

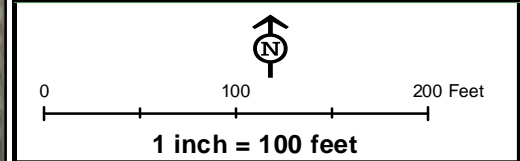
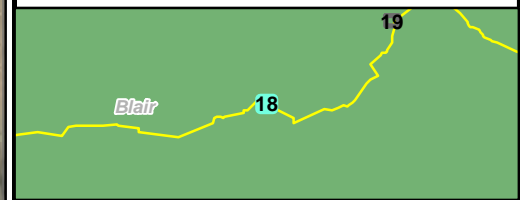
ATTACHMENT 12:
Planting Plans for Wetland Restoration

PFO / PSS Plantings



Legend

- 20" PPP Centerline
- 16" PPP Centerline
- PPP Workspace
- Streams
- Ponds
- PEM Wetland
- PFO Wetland
- PSS Wetland
- PFO Permanent Impacts to Replant
- PFO Temporary Impacts to Replant
- PFO to PEM Conversion
- PSS Permanent Impacts to Replant
- PSS Temporary Impacts to Replant
- Sheet Boundary
- County Boundary

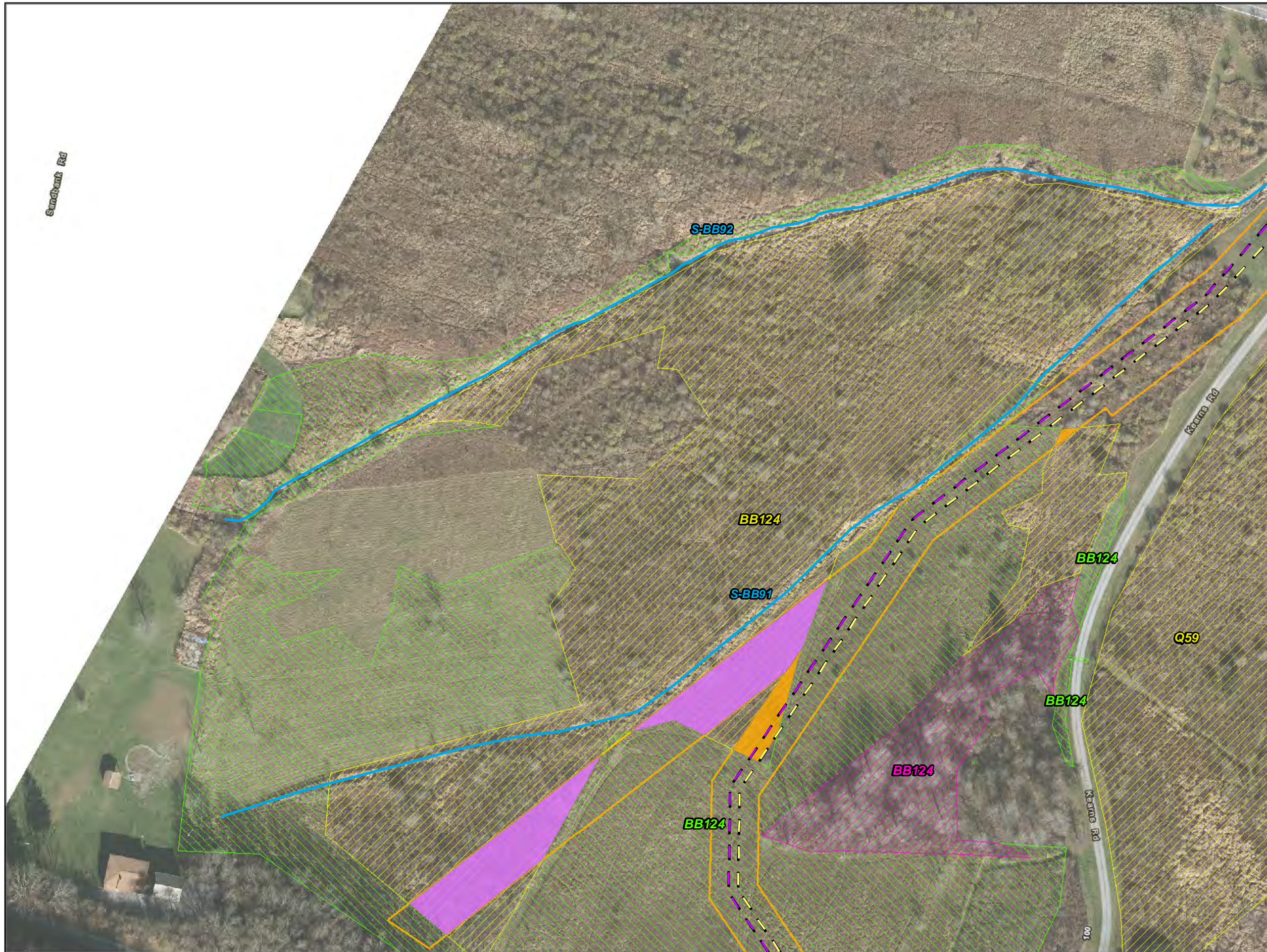


**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Blair County, PA.
18 of 37**

Prepared By: TETRA TECH	Date: 11/2016
-----------------------------------	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vinos0099\gis\CAD\GIS_Datapl\PROJECTS\11212\COUS666_PPP_REH\Mariner Phase 2\Permitting\01_GIS\01_MXD\A\PFO_PSS_Planning_Mapping\PFO_PSS_Planning_Mapping.mxd



Legend

- 20' PPP Centerline
- 16' PPP Centerline
- PPP Workspace
- Streams
- Ponds
- PEM Wetland
- PFO Wetland
- PSS Wetland
- PFO Permanent Impacts to Replant
- PFO Temporary Impacts to Replant
- PFO to PEM Conversion
- PSS Permanent Impacts to Replant
- PSS Temporary Impacts to Replant
- Sheet Boundary
- County Boundary

Blair 18 19

N

0 100 200 Feet

1 inch = 100 feet

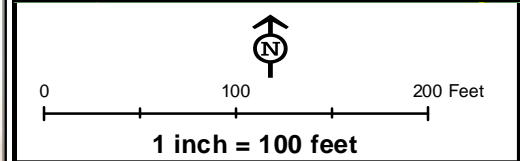
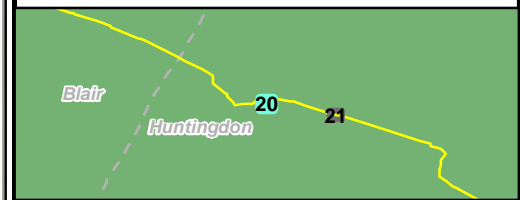
**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Blair County, PA.
19 of 37**

Prepared By:	Date:
TETRA TECH	11/2016

Coordinate System: NAD 83 Stateplane, PA South, Feet



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary

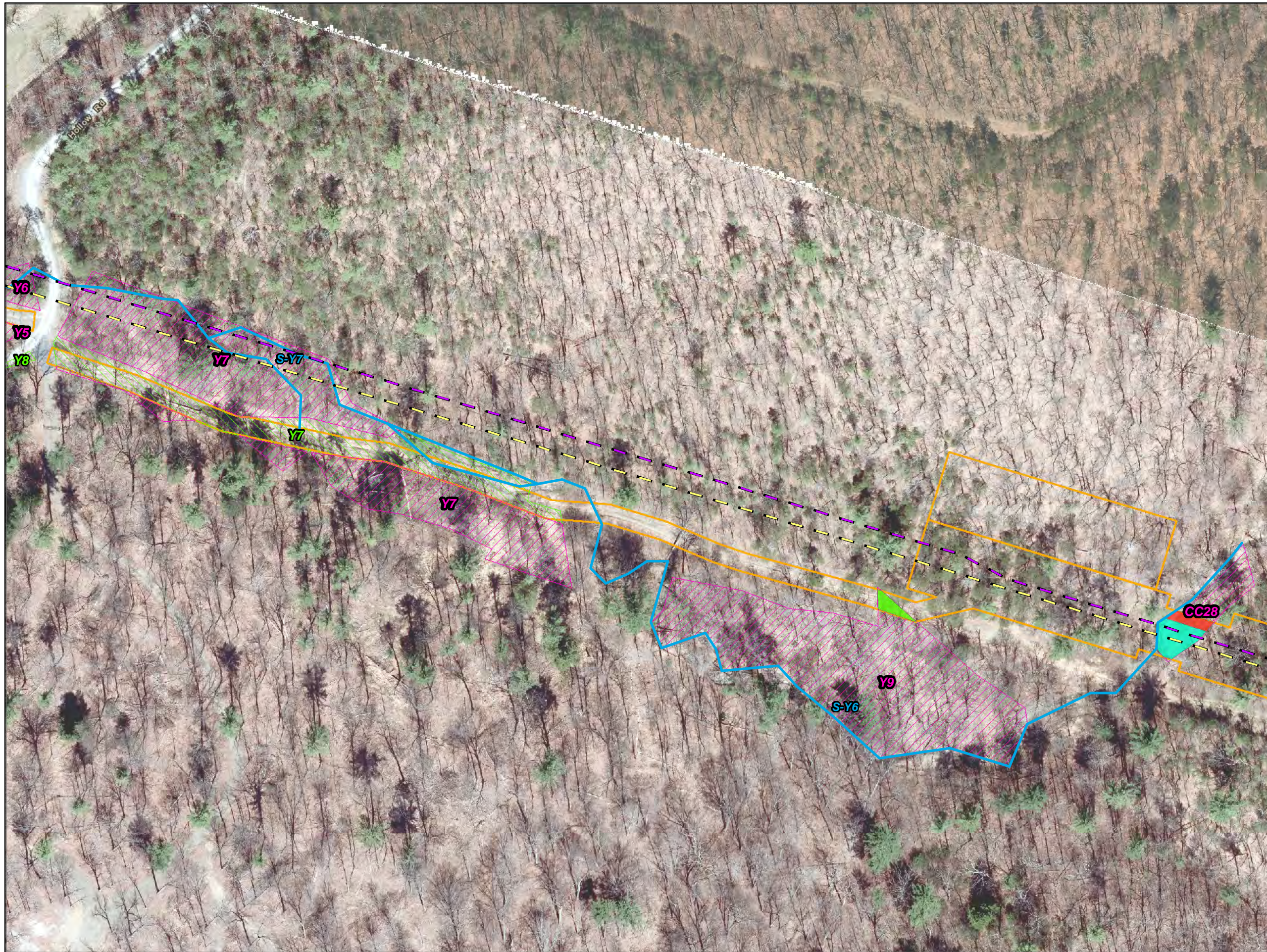


**Planting Maps for the Sunoco
 Pennsylvania Pipeline Project,
 Huntingdon County, PA.
 20 of 37**

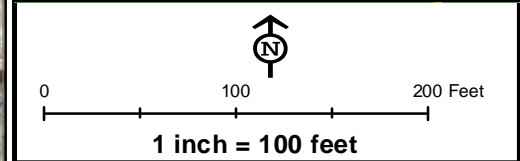
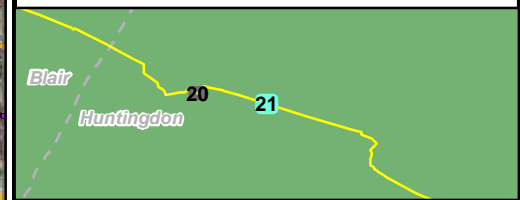
Prepared By: 	Date: 11/2016
-------------------------	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\ms099511\CAD\GIS Data\Map\ROJECTS\11212105066_PPP_REH\Map\Phase 2\Permitting\01_GIS\01_MXD\PPP_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary

