northern long-eared bats (NLEBs), a federally threatened species, or their habitats were assessed. Additionally, the AOI was assessed for potential habitat for the eastern small footed bat (*Myotis leibii*), a state-listed threatened species. Tetra Tech assumes the presence of IBATs and NLEBs and will conduct tree clearing during winter months (November 15-March 31) to avoid direct effect on all bat species. A U.S. Fish and Wildlife Service permitted bat biologist conducted, reviewed, and approved this bat habitat assessment.

2.0 THREATENED AND ENDANGERED SPECIES IN BLAIR COUNTY, PA

Federal Endangered Species Act listed threatened and endangered bat species located within Blair County, PA include the northern long-eared bat (*Myotis septentrionalis*) and Indiana bat (*Myotis sodalis*).

Table 1. Threatened and Endangered Species Known to Occur in Blair County, PA

Common Name	Scientific Name	Nearest Known Habitat (miles)*	Status
Indiana Bat	<i>Myotis sodalis</i>	AOI is not within critical habitat according to IPaC report	Endangered
Northern Long-Eared Bat	<i>Myotis septentrionalis</i>	AOI is not within critical habitat according to IPaC report	Threatened

Preferred Habitat

IBATs are restricted to underground hibernacula during winter, with preferred areas being caves located in karst areas. However, IBATs will also use other cave-like areas, mostly abandoned mine portals. During the summer, IBATs roost mainly under exfoliating bark on dead or nearly dead trees but will also use crevices in trees as roost sites. They will also utilize live trees with exfoliating bark, mostly hickory species (*Carya* spp.). They select roost trees with larger diameter (>15 inches DBH) compared to average diameter trees available, which provide more room for roosting and better thermal advantages. They also select trees which are either located near edges or extend above the surrounding trees as these trees provide more sunlight and are easier and safer to approach. Spring and fall

roosting areas are usually located near the hibernacula and are similar to summer roosting areas. IBATs prefer foraging areas, such as water bodies and open areas, to be near the roosting areas (USFWS Indiana Bat Recovery Plan, p. 51-69).

Similar to the IBAT, NLEB foraging habitat includes forested hillsides and ridges, and small ponds or streams. Northern long-eared bats are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by IBATs. Primary roost trees for NLEBs are typically over-topped (i.e., live trees and/or snags), early successional tree species. Selected trees are typically shorter than associated trees within the forest stand and are located in heavy crown cover. NLEBs typically select trees with cavities, but will also roost under sloughing bark.

3.0 POTENTIAL THREATENED AND ENDANGERED SPECIES HABITAT IN AOI

ASE performed an onsite assessment of potential habitat for rare, threatened, and endangered species located within the AOI of the project. The habitat assessment for IBAT and NLEB included searching for potential roost trees (PRTs), caves, and mine portals, along with describing habitat types and other physical and biological characteristics in the general area of the proposed pipeline (e.g., forest types, dwellings, wetlands, rock outcrops). The habitat assessment within the 15.95-acre AOI was conducted on March 11, 2019.

Based on ESRI imagery and the onsite evaluation, the AOI contained 5.19 acres of forest. Field visits indicated forested stands located within the AOI were dominated by oak, hickory, ash, and maple cover types, as described in Section 1.0.

Roost trees are classified as either primary or secondary during the onsite habitat assessment. For IBATs, primary PRTs typically have a dbh >15 inches, display high amounts of sloughing bark (>25% availability), and are situated in areas with fair solar radiation (e.g., southern aspects and canopy gaps) (USFWS Indiana bat Recovery Plan, p. 56-63). Secondary PRTs are characterized by lesser amounts of exfoliating bark and/or cavities, suitable for short duration use by IBATs (USFWS Indiana bat Recovery Plan, p. 56-63).

Within the AOI, one IBAT primary PRT, twelve IBAT secondary PRTs, one NLEB primary PRT, and one secondary NLEB PRTs were identified during the onsite investigation. Based on the project's LOD, 10 PRTs (nine IBAT secondary and one NLEB secondary) will be cleared in order to construct the project (Attachment 1). The two most common species of PRTs were shagbark hickory (40.0%) and American elm (20.0%; *Ulmus americana*). The average diameter of PRTs onsite was 13.93 inches with a standard deviation of 7.56 inches.

Pennsylvania Pipeline Project Cover Types

Total forested acreage within the AOI and LOD was 5.19 and 2.10 acres, respectively. Within the Pennsylvania Pipeline Project AOI, two primary forest cover types were identified:

- Cover Type 01 – Oak-Maple-Hickory (1.94 acres)
- Cover Type 02 – Maple-Ash (3.25 acres)

Figure 3 shows the locations of these cover types, and Figure 4 provides representative photos of each cover type. Data forms were completed for each forested cover type and are included in Attachment 2.

Cover Type 01 (Data Point [DP] 01)

Oak-Maple-Hickory (0.77 acres of proposed disturbance; 6 PRTs taken)

Cover Type 01 consisted primarily of a mature deciduous forest dominated by oak, maple, and hickory species. The forest community contains a canopy closure averaging 76-100% with the majority of trees ranging between 9-15 inches in diameter. Dominant mature tree species include shagbark hickory, red maple, and white oak. The understory was primarily comprised of a sparse herbaceous layer of Christmas fern (*Polystichum acrostichoides*).

Two PRTs was located outside the LOD and 6 PRTs were located within the LOD. This cover type is adjacent to a previously constructed pipeline right-of-way which could be used as foraging habitat. The area represents high potential for roosting due to a significant number of PRTs located in the cover type.

Cover Type 02 (DP 02)

Maple-Ash (1.33 acres of proposed disturbance; 2 PRTs taken)

Cover Type 02 consisted of a mature deciduous forest type with an open understory. The area was dominated by white ash, sugar maple, and red maple, with most trees ranging from 9-15 inches in diameter. Three PRTs were located outside the LOD and 2 PRTs were located within the LOD. Due to insignificant numbers of PRTs, this area presents poor potential for roosting.

Non-Forest Cover Types

Cover Type 03 (DP 03)

Shrubs (0.74 acres of proposed disturbance; 1 PRT taken)

Cover Type 03 consisted of shrubs with few mature trees. The area was dominated by autumn olive (*Elaeagnus umbellata*) and multiflora rose (*Rosa multiflora*). One PRT was located within the LOD. Due to few mature trees in the cover type, this area presents poor potential for roosting.

Cover Type 04 (DP 04)

Herbaceous/Developed (6.96 acres of proposed disturbance; 1 PRT taken)

Cover Type 04 consisted of a herbaceous layer with few trees. Included in this cover type are houses and roaded (developed areas). The area was dominated by red clover, white clover, orchard grass, and meadow fescue. One PRT was located within the LOD. Due to few mature trees in the cover type, this area presents poor potential for roosting.

Cover Type Summary

Cover Type 01 may serve as suitable roosting habitat for bats due to the presence of several PRTs, including sloughing bark, cavities, and snags. Cover Types 02-04 are likely less suitable roosting habitat due to low number of primary and secondary PRTs.

Based on the onsite habitat assessment, it is of the professional opinion of ASE that the AOI contains suitable roosting habitat for IBATs and NLEBs due to the presence of numerous PRTs (e.g. snags, sloughing bark, and shagbark hickories). No mines or caves suitable as hibernacula were observed onsite. No rock faces, outcroppings, or rock piles suitable for the eastern small footed bat were present.

4.0 IMPACTS

In these sections of the Pennsylvania Pipeline Project an additional 2.10 acres is needed for construction (LOD). The project proposes the removal of 10 PRTs (nine secondary for IBAT and one secondary for the NLEB). See Figure 4 for photographs of cover types.

Bat Habitat Impacts

In addition to the onsite assessment, a landscape-scale desktop analysis of potential effects on IBAT and NLEB habitat was conducted via a habitat availability study comparing forested area in the proposed LOD to the total forested area in a 0.25-mile buffer study area. To determine the total area of forest availability, the AOI including the LOD were overlaid on ESRI imagery (Figure 2). A classification tool was used in ArcGIS to distinguish forested from non-forested cover types. Tables 2 and 3 below summarize the impacted habitat within the LOD, AOI, and 0.25-mile buffer.

Table 2. Impacted Habitat Type in the LOD and 0.25-Mile Buffer of the LOD Center Line

Study Area	Total Forested Area (acres)	Total Forest Impacts	
		Acres	%
LOD	2.10	2.10	100
0.25-mile Buffer	353.8	2.10	0.5

Table 3. Potential Roost Trees Taken/Avoided inside the AOI

Roost Tree Type	Inside the LOD (Taken) (# of trees)	Inside the AOI (Avoided) (# of trees)
Potential IBAT Primary Roost Trees	0	1
Potential IBAT Secondary Roost Trees	9	3
Potential NLEB Primary Roost Trees	0	1
Potential NLEB Secondary Roost Trees	1	0
TOTAL	10	5

5.0 SUMMARY

On March 11, 2019, ASE surveyed areas on the Pennsylvania Pipeline Project to assess bat habitat. Sections 1.0, 2.0, 3.0, and 4.0 above summarize the results of the survey and provide the impacts given the proposed revised LOD.

Should you have any questions regarding the scope of the project please do not hesitate to contact Eric Schroder at (304) 816-3490 or eric.schroder@allstarecology.com. We appreciate your timely review of this request.

Sincerely,

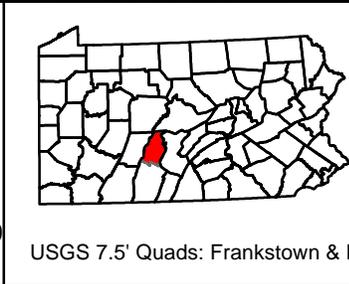
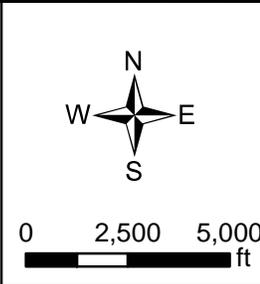
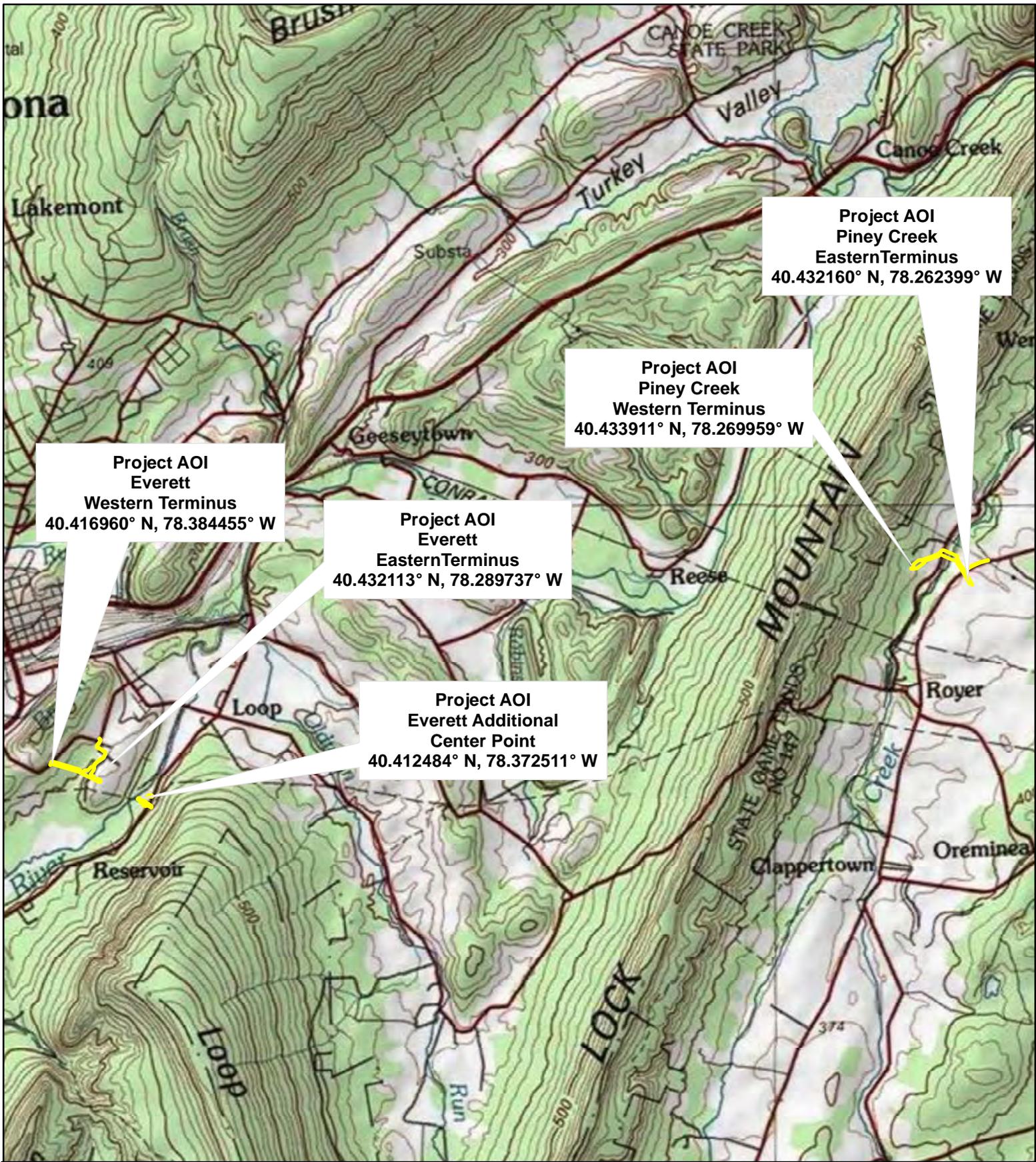