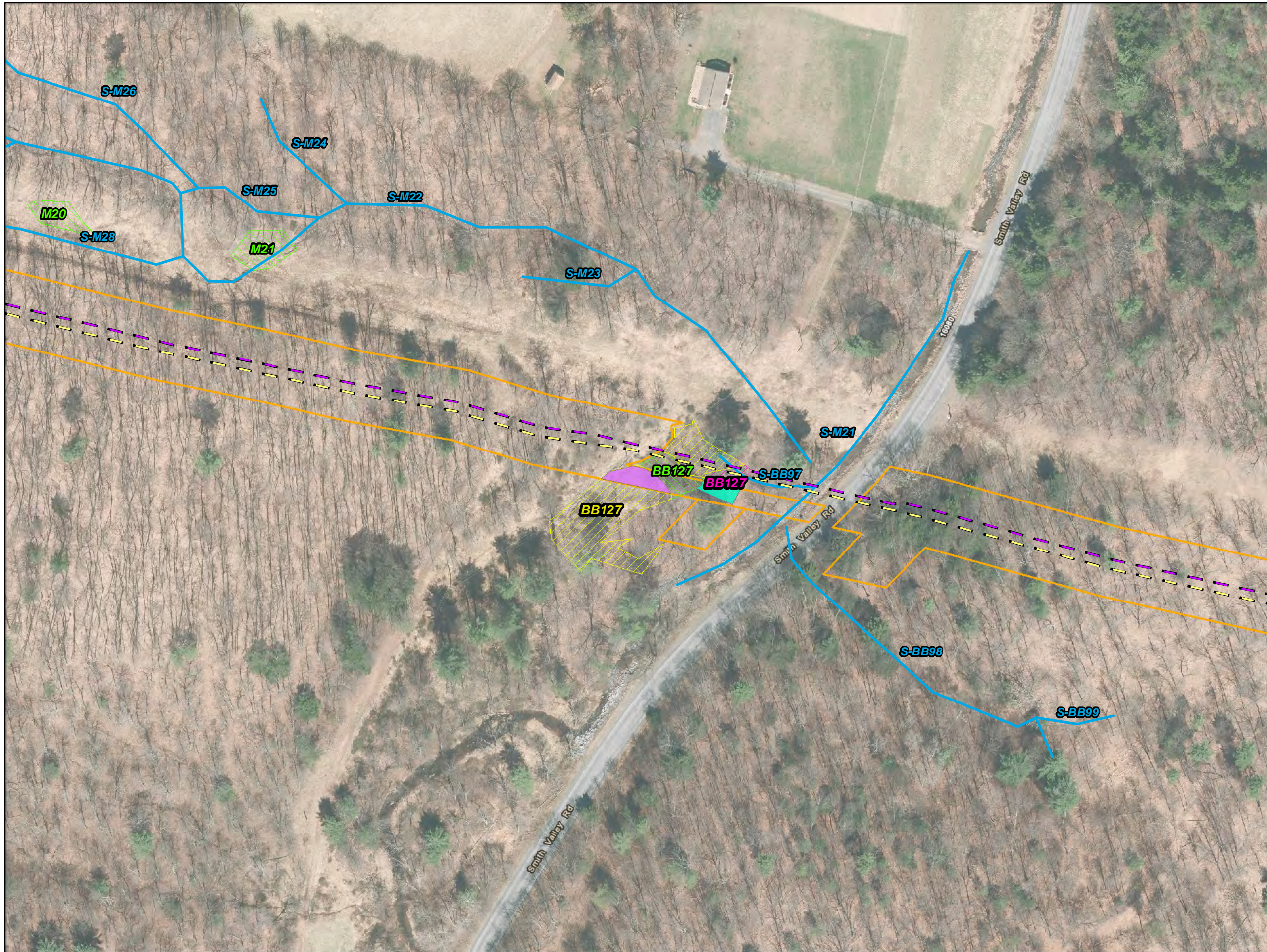


**Planting Maps for the Sunoco
 Pennsylvania Pipeline Project,
 Huntingdon County, PA.
 21 of 37**

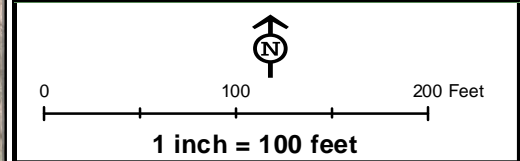
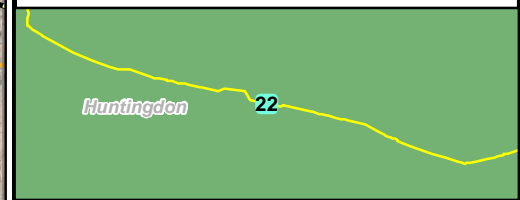
Prepared By: 	Date: 11/2016
-------------------------	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\ms0099s1\CAD\GIS_Dataprj\ROJECTS\1121\CO05060_PPP_REH\Mariner Phase 2\Permitting\01_CoGIS\01_MXD\PPP\05_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary



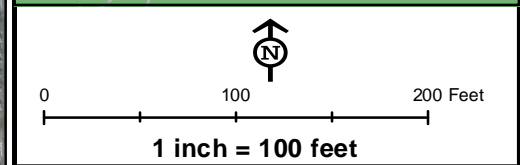
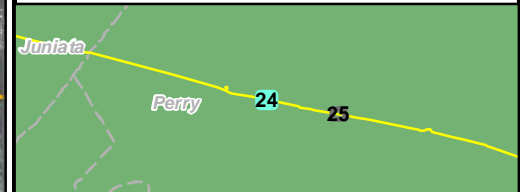
Planting Maps for the Sunoco
 Pennsylvania Pipeline Project,
 Huntingdon County, PA.
 22 of 37

Prepared By: TETRA TECH	Date: 11/2016
----------------------------	------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary



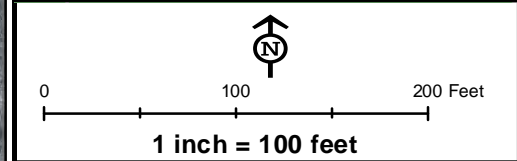
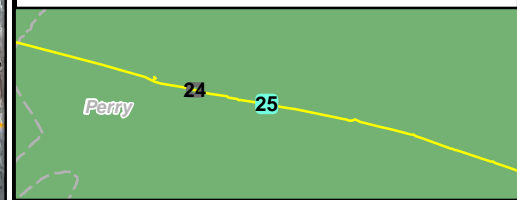
**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Perry County, PA.
24 of 37**

Prepared By: 	Date: 11/2016
-------------------------	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary

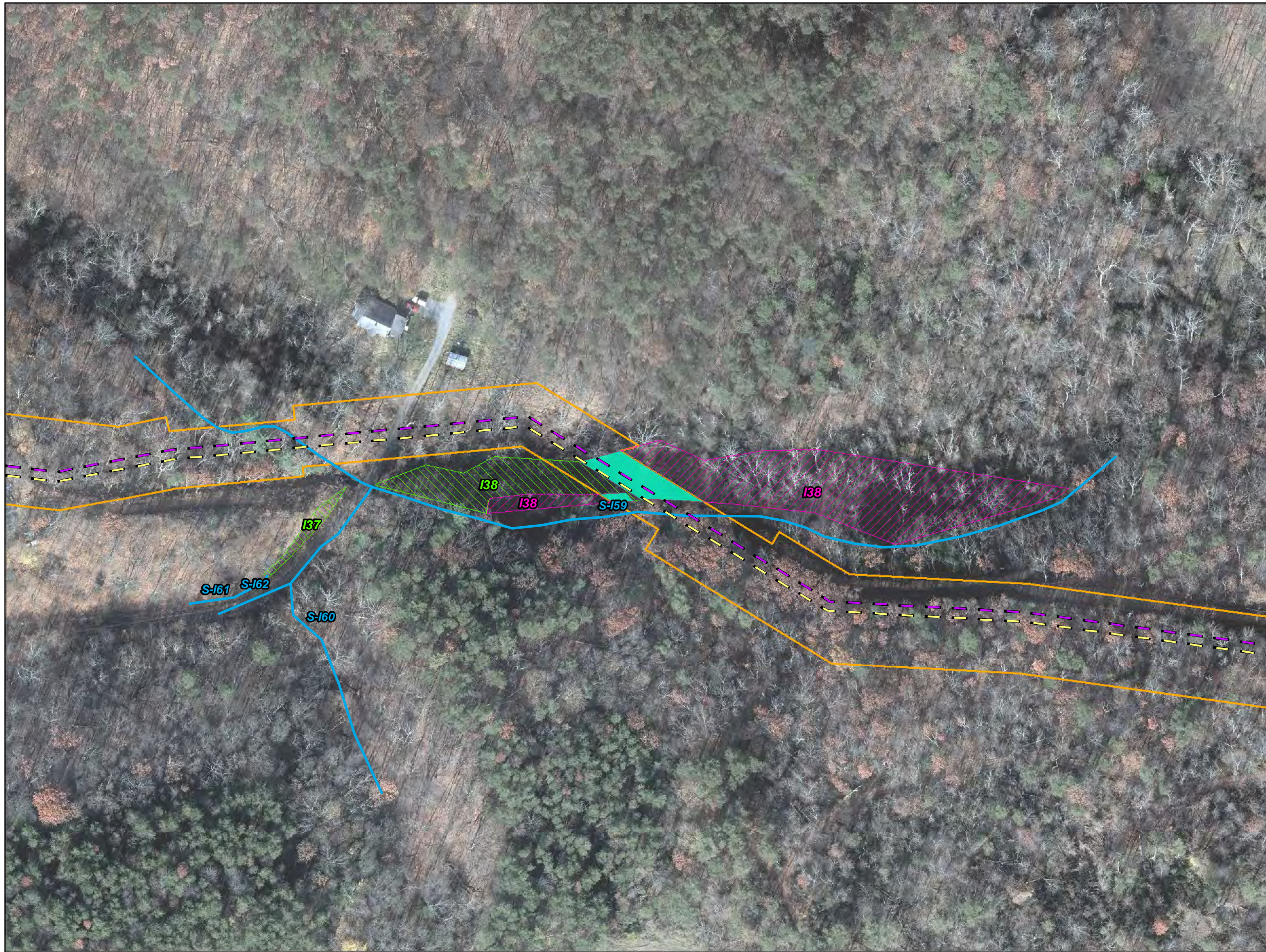


Planting Maps for the Sunoco
 Pennsylvania Pipeline Project,
 Perry County, PA.
 25 of 37

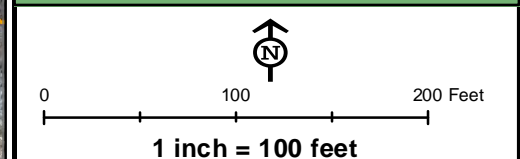
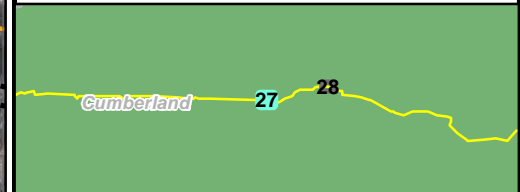
Prepared By:	Date:
 TETRA TECH	11/2016

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vms009951\CAD\GIS_Database\ROJECTS\1121\21050660_PPP_REH\Mariner Phase 2\Permitting\01_GIS\01_MXD\PFO_PSS_Planning_Mapping\PFO_PSS_Planning_Mapping.mxd



- Legend**
- 20' PPP Centerline
 - 16' PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary

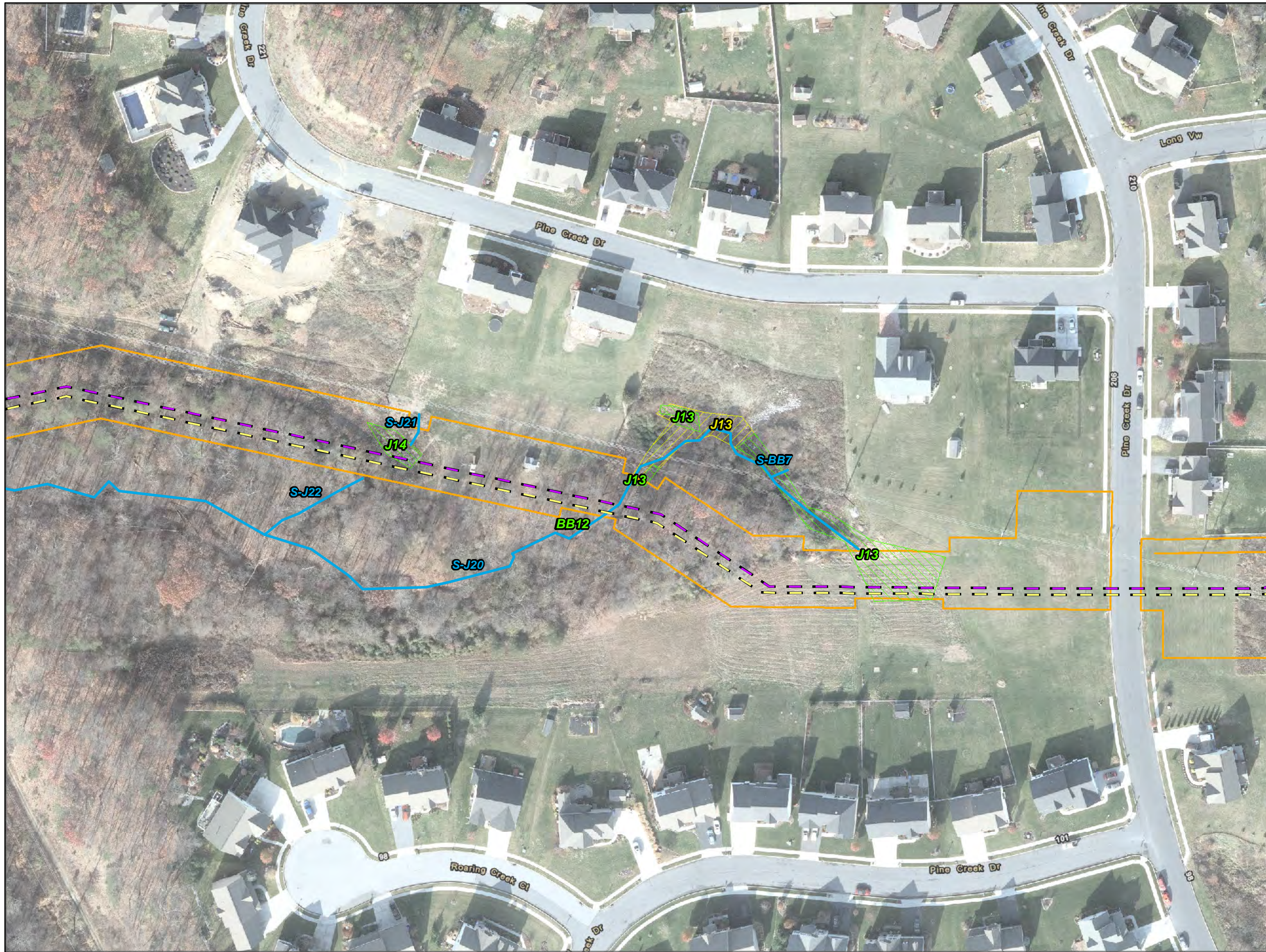


Planting Maps for the Sunoco
 Pennsylvania Pipeline Project,
 Cumberland County, PA.
 27 of 37

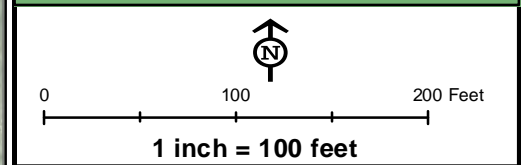
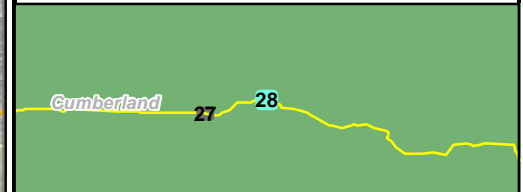
Prepared By: TETRA TECH	Date: 11/2016
----------------------------	------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vinos0099s1\CAD\GIS_Dataprj\ROJECTS\11212\050660_PPP_REH\Mariner Phase 2\Permitting\01_GIS\01_MXD\PPP_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary



Planting Maps for the Sunoco
 Pennsylvania Pipeline Project,
 Cumberland County, PA.
 28 of 37

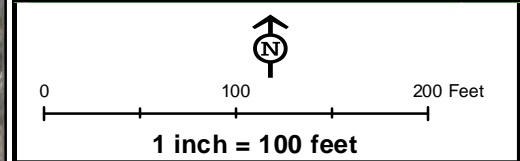
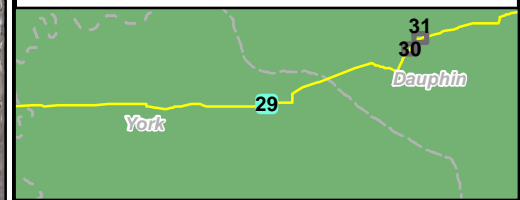
Prepared By: TETRA TECH	Date: 11/2016
----------------------------	------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vms009511\CAD\GIS Data\RF\PROJECTS\11212105868_PPP_REH\Mariner Phase 2\Permitting\01_GIS\01_MXD\PPP\01_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary

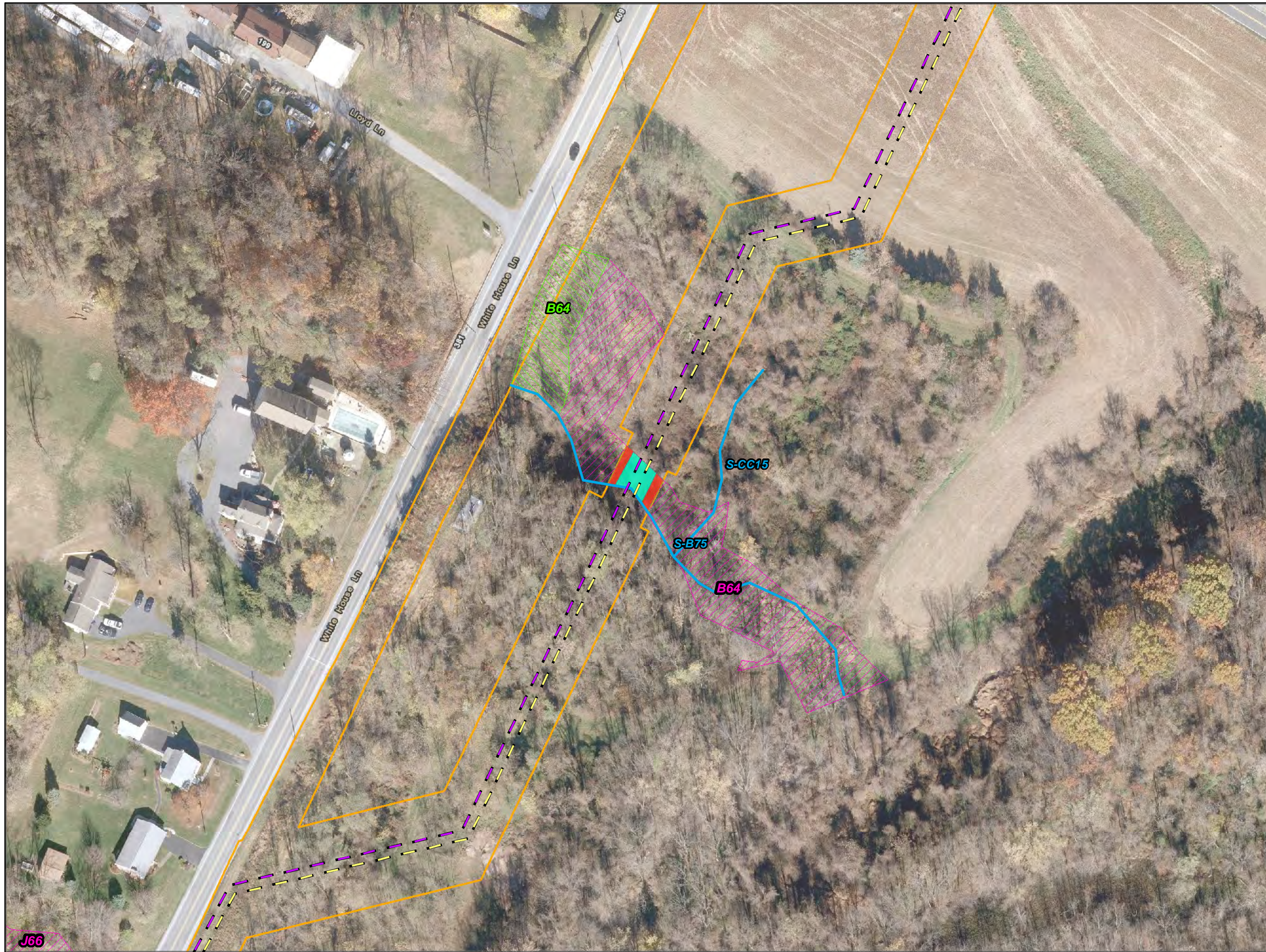


**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
York County, PA.
29 of 37**

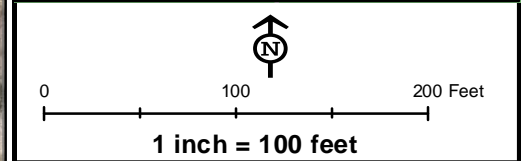
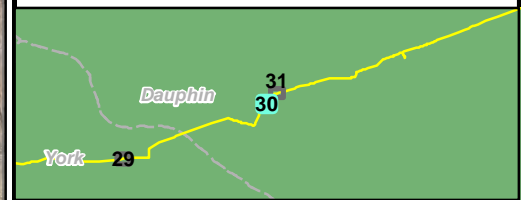
Prepared By: TETRA TECH	Date: 11/2016
-----------------------------------	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vms009951\CAD\GIS Data\Map\ROJECTS\11212105066_PPP_REH\Mariner Phase 2\Permitting\01_GIS\01_MXD\PPP_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd



- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary


















**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Dauphin County, PA.
30 of 37**

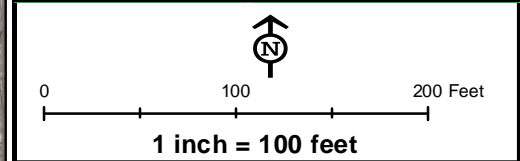
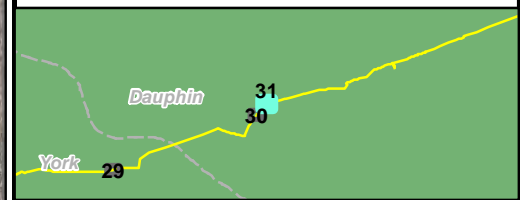
Prepared By: TETRA TECH	Date: 11/2016
-----------------------------------	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vinus0099s1\CAD\GIS_Datapl\ROJECTS\11212105066_PPP_REH\Mariner Phase 2_Permitting\01_GIS\01_MXD\PPP_PFO_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd



- Legend**
-  20\"/>
 -  16\"/>
 -  PPP Workspace
 -  Streams
 -  Ponds
 -  PEM Wetland
 -  PFO Wetland
 -  PSS Wetland
 -  PFO Permanent Impacts to Replant
 -  PFO Temporary Impacts to Replant
 -  PFO to PEM Conversion
 -  PSS Permanent Impacts to Replant
 -  PSS Temporary Impacts to Replant
 -  Sheet Boundary
 -  County Boundary

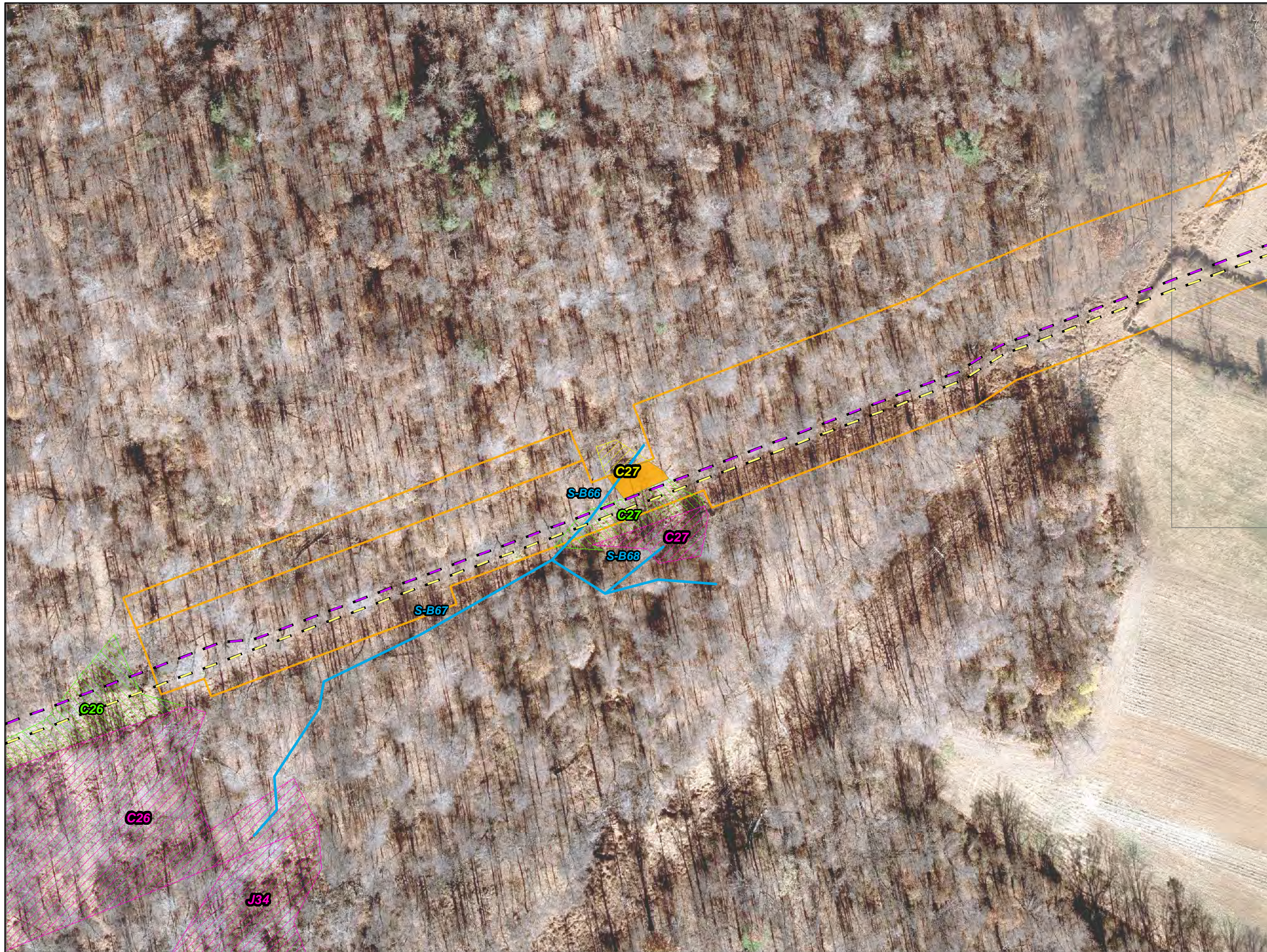


**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Dauphin County, PA.
31 of 37**

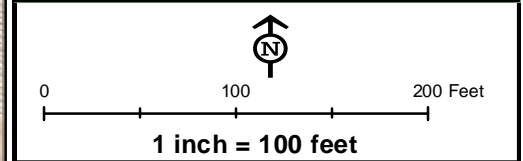
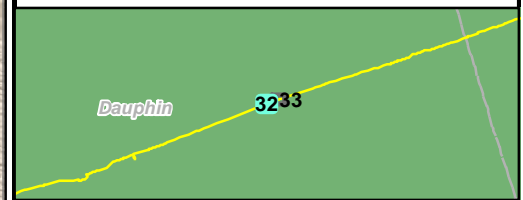
Prepared By: 	Date: 11/2016
--	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vinos0099s1\CAD\GIS_Datapl\ROJECTS\1121\CO05060_PPP_RE\Mariner Phase 2\Permitting\01_GIS\01_MXD\PFO_PSS_Planning_Mapping\PFO_PSS_Planning_Mapping.mxd



- Legend**
- 20' PPP Centerline
 - 16' PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary

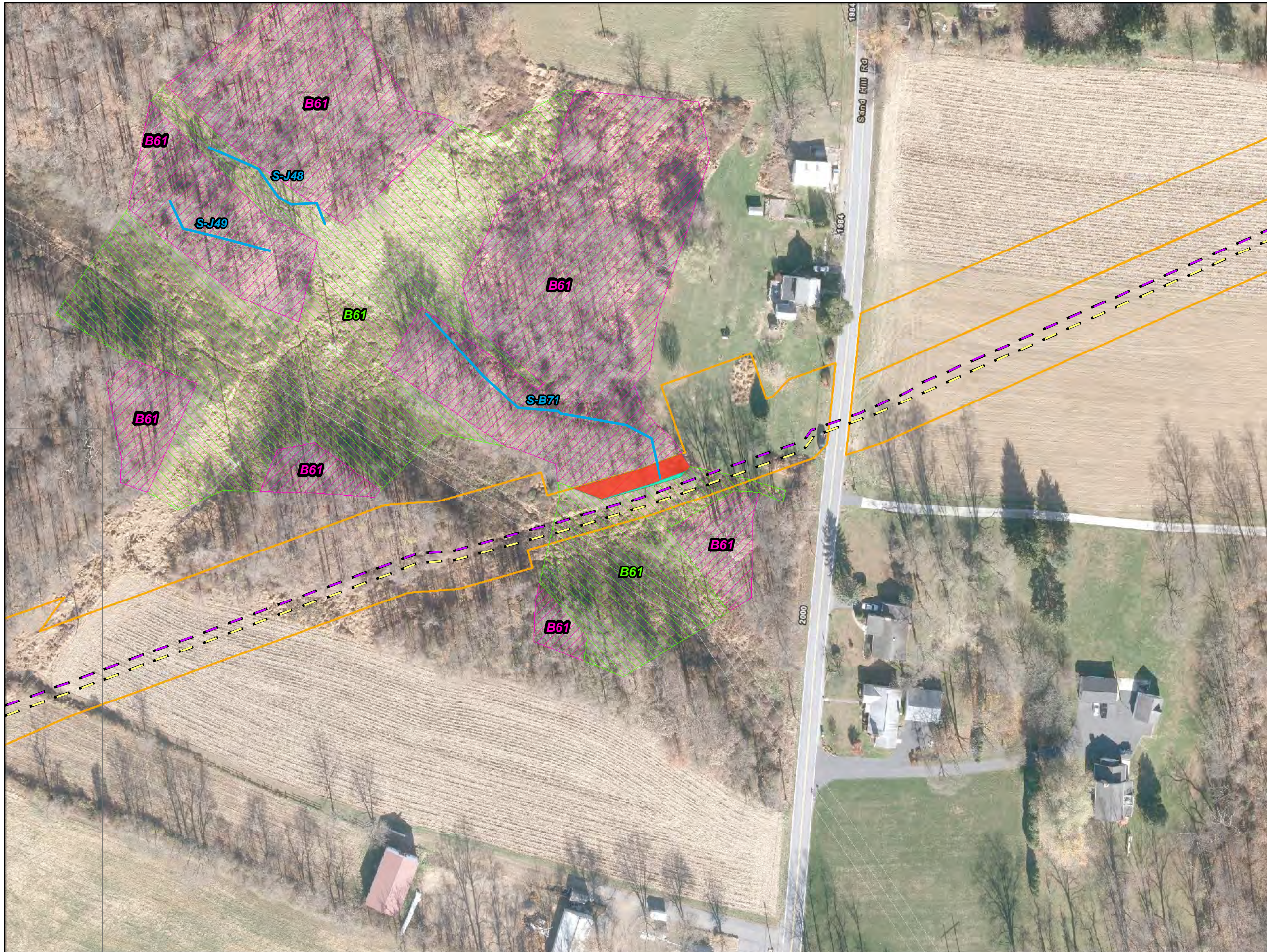


**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Dauphin County, PA.
32 of 37**

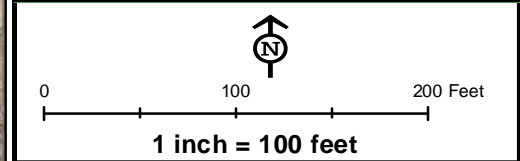
Prepared By: TETRA TECH	Date: 11/2016
--	--------------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\ms099915\CAD\GIS_Datapl\ROJECTS\11212\CO5868_PPP_REH\Mariner Phase 2_Permitting\01_GIS\01_MXD\PFO_PSS_Planning_Mapping\PFO_PSS_Planning_Mapping.mxd