Eric Schroder
Lead Bat Biologist/Environmental Scientist II
Federal Recovery Permit # : TE85228B-1
AllStar Ecology, LLC.
Office: (304) 816-3490
eric.schroder@allstarecology.com

- Enclosures (10):
Figure 1 – Project Location Map
Figure 2 – Land Cover Map
Figure 3 – Cover Type and PRT Maps
Figure 4 – PRT and General Site Photographs
Attachment 1 – Potential Roost Tree Information Sheet
Attachment 2 – Bat Habitat Data Forms
Attachment 3 – IPaC Report

Cc: Greg Short, AllStar Ecology, LLC

Figure 1
Project Location Map



Blair County,
Pennsylvania

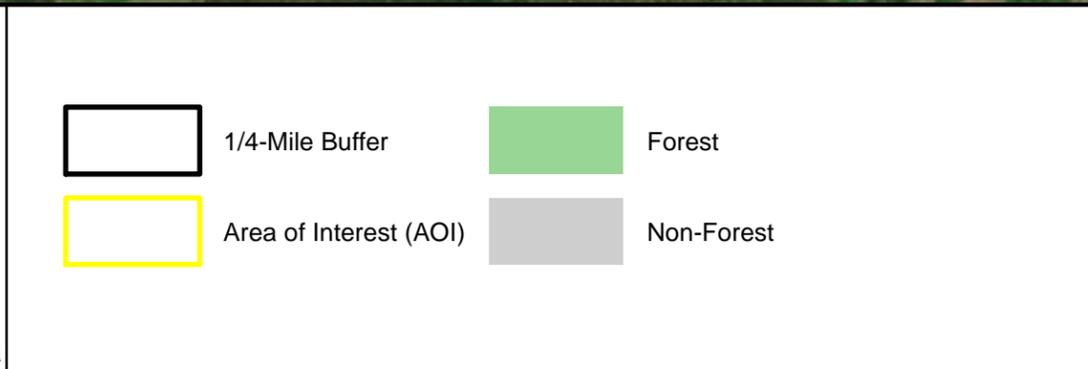
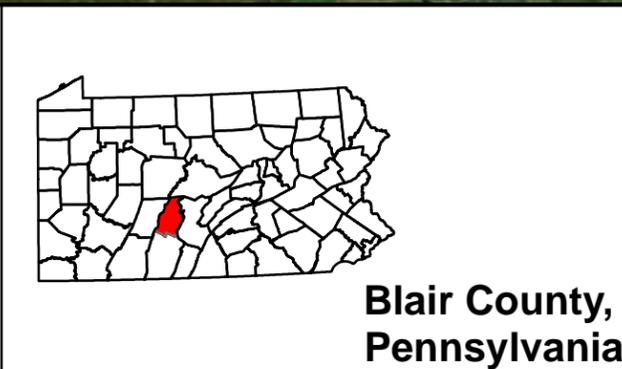
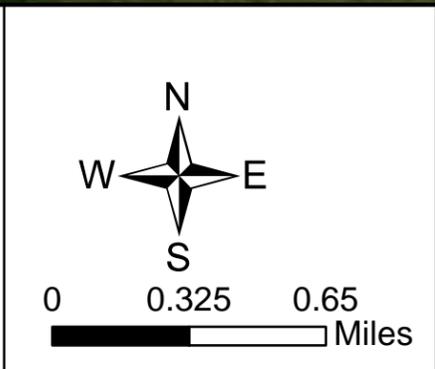
Tetra Tech, Inc.	
Figure 1 Project Location Map Pennsylvania Pipeline Project	
Date: 03/13/2019	Version: #1

Figure 2
Land Cover Map



Notes:
 1. Background image is ESRI aerial imagery.
 2. Study area contains 353.8 acres of forest.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Tetra Tech, Inc.

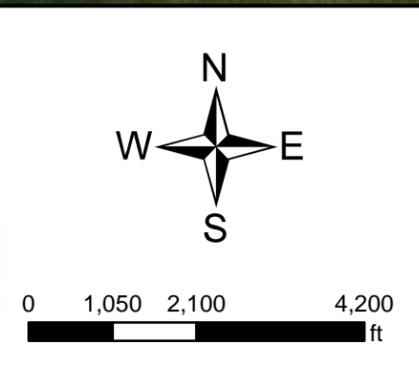
Figure 2
 Pennsylvania Pipeline Project
 Land Cover Map

Date: 03/12/2019 Version: #1

Figure 3
Cover Type and PRT Maps



Notes:
 1. PRTs and cover types were identified during onsite habitat assessment carried out by AllStar Ecology, LLC. on March 11, 2019.
 2. Background is ESRI aerial imagery.



- Area of Interest (AOI)
- Limits of Disturbance (LOD)
- 1-Oak-Maple-Hickory
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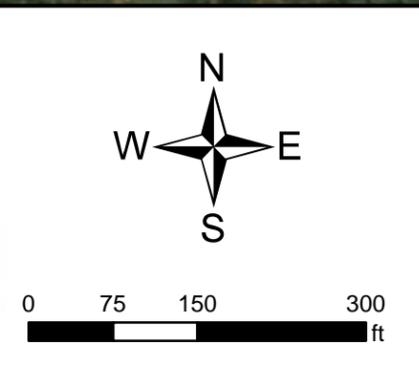
Tetra Tech, Inc.

Figure 3
Cover Type and PRT Map
Pennsylvania Pipeline Project

Date: 03/12/2019	Index
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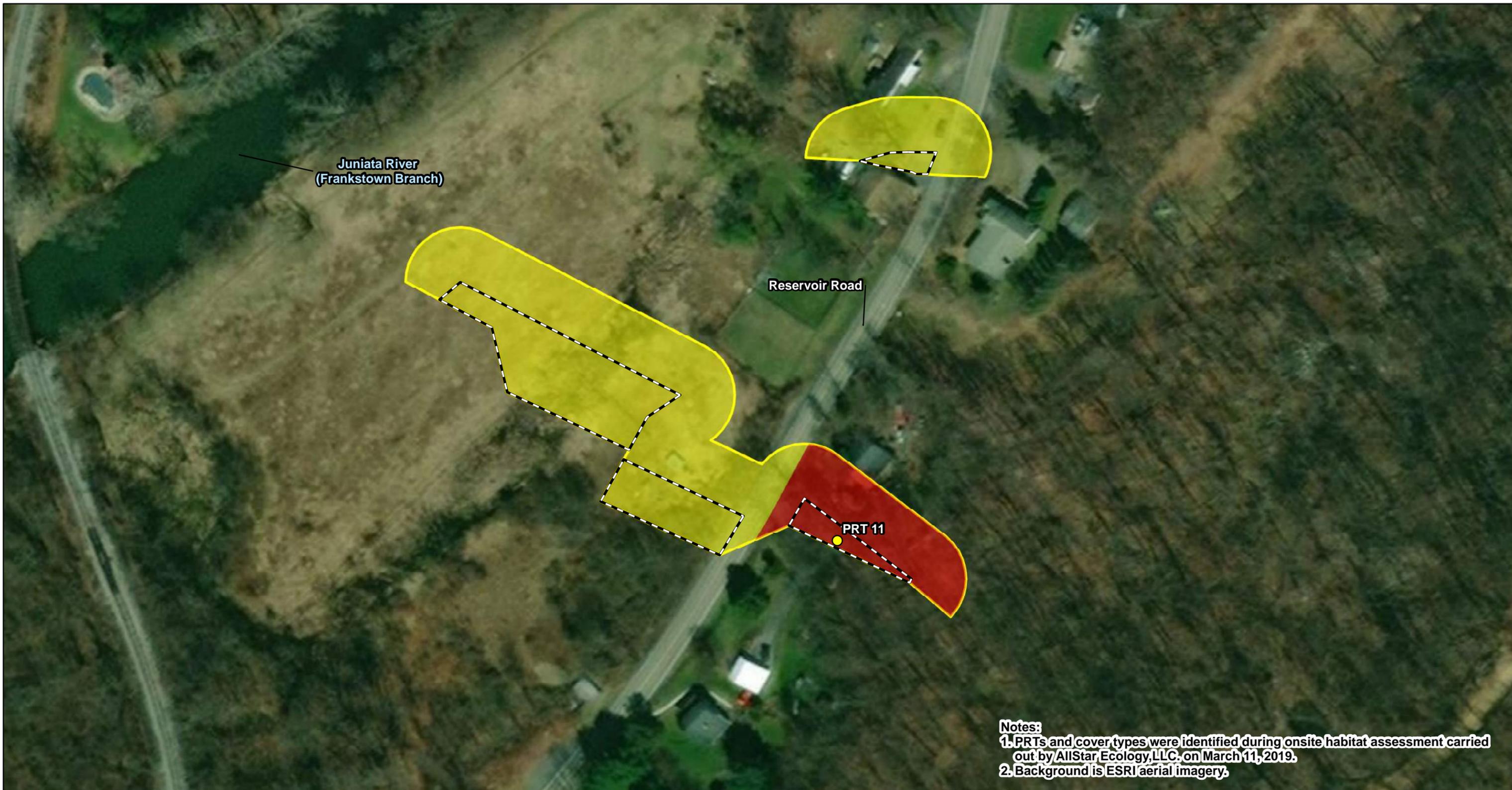


Area of Interest (AOI)	1-Oak-Maple-Hickory	Bat Data Point (DP)
Limits of Disturbance (LOD)	2-Maple-Ash	Potential Roost Tree (PRT)
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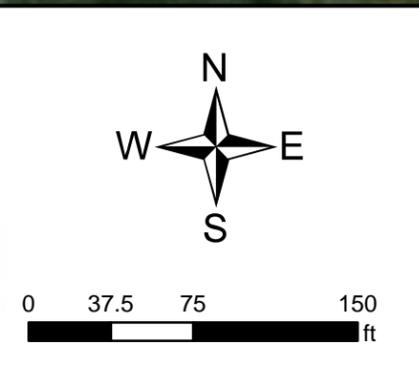
Tetra Tech, Inc.

Figure 3
 Cover Type and PRT Map
 Pennsylvania Pipeline Project

Date: 03/12/2019	Sheet 1
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Notes:
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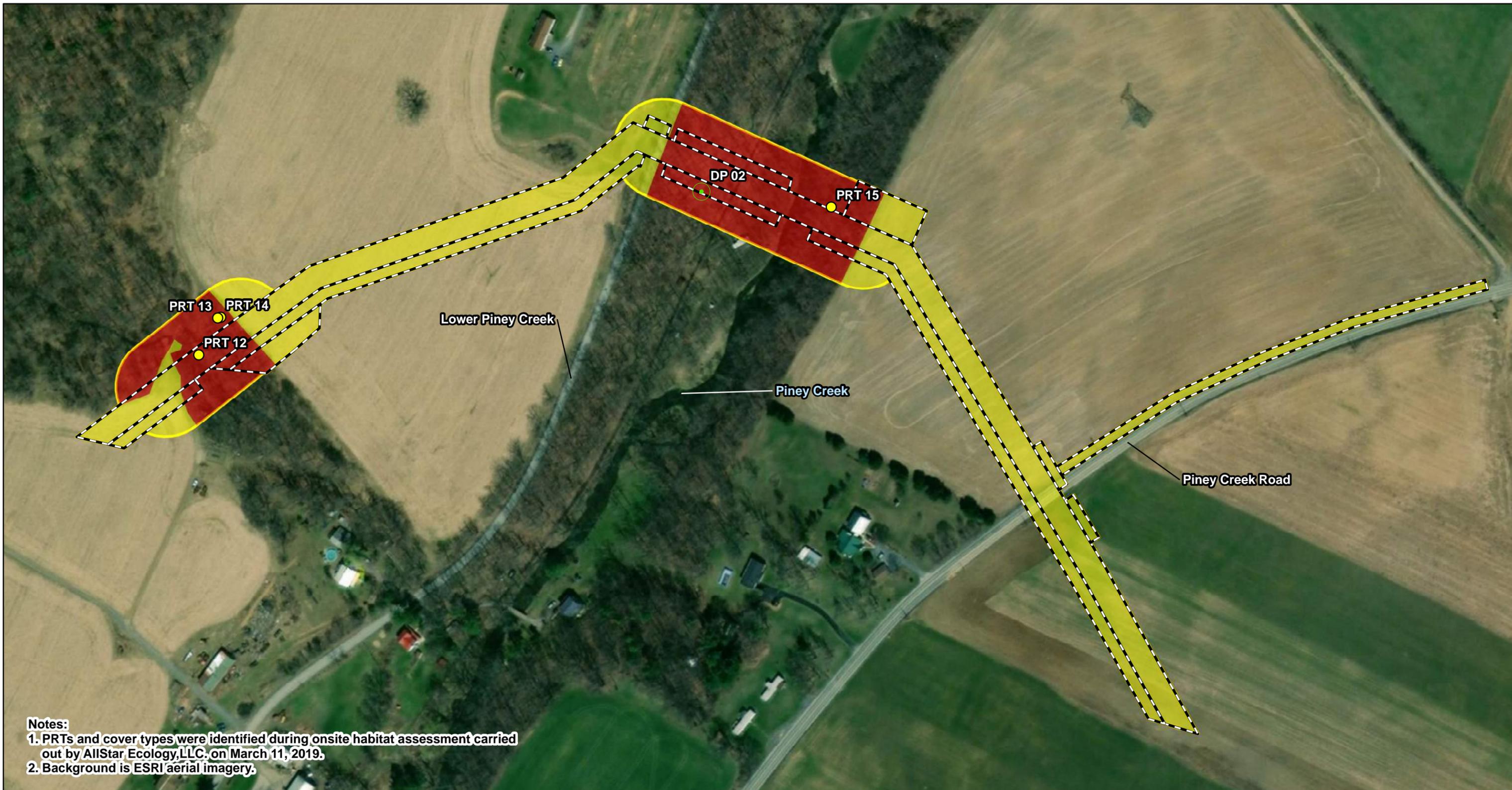


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- Bat Data Point (DP)
- Potential Roost Tree (PRT)

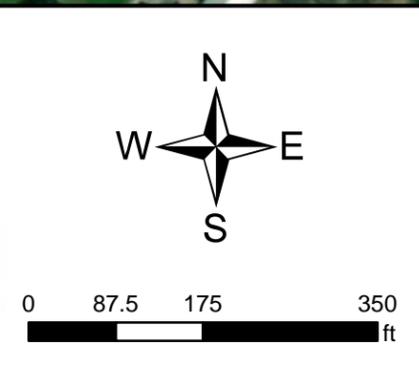
Tetra Tech, Inc.