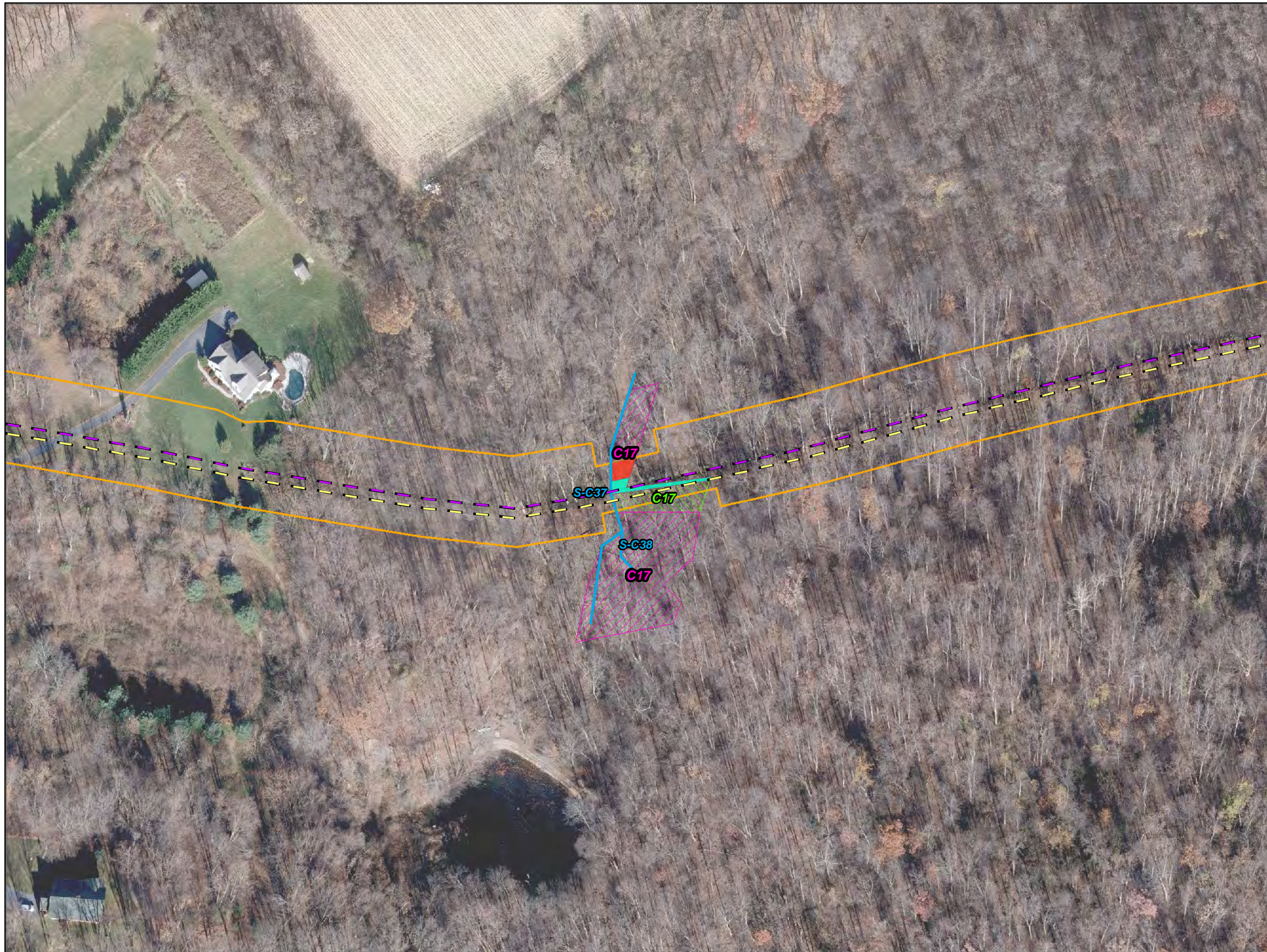
- Legend**
- 20" PPP Centerline
 - 16" PPP Centerline
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary



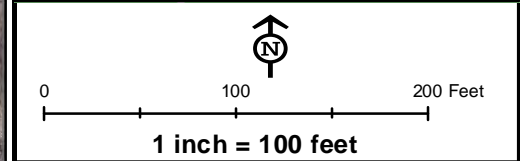
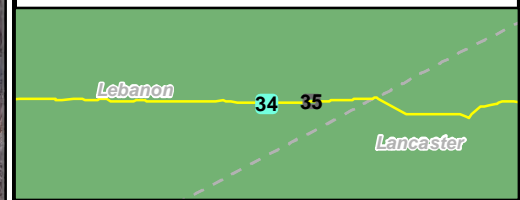
**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Dauphin County, PA.
33 of 37**

Prepared By: TETRA TECH	Date: 11/2016
-----------------------------------	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet



- Legend**
- 20\"/>
 - 16\"/>
 - PPP Workspace
 - Streams
 - Ponds
 - PEM Wetland
 - PFO Wetland
 - PSS Wetland
 - PFO Permanent Impacts to Replant
 - PFO Temporary Impacts to Replant
 - PFO to PEM Conversion
 - PSS Permanent Impacts to Replant
 - PSS Temporary Impacts to Replant
 - Sheet Boundary
 - County Boundary


















**Planting Maps for the Sunoco
Pennsylvania Pipeline Project,
Lebanon County, PA.
34 of 37**

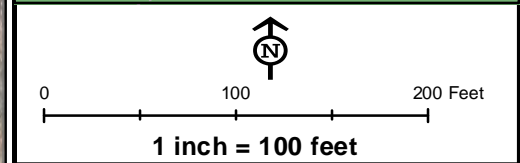
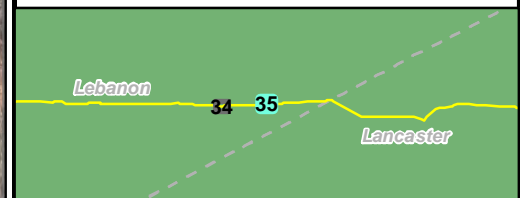
Prepared By: TETRA TECH	Date: 11/2016
--	--------------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vinos0099s1\CAD\GIS_Dataprj\ROJECTS\1121\CO05060_PPP_RE\Marine\Phase 2\Permitting\01_GIS\01_MXD\PPP_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd



- Legend**
-  20' PPP Centerline
 -  16' PPP Centerline
 -  PPP Workspace
 -  Streams
 -  Ponds
 -  PEM Wetland
 -  PFO Wetland
 -  PSS Wetland
 -  PFO Permanent Impacts to Replant
 -  PFO Temporary Impacts to Replant
 -  PFO to PEM Conversion
 -  PSS Permanent Impacts to Replant
 -  PSS Temporary Impacts to Replant
 -  Sheet Boundary
 -  County Boundary



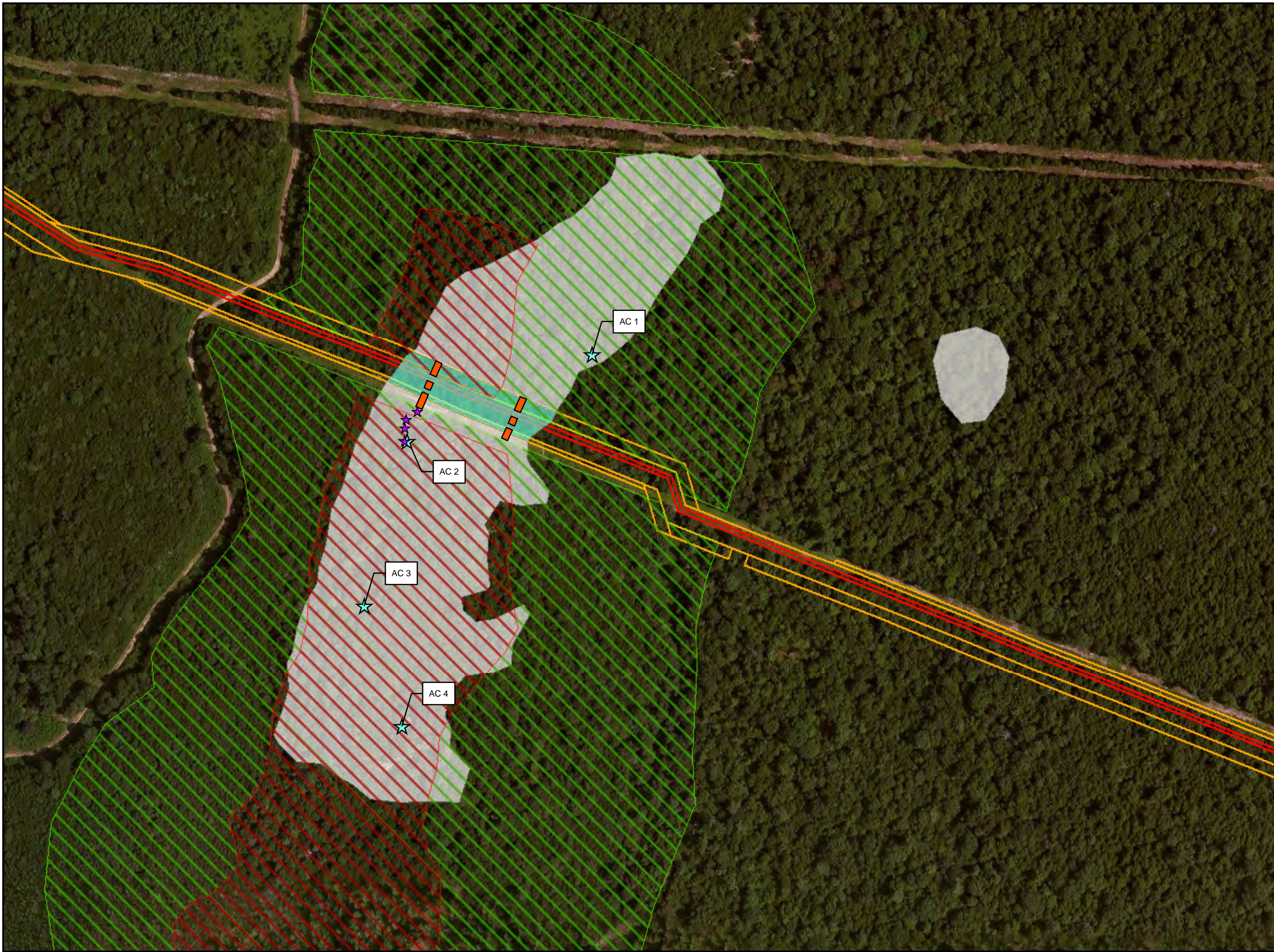
**Planting Maps for the Sunoco
 Pennsylvania Pipeline Project,
 Lebanon County, PA.
 35 of 37**

Prepared By: 	Date: 11/2016
--	-------------------------

Coordinate System: NAD 83 Stateplane, PA South, Feet

\\vinos0099s1\CAD\GIS_Datapl\ROJECTS\1212\05060_PPP_RE\Marine\Phase 2\Permitting\01_GIS\01_MXD\PPP_PSS_Planning_Mapping\PPP_PSS_Planning_Mapping.mxd

Allegheny Woodrat Plantings



- Legend**
- ★ 2016 Activity Center
 - ★ 2015 Activity Center
 - Proposed Habitat Structure
 - Post-Construction Seedling Plantings - 150 qty
 - Post-Construction Seedling Plantings - 150 qty
 - Impacted Woodrat Occupied Habitat
 - Non-Impacted Woodrat Occupied Habitat
 - Access Road
 - Alignment Centerline
 - Limit of Disturbance