Figure 3
Cover Type and PRT Map
Pennsylvania Pipeline Project

Date: 03/12/2019	Sheet 2
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Notes:
 1. PRTs and cover types were identified during onsite habitat assessment carried out by AllStar Ecology, LLC, on March 11, 2019.
 2. Background is ESRI aerial imagery.



- Area of Interest (AOI)
- Limits of Disturbance (LOD)
- 1-Oak-Maple-Hickory
- 2-Maple-Ash
- 3-Shrubs
- 4-Herbaceous/Developed
- Bat Data Point (DP)
- Potential Roost Tree (PRT)

Tetra Tech, Inc.

Figure 3
 Cover Type and PRT Map
 Pennsylvania Pipeline Project

Date: 03/12/2019	Sheet 3
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Figure 4
PRT and General Site Photographs

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**

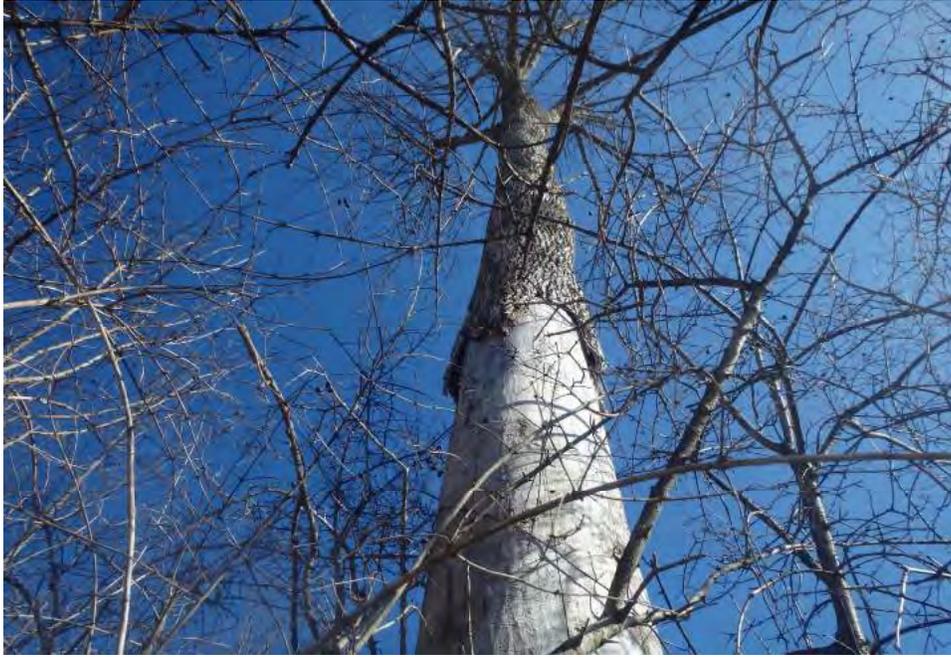


Photo 1. A view of PRT 01.

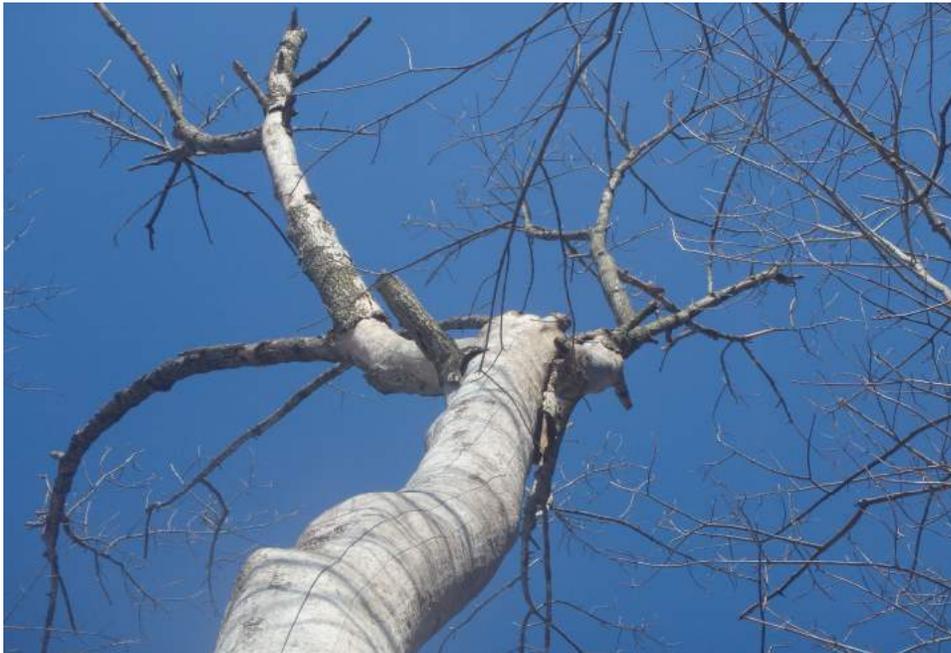


Photo 2. A view of PRT 02.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 3. A view of PRT 03.

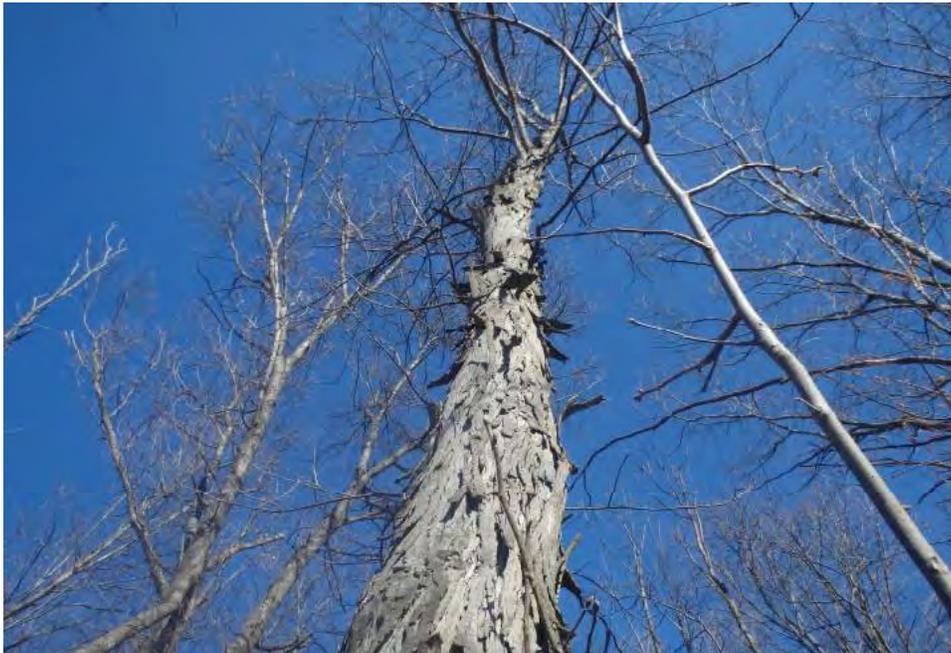


Photo 4. A view of PRT 04.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 5. A view of PRT 05.



Photo 6. A view of PRT 06.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 7. A view of PRT 07.



Photo 8. A view of PRT 08.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**

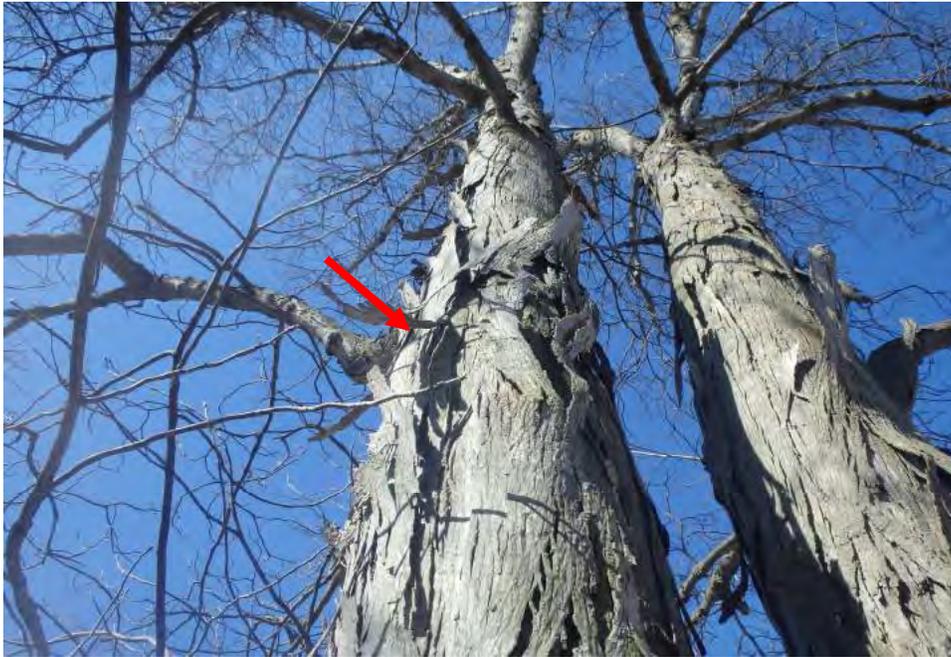


Photo 9. A view of PRT 09.

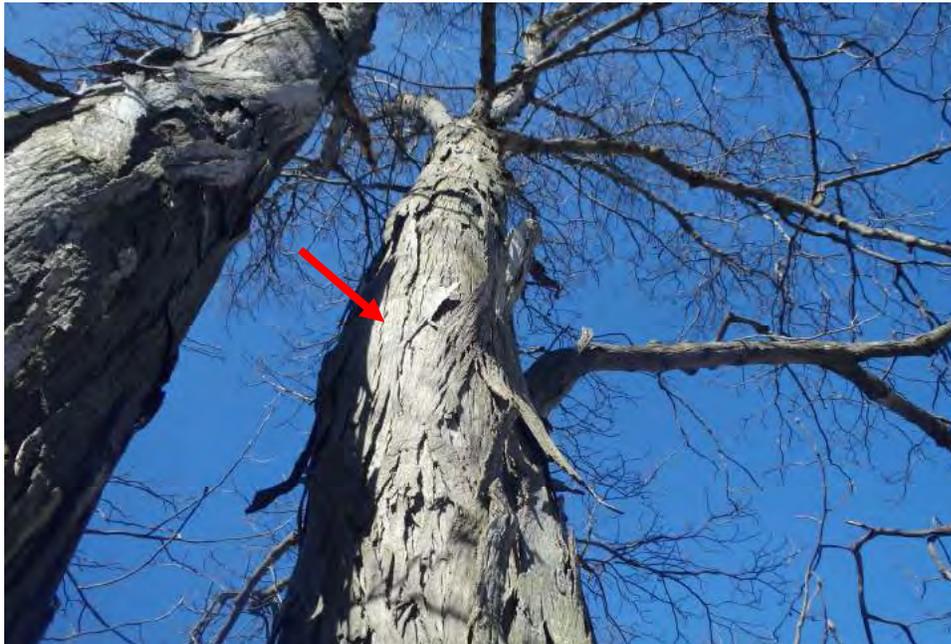


Photo 10. A view of PRT 10.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 11. A view of PRT 11.

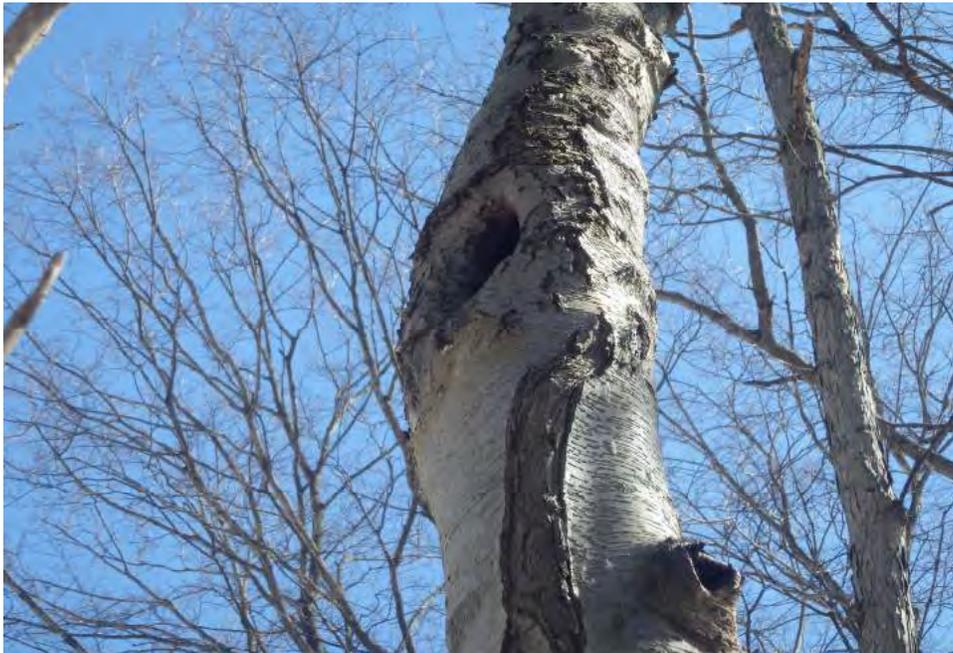


Photo 12. A view of PRT 12.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 13. A view of PRT 13.