Sheet Identifier

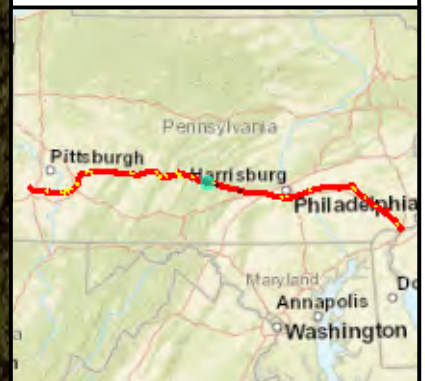
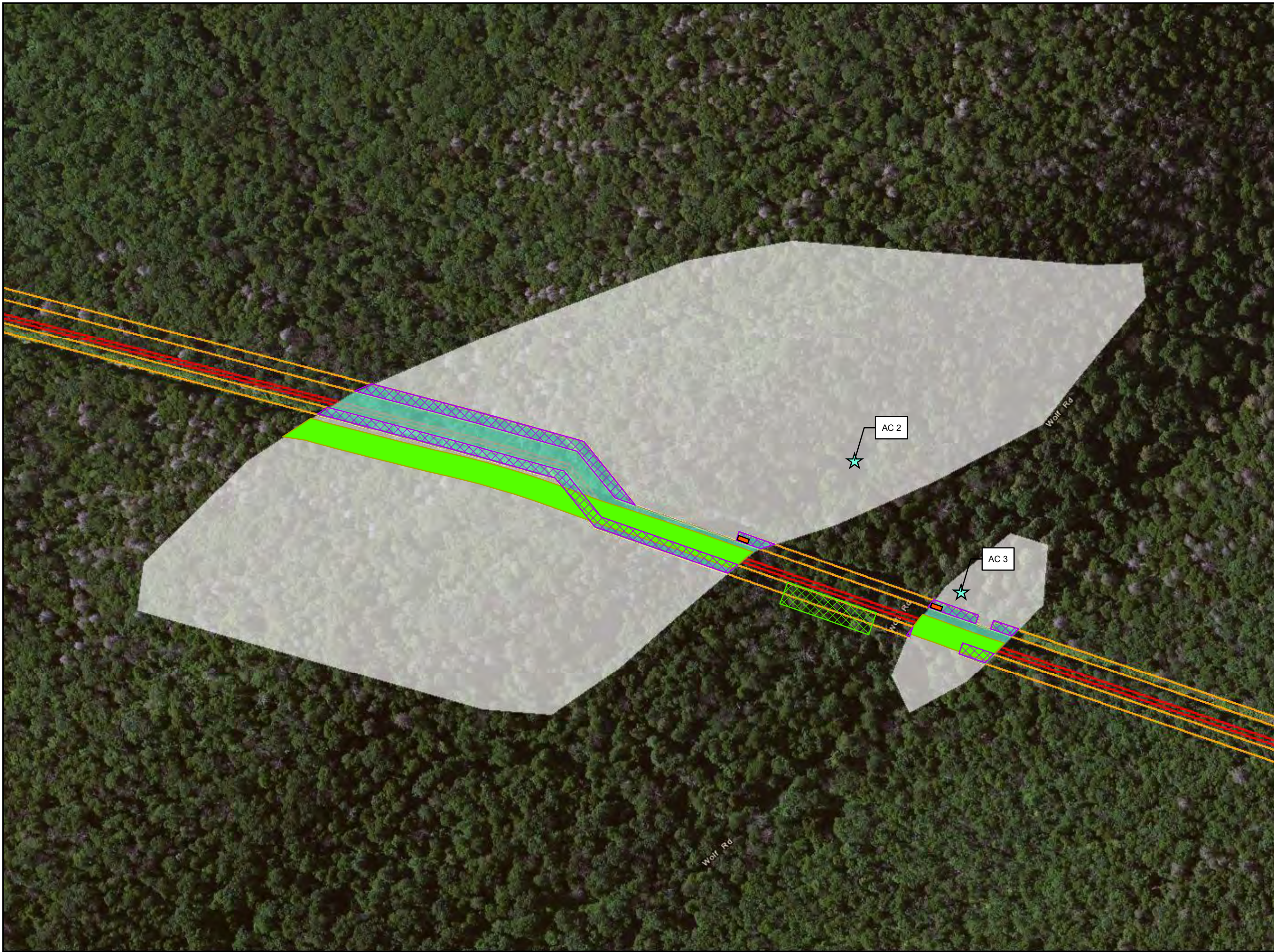












FIGURE 2-2
JACKS MOUNTAIN 3 HABITAT AREA
 PENNSYLVANIA PIPELINE PROJECT
 SUNOCO LOGISTICS, L.P.
 HUNTINGDON COUNTY, PA



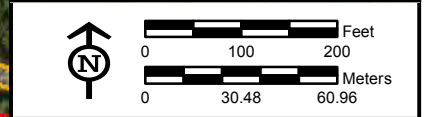
Notes:
 1) Aerial photograph provided by ESRI's ArcGIS Online World Imagery map service (© 2011 ESRI and its data suppliers).

PGH-PN015\SUNOCO\MARINER EAST 2\MXD\PEN\PIPELINE_WOODRAT.MXD 05/18/16 GIS



- Legend**
-  2015 Activity Center
 -  Proposed Habitat Structure
 -  Woodrat – Food Plot Planting Area
 -  Woodrat – Vegetation Restoration Area
 -  Woodrat - Live Trapping Zone
 -  Impacted Woodrat Occupied Habitat
 -  Non-Impacted Woodrat Occupied Habitat (Woodrat Habitat Enhancement Area)
 -  Access Road
 -  Alignment Centerline
 -  Limit of Disturbance

Sheet Identifier



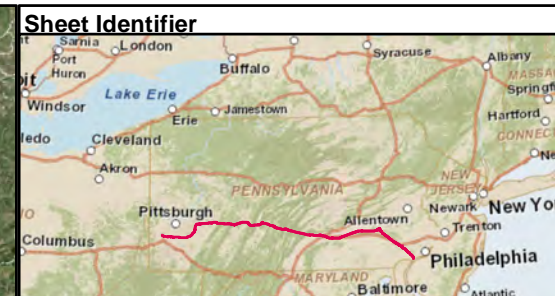
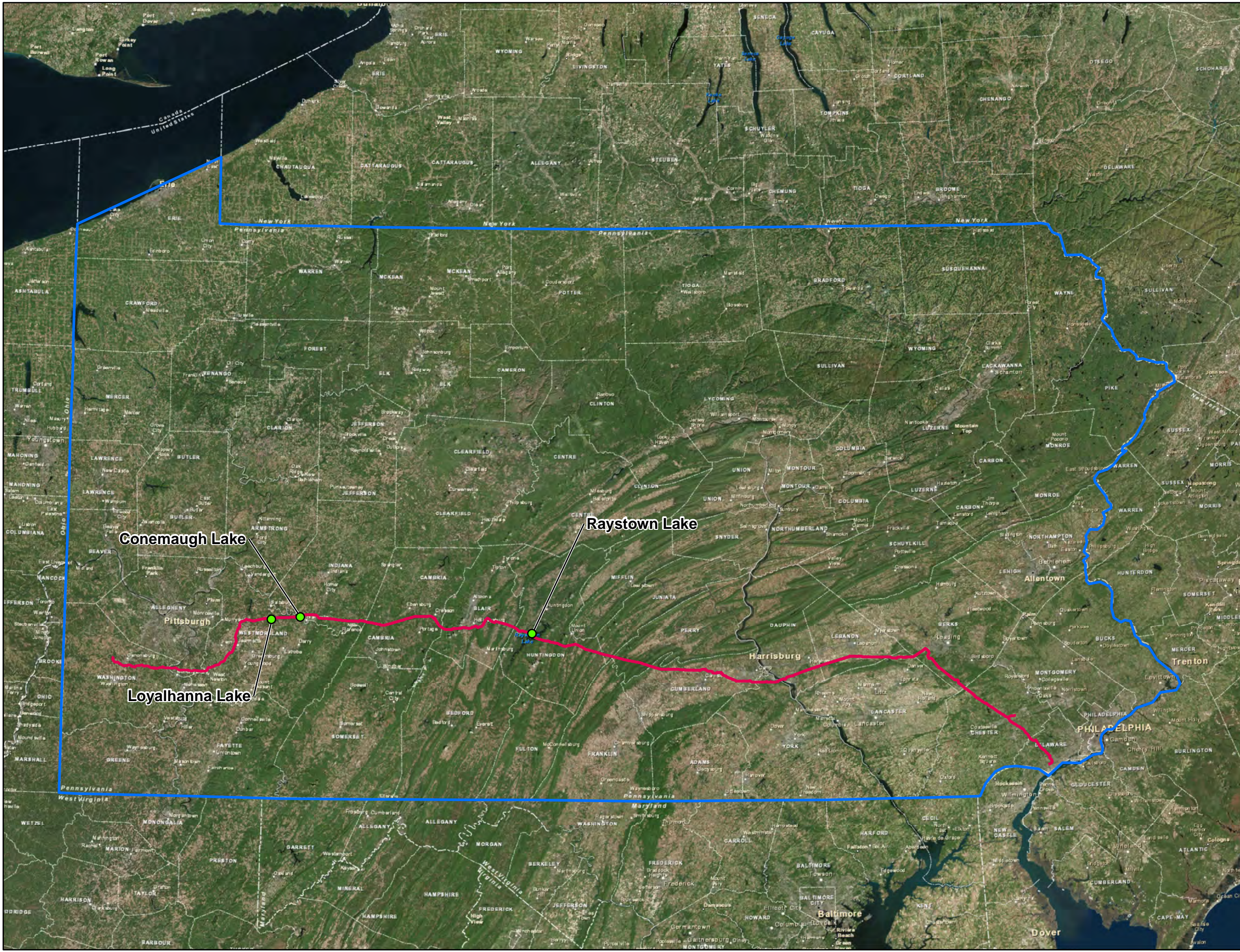
**FIGURE 2-4
BOWERS MOUNTAIN 2 HABITAT AREA**
PENNSYLVANIA PIPELINE PROJECT
SUNOCO LOGISTICS, L.P.
PERRY COUNTY, PA



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

PGH_P015\SUNOCO\MARINER EAST 2\MXD\PENNSYLVANIA_PIPELINE_WOODRAT.MXD 05/17/16 GIS

USACE Property Plantings



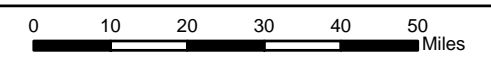
- Legend**
- Pennsylvania State Border
 - Alignment Centerline
 - USACE Owned Properties

Conemaugh Lake

Raystown Lake

Loyalhanna Lake

Appendix A. Pennsylvania Pipeline Project Overview



Scale 1:1200

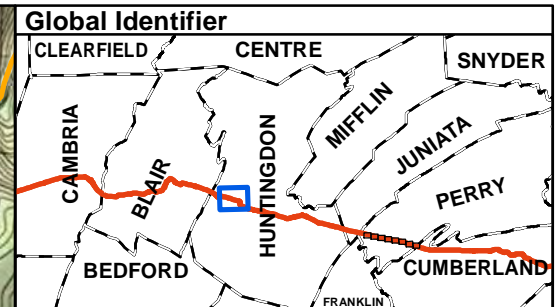
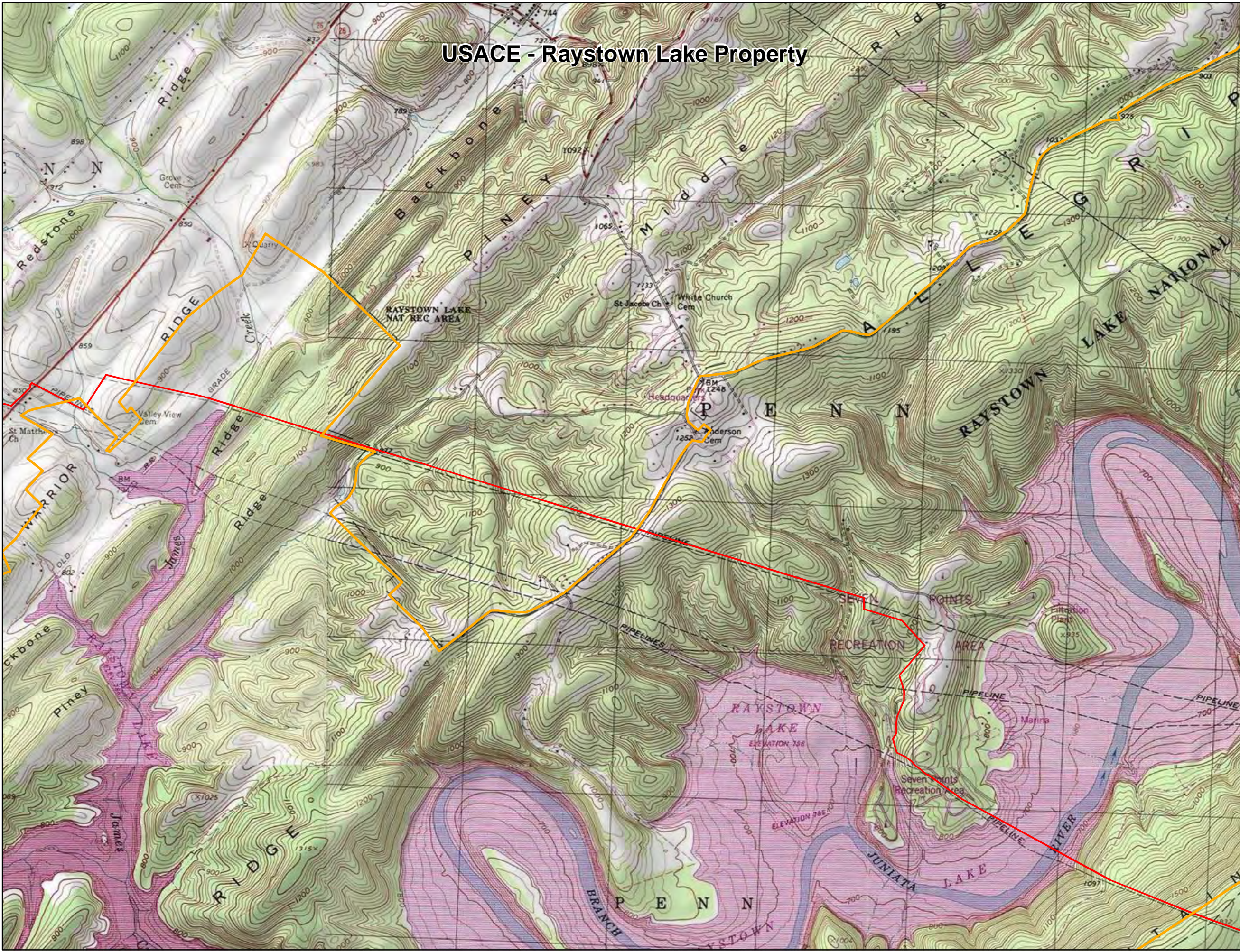
Prepared By: 	Date: 02/2016
------------------	-------------------------