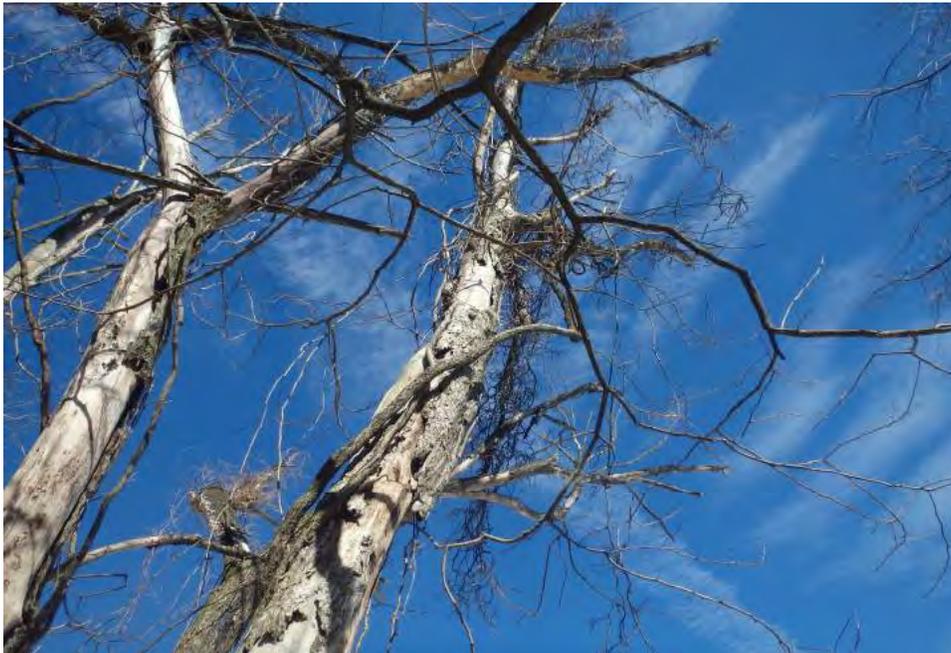


Photo 14. A view of PRT 14.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**

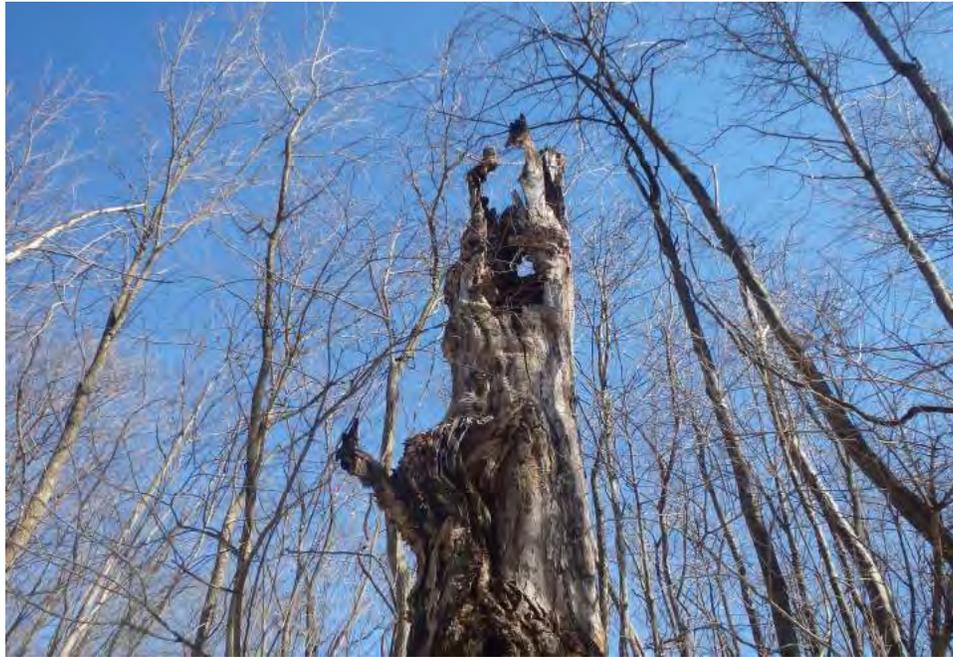


Photo 15. A view of PRT 15.



Photo 16. A view north of Data Point (DP) 01.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 17. A view north of Data Point (DP) 02.



Photo 18. A view north of Data Point (DP) 03.

**Pennsylvania Pipeline Project
Bat Habitat Assessment
March 11, 2019**



Photo 19. A view west of Data Point (DP) 04.

Attachment 1
Potential Roost Tree Information Sheet

Label	Tree Species	Tree Height (ft)	Tree Condition	Tree Class	Decay Class	Bark Present (%)	Bark Useable (%)	Canopy Closure	Landscape Feature	Roost Class	DBH (in)	Photo #	Bat Species	Avoid/ Take	Cover Type	Latitude	Longitude
PRT 01	<i>Fraxinus americana</i>	45	Dead	Codominant	4- Loose Bark	85	5	30	forest edge	S	15	6	IB	Take	3-Shrubs	40.416568	-78.383427
PRT 02	<i>Fraxinus americana</i>	40	Dead	Codominant	4- Loose Bark	20	5	30	forest edge	S	13	5	IB	Take	1-Oak-Maple-Hickory	40.416132	-78.381745
PRT 03	<i>Acer rubrum</i>	20	Dead	suppressed	4- Loose Bark	80	10	60	forest edge	S	7	15	IB	Take	1-Oak-Maple-Hickory	40.416188	-78.381567
PRT 04	<i>Carya ovata</i>	40	Live	Codominant	1-Live	100	15	60	forest edge	S	11	4	IB	Take	1-Oak-Maple-Hickory	40.416046	-78.381212
PRT 05	<i>Carya ovata</i>	45	Live	Codominant	1-Live	100	20	60	forest edge	S	8	3	IB	Take	1-Oak-Maple-Hickory	40.416011	-78.381118
PRT 06	<i>Carya ovata</i>	45	Live	Codominant	1-Live	100	15	50	forest edge	S	8	2	IB	Avoid	1-Oak-Maple-Hickory	40.415891	-78.380631
PRT 07	<i>Carya ovata</i>	40	Live	Dominant	1-Live	100	25	50	forest edge/stream	P	31	16	IB	Avoid	1-Oak-Maple-Hickory	40.415873	-78.3805
PRT 08	<i>Ulmus americana</i>	20	Dead	Codominant	4- Loose Bark	65	10	0	forest edge/road	S	5	1	IB	Take	4-Herbaceous/Developed	40.416054	-78.379186
PRT 09	<i>Carya ovata</i>	40	Live	Codominant	1-Live	100	10	70	forest edge	S	15	17	IB	Take	1-Oak-Maple-Hickory	40.415409	-78.379514
PRT 10	<i>Carya ovata</i>	40	Live	Codominant	1-Live	100	10	70	forest edge	S	17	18	IB	Take	1-Oak-Maple-Hickory	40.415413	-78.379513
PRT 11	<i>Ulmus rubra</i>	25	Dead	Codominant	4- Loose Bark	70	30	60	forest edge	S	16	19	IB	Take	2-Maple-Ash	40.412273	-78.371804
PRT 12	<i>Fagus grandifolia</i>	40	Live	Codominant	1-Live	100	0-cavity	70	stream	S	11	26	NLEB	Take	2-Maple-Ash	40.434332	-78.269291

Label	Tree Species	Tree Height (ft)	Tree Condition	Tree Class	Decay Class	Bark Present (%)	Bark Useable (%)	Canopy Closure	Landscape Feature	Roost Class	DBH (in)	Photo #	Bat Species	Avoid/ Take	Cover Type	Latitude	Longitude
PRT 13	<i>Ulmus americana</i>	35	Dead	Codominant	4- Loose Bark	40	15	10	forest edge	S	12	25	IB	Avoid	2-Maple-Ash	40.434533	-78.269145
PRT 14	<i>Ulmus americana</i>	30	Dead	Codominant	4- Loose Bark	35	20	10	forest edge	S	10	24	IB	Avoid	2-Maple-Ash	40.434537	-78.269123
PRT 15	<i>Platanus occidentalis</i>	35	Dead	Codominant	5- Clean	0	0-cavity	70	stream	P	30	27	NLEB	Avoid	2-Maple-Ash	40.435039	-78.264682

Attachment 2
Bat Habitat Data Forms

**Attachment 3
IPaC Report**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Blair County, Pennsylvania



Local office

Pennsylvania Ecological Services Field Office

☎ (814) 234-4090

📠 (814) 234-0748

MAILING ADDRESS

110 Radnor Road Suite 101
State College, PA 16801-7987

PHYSICAL ADDRESS

110 Radnor Road

Suite 101

State College, PA 16801-7987

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

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Indiana Bat *Myotis sodalis*

Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.

<https://ecos.fws.gov/ecp/species/5949>

Northern Long-eared Bat *Myotis septentrionalis*

Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

Flowering Plants

NAME

STATUS

Northeastern Bulrush *Scirpus ancistrochaetus*

Endangered

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/6715>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the [FAQ below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Black-capped Chickadee <i>Poecile atricapillus praticus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 10 to Jul 31

Bobolink *Dolichonyx oryzivorus*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Cerulean Warbler *Dendroica cerulea*

Breeds Apr 27 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/2974>

Golden Eagle *Aquila chrysaetos*

Breeds elsewhere

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Golden-winged Warbler *Vermivora chrysoptera*

Breeds May 1 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8745>

Prairie Warbler *Dendroica discolor*

Breeds May 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker *Melanerpes erythrocephalus*

Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (☀)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

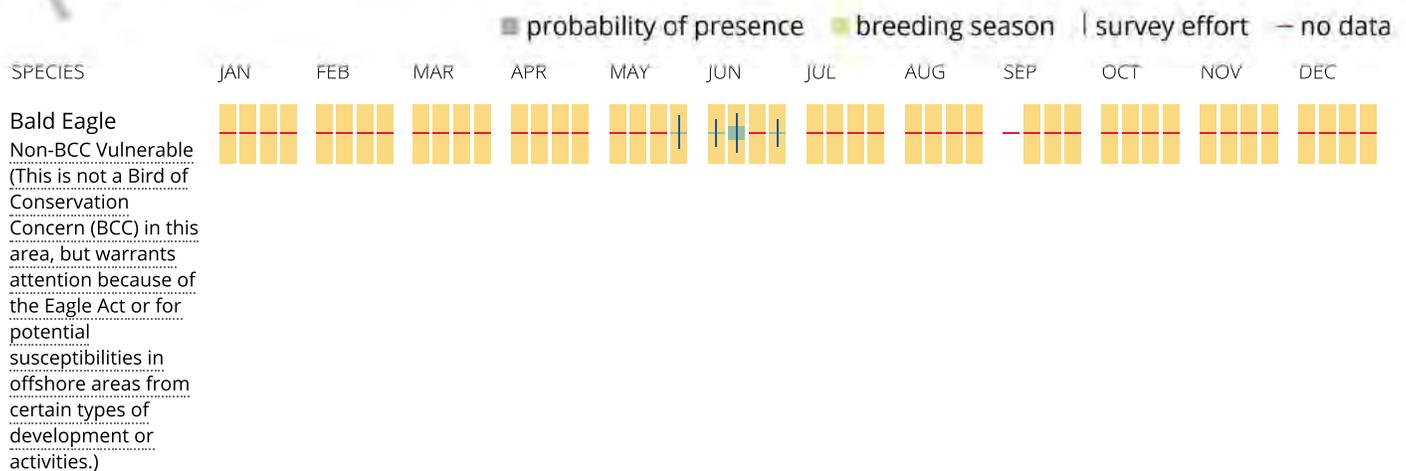
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

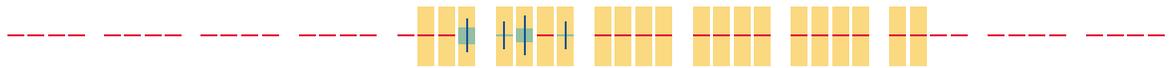
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

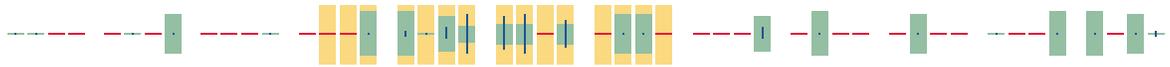


Black-billed Cuckoo



BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Black-capped Chickadee



BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Bobolink



BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Cerulean Warbler



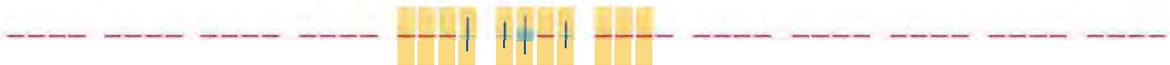
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Golden Eagle



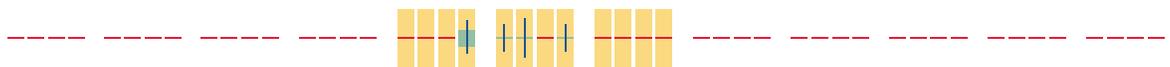
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Golden-winged Warbler



BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Prairie Warbler



BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

NOT FOR CONSULTATION



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to

confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1A](#)

RIVERINE

[R4SBC](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.