Base Map:
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

USACE Parcels:
 County Assessment
 GIS Shapefiles



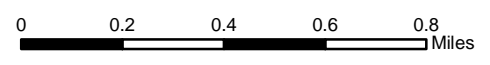
USACE - Raystown Lake Property



Legend

- USACE Raystown Lake
- County Boundary
- Proposed Pipelines

Appendix A - Project Overview USACE Raystown Lake Properties



Scale 1:24000

Prepared By:	Date:
	02/2016

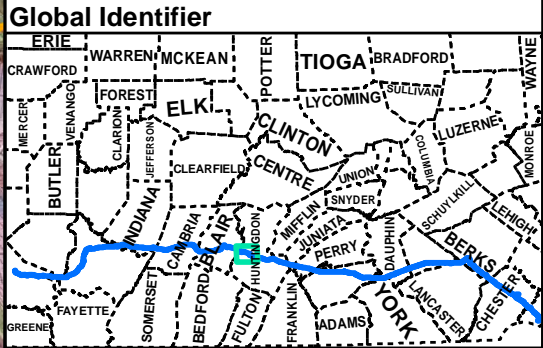
Base Map:
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

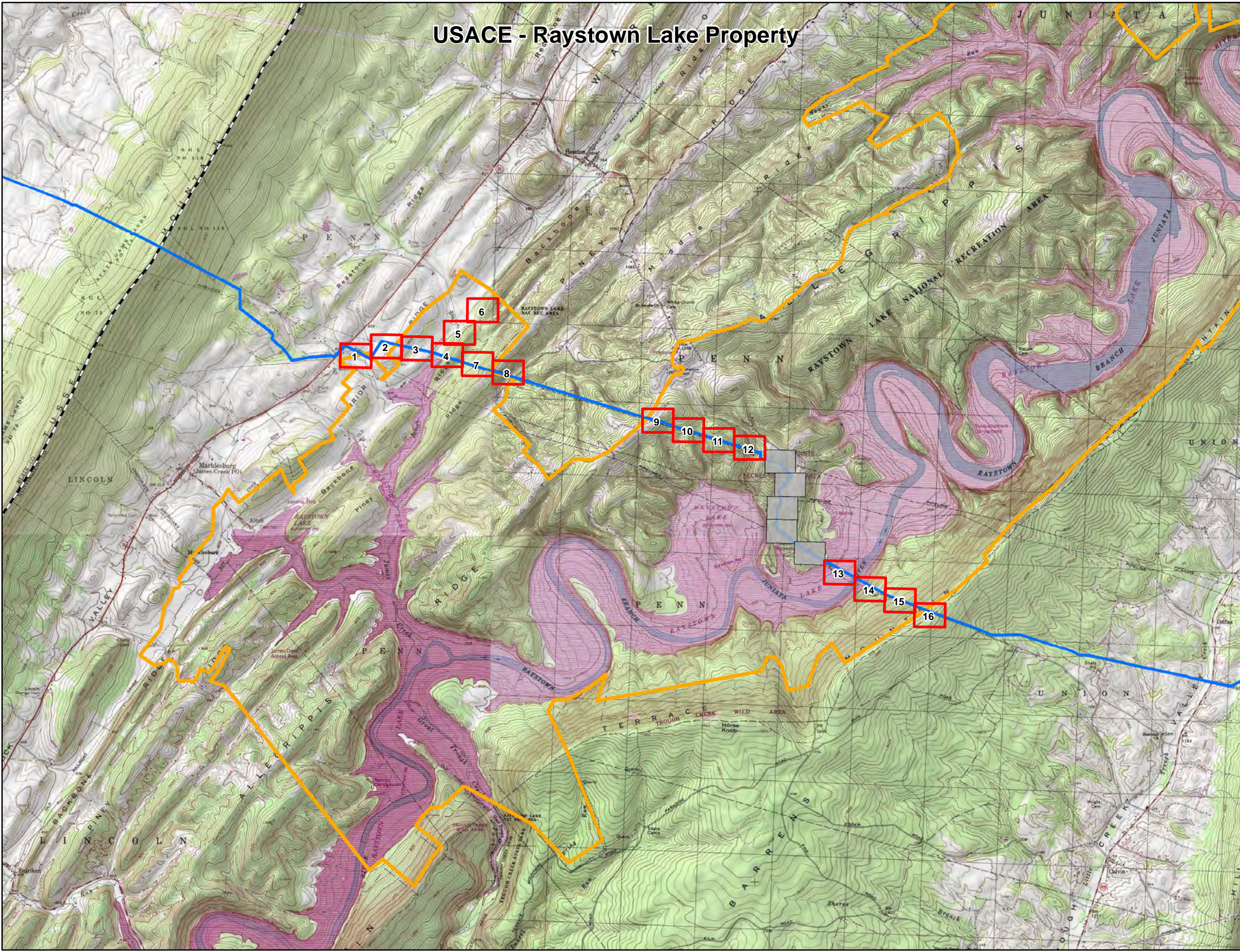


USACE Non-Recreation Area Planting Maps

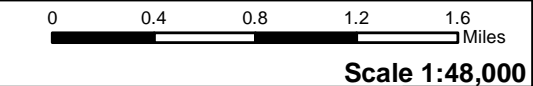
USACE - Raystown Lake Property



- ### Legend
- Non-recreation Area
 - Sheet Boundaries
 - Recreation Area Sheet Boundaries (See Appendix C)
 - Proposed Pipelines
 - USACE Raystown Lake Property
 - County Boundary



Appendix B Raystown Lake Non-recreation Area Plantings Sheet Key



Prepared By: **TETRA TECH** Date: **05/2016**

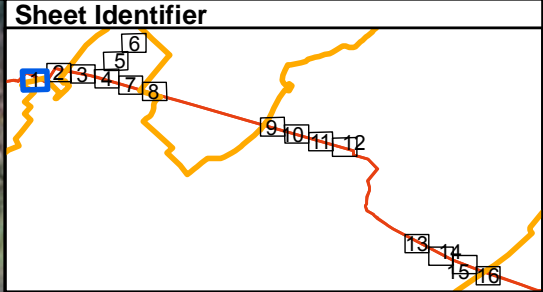
Base Map:
ESRI AtcGIS Online
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

Location: P:\GIS\PROJECTS\1120095958-PP\MXD\PERMITS\RAYSTOWN LAKE NONRECREATION AREA SHEET KE.YMXD 5/4/2016 LN

USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0.030 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0.492 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.114 ac



Legend

- USACE Entry/Exit
- HDD Entry/Exit
- Recreation Area Entry/Exit
- Proposed Pipelines
- HDD
- ▨ PFO/PSS – Wetland Seed Mix Revegetation
- ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
- ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
- ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
- ▭ 50-foot ROW
- ▭ 20 Foot Spoil Space
- ▭ Block Valve Permanent ROW
- ▭ ROW - ATWS
- ▭ ROW - Drive-Through - Clearing Only
- ▭ ROW - Drive-Through - Travel Only
- ▭ ROW - Permanent Access Road
- ▭ ROW - Temporary Access Road
- ▭ Temporary Construction Workspace
- ▭ Forested Area on USACE Land
- ▭ PA Game Commission Leased Lands
- ▨ Wetland
- Stream
- ▭ USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



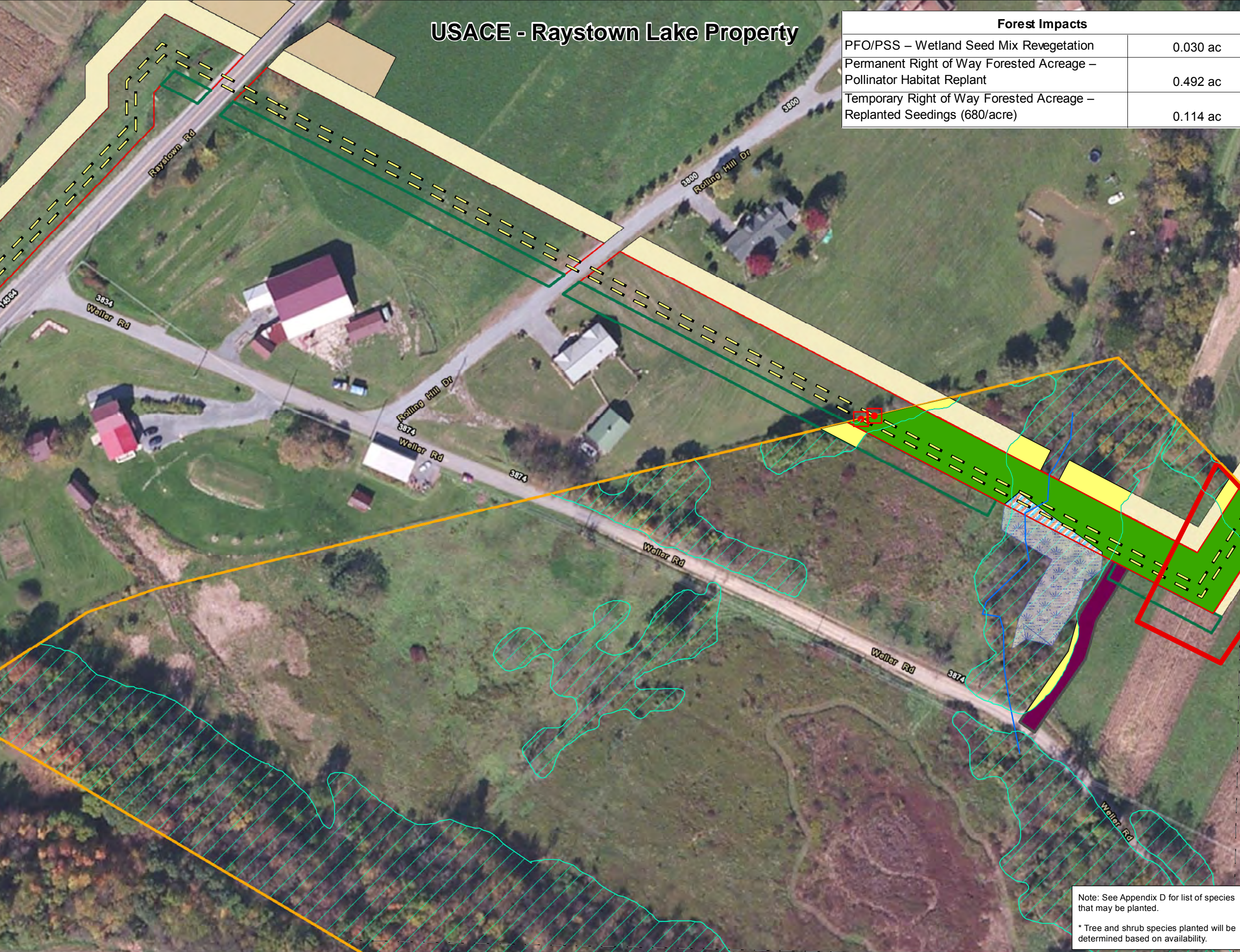
Sheet 1 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

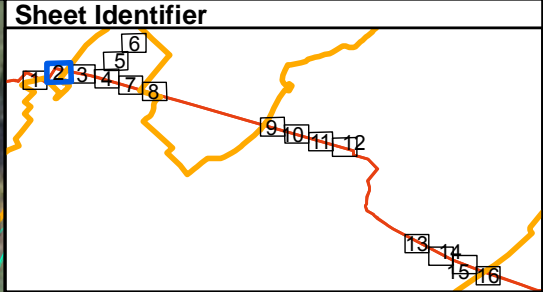
Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.



BUFP:GIS\PROJECTS\112C05956-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 5/4/2016 LN

USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0.345 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.046 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - ▨ PFO/PSS – Wetland Seed Mix Revegetation
 - Permanent Right of Way Acreage – Pollinator Habitat Replant
 - Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
 - ▭ 50-foot ROW
 - ▭ 20 Foot Spoil Space
 - ▭ Block Valve Permanent ROW
 - ▭ ROW - ATWS
 - ▨ ROW - Drive-Through - Clearing Only
 - ▨ ROW - Drive-Through - Travel Only
 - ▭ ROW - Permanent Access Road
 - ▭ ROW - Temporary Access Road
 - ▭ Temporary Construction Workspace
 - ▨ Forested Area on USACE Land
 - ▭ PA Game Commission Leased Lands
 - ▭ Wetland
 - Stream
 - ▭ USACE Property

Pollinator seeding in farmed areas will occur unless otherwise instructed.

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 2 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

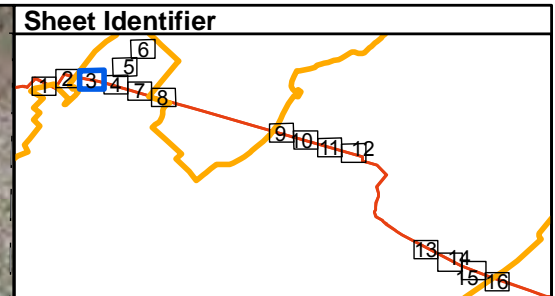
Base Map; ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

USACE Parcels: County Assessment GIS Shapefiles

Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.

USACE - Raystown Lake Property

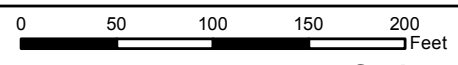
Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	1.157 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.246 ac



Pollinator seeding in farmed areas will occur unless otherwise instructed.

- ### Legend
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - ▨ PFO/PSS – Wetland Seed Mix Revegetation
 - ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
 - ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
 - ▭ 50-foot ROW
 - ▭ 20 Foot Spoil Space
 - ▨ Block Valve Permanent ROW
 - ▨ ROW - ATWS
 - ▨ ROW - Drive-Through - Clearing Only
 - ▨ ROW - Drive-Through - Travel Only
 - ▨ ROW - Permanent Access Road
 - ▨ ROW - Temporary Access Road
 - ▨ Temporary Construction Workspace
 - ▨ Forested Area on USACE Land
 - ▭ PA Game Commission Leased Lands
 - ▨ Wetland
 - Stream
 - ▭ USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 3 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

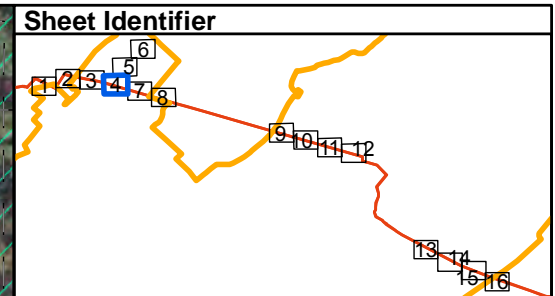


Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.

BUFP:GIS\PROJECTS\112C06966-PPP\MAXDIPERMIT\USACE_PPP\MAXDIPERMIT\RAYSTOWNLAKE\ROLLINATORPLANTING_MXD 6/4/2016 1:16

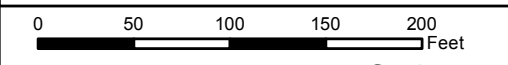
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0.732 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.008 ac



- ### Legend
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - ▨ PFO/PSS – Wetland Seed Mix Revegetation
 - ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
 - ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
 - ▭ 50-foot ROW
 - ▭ 20 Foot Spoil Space
 - ▭ Block Valve Permanent ROW
 - ▭ ROW - ATWS
 - ▨ ROW - Drive-Through - Clearing Only
 - ▨ ROW - Drive-Through - Travel Only
 - ▭ ROW - Permanent Access Road
 - ▭ ROW - Temporary Access Road
 - ▭ Temporary Construction Workspace
 - ▨ Forested Area on USACE Land
 - ▭ PA Game Commission Leased Lands
 - ▨ Wetland
 - Stream
 - ▭ USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 4 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

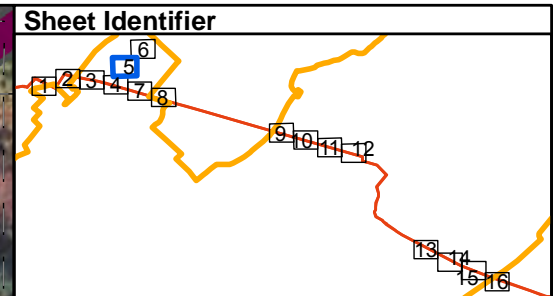


Area along HDD drill path will be cleared and used for travel lane only; disturbed areas will be replanted with pollinator seeds.

Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.

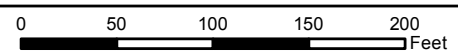
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.105 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - PFO/PSS – Wetland Seed Mix Revegetation
 - Permanent Right of Way Acreage – Pollinator Habitat Replant
 - Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - Block Valve (0.101 Acres, No Replanting or Reforestation)
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Block Valve Permanent ROW
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Temporary Construction Workspace
 - Forested Area on USACE Land
 - PA Game Commission Leased Lands
 - Wetland
 - Stream
 - USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 5 of 16 Scale 1:1200

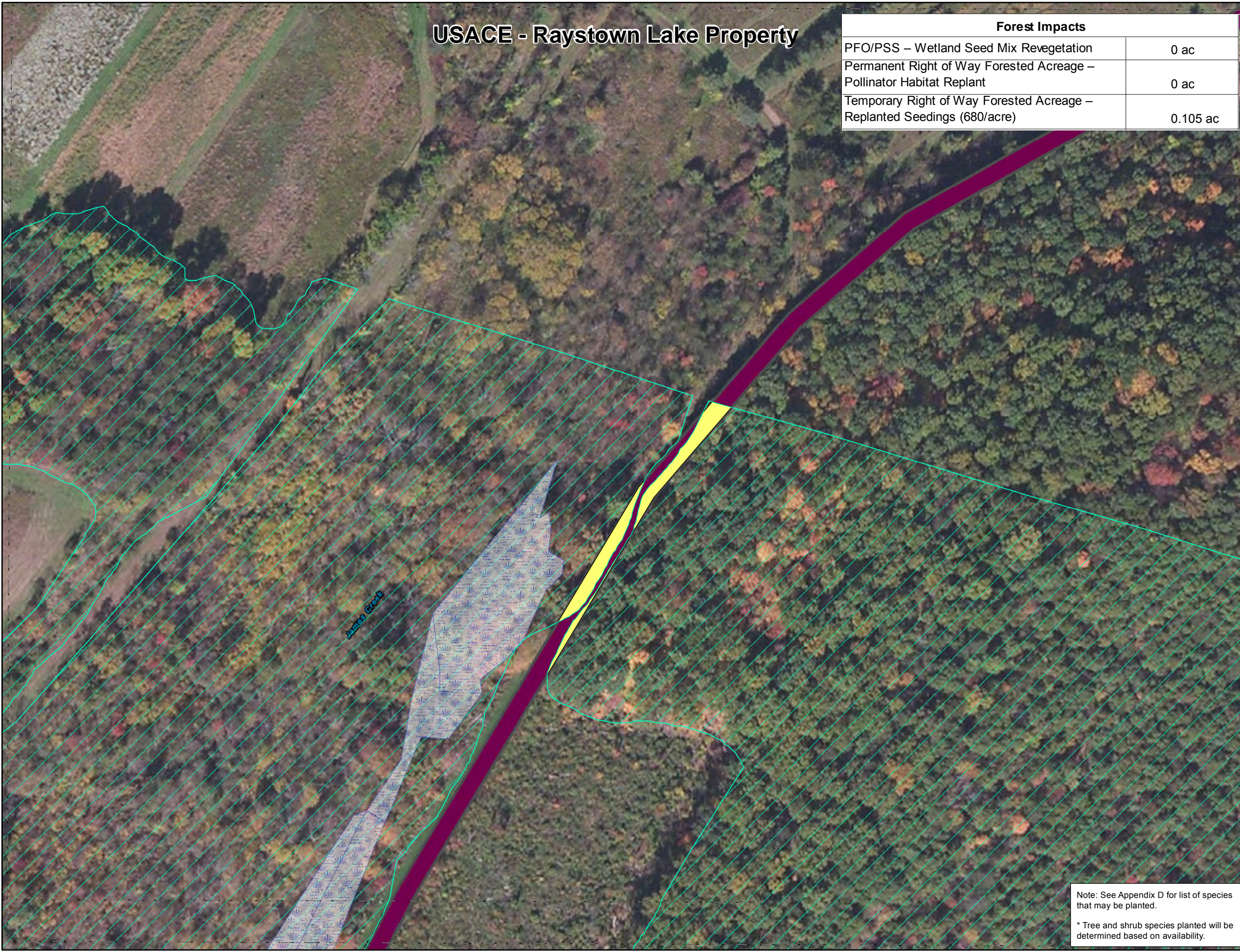
Prepared By: TETRA TECH Date: 05/2016

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles



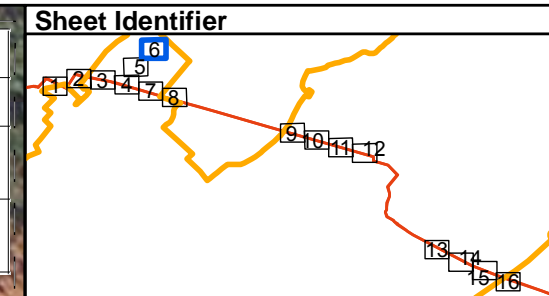
Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.



BUFP-IGIS/PROJECTS/112C06966-PPP/IMXD/PERMITS/USACE_RAYSTOWNLAKE/ROLLINATORPLANTING.MXD 6/4/2016 LN

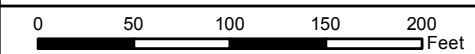
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - PFO/PSS – Wetland Seed Mix Revegetation
 - Permanent Right of Way Acreage – Pollinator Habitat Replant
 - Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - Block Valve (0.101 Acres, No Replanting or Reforestation)
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Block Valve Permanent ROW
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Temporary Construction Workspace
 - Forested Area on USACE Land
 - PA Game Commission Leased Lands
 - Wetland
 - Stream
 - USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 6 of 16 Scale 1:1200

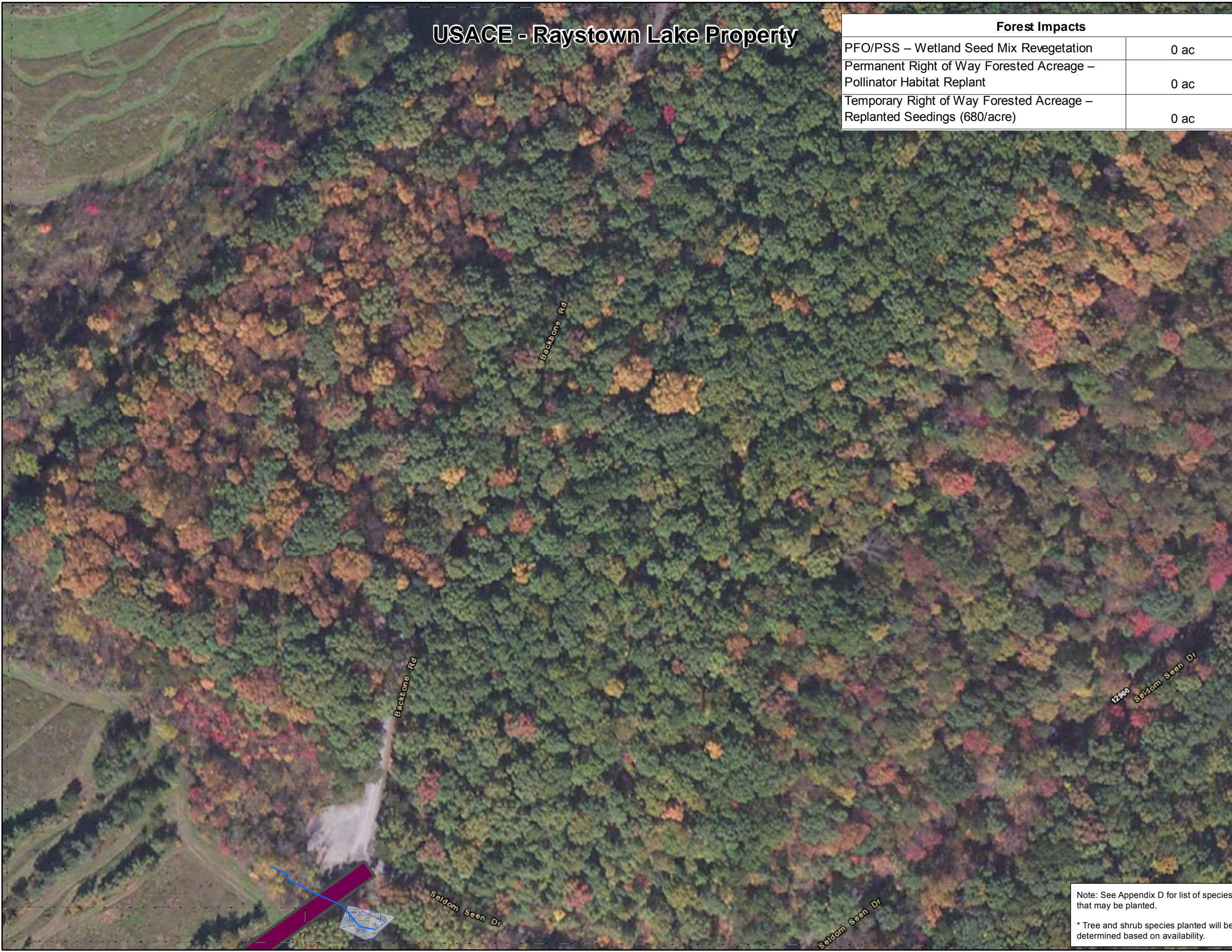
Prepared By: **TETRA TECH** Date: **05/2016**

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

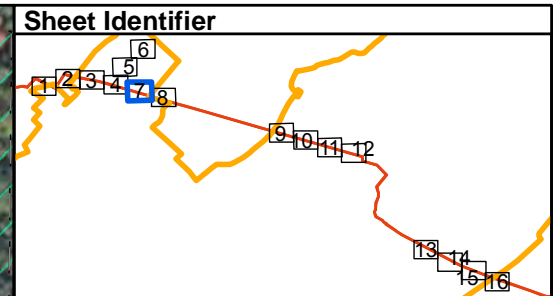


Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.

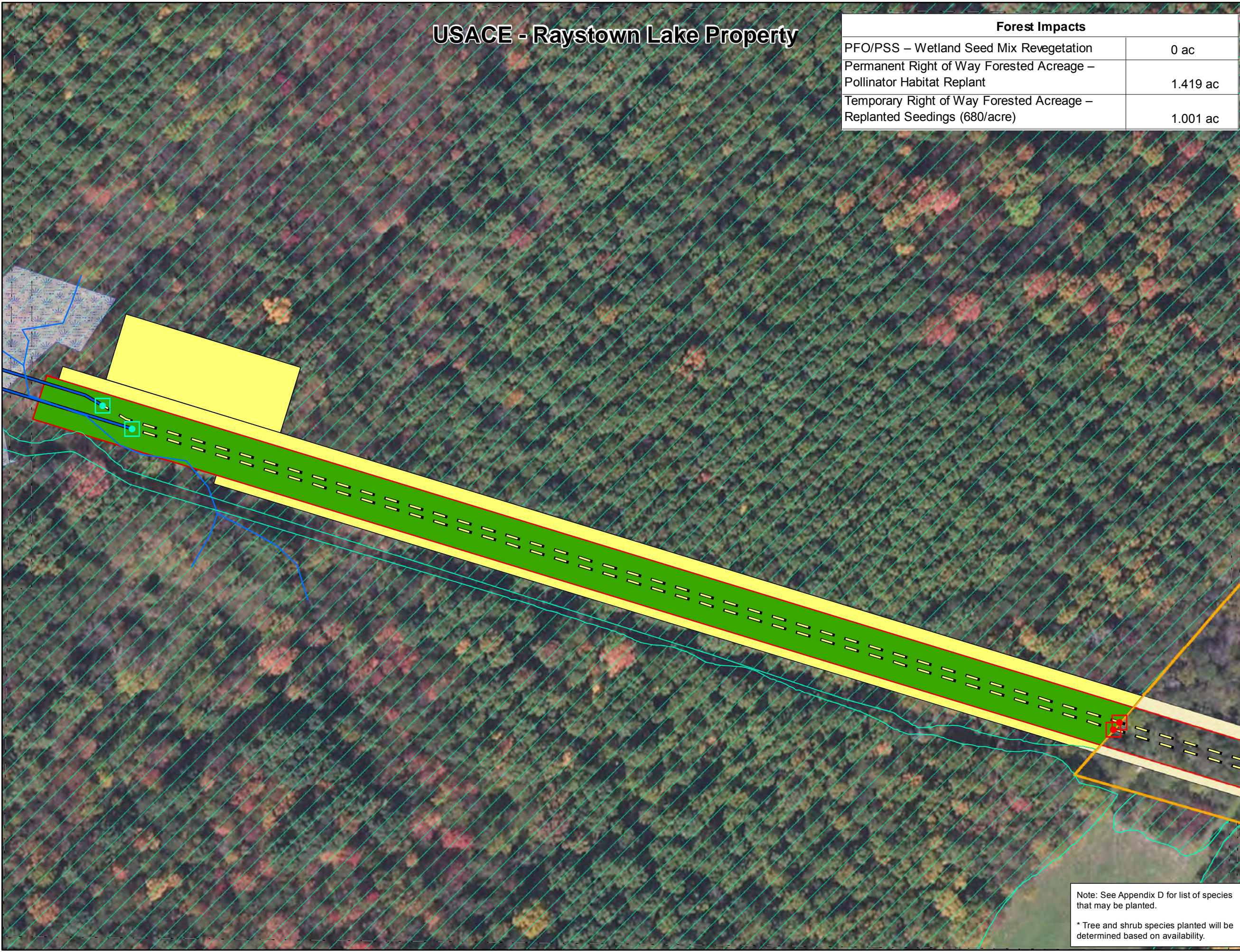


USACE - Raystown Lake Property

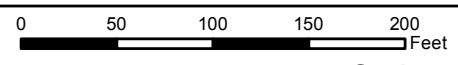
Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	1.419 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	1.001 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - PFO/PSS – Wetland Seed Mix Revegetation
 - Permanent Right of Way Acreage – Pollinator Habitat Replant
 - Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - Block Valve (0.101 Acres, No Replanting or Reforestation)
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Block Valve Permanent ROW
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Temporary Construction Workspace
 - Forested Area on USACE Land
 - PA Game Commission Leased Lands
 - Wetland
 - Stream
 - USACE Property



Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 7 of 16 Scale 1:1200

Prepared By: TETRA TECH Date: 05/2016

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles



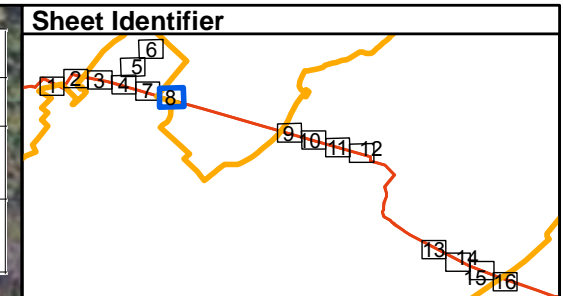
Note: See Appendix D for list of species that may be planted.

* Tree and shrub species planted will be determined based on availability.

BUFP:GIS\PROJECTS\112005956-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 5/4/2016 LN

USACE - Raystown Lake Property

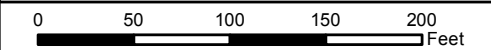
Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0 ac



Legend

- USACE Entry/Exit
- HDD Entry/Exit
- Recreation Area Entry/Exit
- Proposed Pipelines
- HDD
- ▨ PFO/PSS – Wetland Seed Mix Revegetation
- ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
- ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
- ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
- ▭ 50-foot ROW
- ▭ 20 Foot Spoil Space
- ▭ Block Valve Permanent ROW
- ▭ ROW - ATWS
- ▭ ROW - Drive-Through - Clearing Only
- ▭ ROW - Drive-Through - Travel Only
- ▭ ROW - Permanent Access Road
- ▭ ROW - Temporary Access Road
- ▭ Temporary Construction Workspace
- ▭ Forested Area on USACE Land
- ▭ PA Game Commission Leased Lands
- ▭ Wetland
- Stream
- ▭ USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 8 of 16 Scale 1:1200

Prepared By:	Date:
TETRA TECH	05/2016

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

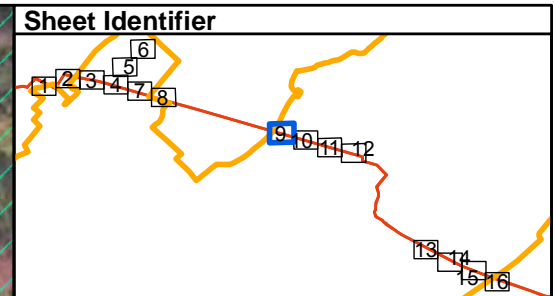


Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.

BUFP\GIS\PROJECTS\112C05956-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 5/4/2016 1:16

USACE - Raystown Lake Property

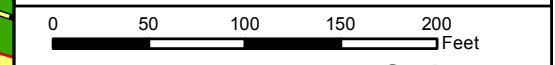
Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	1.373 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.619 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - ▨ PFO/PSS – Wetland Seed Mix Revegetation
 - ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
 - ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
 - ▭ 50-foot ROW
 - ▭ 20 Foot Spoil Space
 - ▨ Block Valve Permanent ROW
 - ▨ ROW - ATWS
 - ▨ ROW - Drive-Through - Clearing Only
 - ▨ ROW - Drive-Through - Travel Only
 - ▨ ROW - Permanent Access Road
 - ▨ ROW - Temporary Access Road
 - ▨ Temporary Construction Workspace
 - ▨ Forested Area on USACE Land
 - ▭ PA Game Commission Leased Lands
 - ▨ Wetland
 - Stream
 - ▭ USACE Property

Conventional Bore Crossing of Upper Corners Road

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 9 of 16 Scale 1:1200

Prepared By: TETRA TECH Date: 05/2016

Base Map; ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

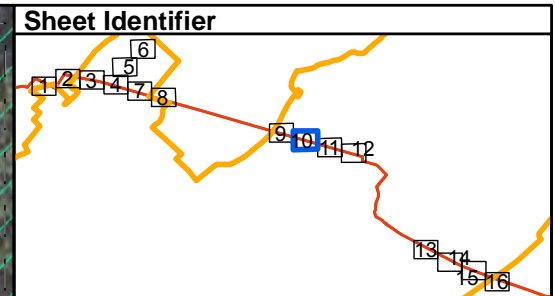
USACE Parcels:
 County Assessment
 GIS Shapefiles

Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.

BUFP:GIS\PROJECTS\112C06966-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 6/4/2016 LN

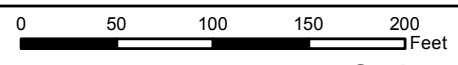
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	1.607 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.607 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - PFO/PSS – Wetland Seed Mix Revegetation
 - Permanent Right of Way Acreage – Pollinator Habitat Replant
 - Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - Block Valve (0.101 Acres, No Replanting or Reforestation)
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Block Valve Permanent ROW
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Temporary Construction Workspace
 - Forested Area on USACE Land
 - PA Game Commission Leased Lands
 - Wetland
 - Stream
 - USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 10 of 16 Scale 1:1200

Prepared By: TETRA TECH Date: 05/2016

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

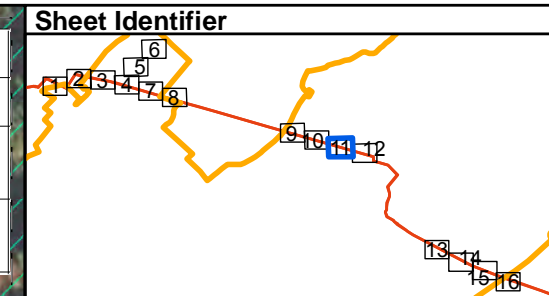


Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.

BUFP:GIS\PROJECTS\112005956-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 5/4/2016 LN

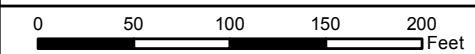
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	1.612 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.458 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - PFO/PSS – Wetland Seed Mix Revegetation
 - Permanent Right of Way Acreage – Pollinator Habitat Replant
 - Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - Block Valve (0.101 Acres, No Replanting or Reforestation)
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Block Valve Permanent ROW
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Temporary Construction Workspace
 - Forested Area on USACE Land
 - PA Game Commission Leased Lands
 - Wetland
 - Stream
 - USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 11 of 16 Scale 1:1200

Prepared By:	Date:
TETRA TECH	05/2016

Base Map;
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

USACE Parcels:
 County Assessment
 GIS Shapefiles

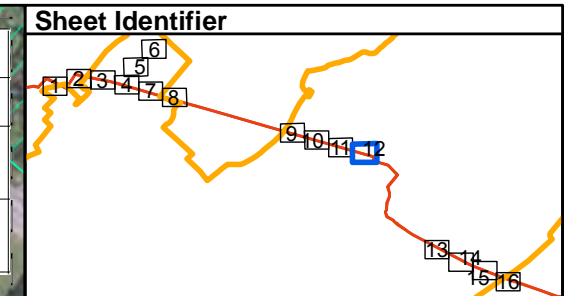


Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.

BUF:P:\GIS\PROJECTS\112005956-PPP\MAPS\PERMITS\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 5/4/2016 LN

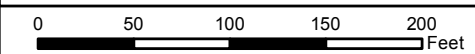
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	1.529 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.913 ac



- ### Legend
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - PFO/PSS – Wetland Seed Mix Revegetation
 - Permanent Right of Way Acreage – Pollinator Habitat Replant
 - Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - Block Valve (0.101 Acres, No Replanting or Reforestation)
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Block Valve Permanent ROW
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Temporary Construction Workspace
 - Forested Area on USACE Land
 - PA Game Commission Leased Lands
 - Wetland
 - Stream
 - USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 12 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles



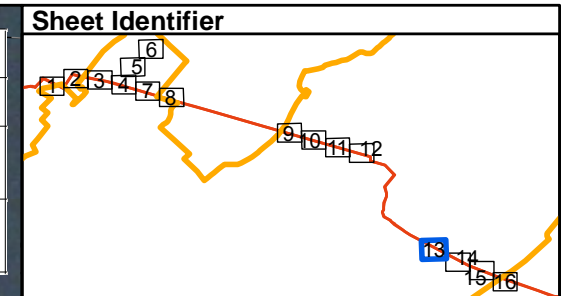
Note: See Appendix D for list of species that may be planted.

* Tree and shrub species planted will be determined based on availability.

BUFP:IGIS\PROJECTS\112C06966-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 6/4/2016 LN

USACE - Raystown Lake Property

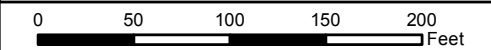
Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0 ac



Legend

- USACE Entry/Exit
- HDD Entry/Exit
- Recreation Area Entry/Exit
- Proposed Pipelines
- HDD
- PFO/PSS – Wetland Seed Mix Revegetation
- Permanent Right of Way Acreage – Pollinator Habitat Replant
- Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
- Block Valve (0.101 Acres, No Replanting or Reforestation)
- 50-foot ROW
- 20 Foot Spoil Space
- Block Valve Permanent ROW
- ROW - ATWS
- ROW - Drive-Through - Clearing Only
- ROW - Drive-Through - Travel Only
- ROW - Permanent Access Road
- ROW - Temporary Access Road
- Temporary Construction Workspace
- Forested Area on USACE Land
- PA Game Commission Leased Lands
- Wetland
- Stream
- USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 13 of 16 Scale 1:1200

Prepared By:	Date:
TETRA TECH	05/2016

Base Map;
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

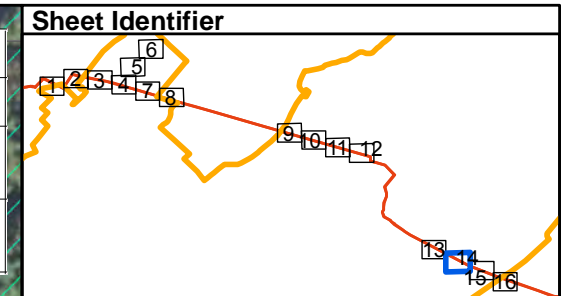
USACE Parcels:
 County Assessment
 GIS Shapefiles



Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.

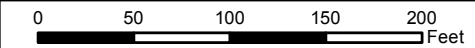
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0.072 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.001 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - ▨ PFO/PSS – Wetland Seed Mix Revegetation
 - ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
 - ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
 - ▭ 50-foot ROW
 - ▭ 20 Foot Spoil Space
 - ▭ Block Valve Permanent ROW
 - ▭ ROW - ATWS
 - ▨ ROW - Drive-Through - Clearing Only
 - ▨ ROW - Drive-Through - Travel Only
 - ▭ ROW - Permanent Access Road
 - ▭ ROW - Temporary Access Road
 - ▭ Temporary Construction Workspace
 - ▭ Forested Area on USACE Land
 - ▭ PA Game Commission Leased Lands
 - ▭ Wetland
 - Stream
 - ▭ USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 14 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles

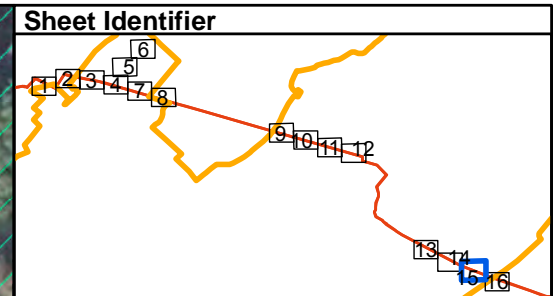


Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.

BUFP\GIS\PROJECTS\112C06966-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 6/4/2016 LN

USACE - Raystown Lake Property

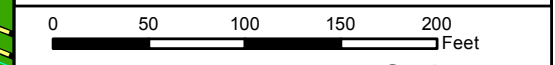
Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	1.613 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	1.345 ac



- Legend**
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - ▨ PFO/PSS – Wetland Seed Mix Revegetation
 - ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
 - ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
 - ▭ 50-foot ROW
 - ▭ 20 Foot Spoil Space
 - ▭ Block Valve Permanent ROW
 - ▭ ROW - ATWS
 - ▨ ROW - Drive-Through - Clearing Only
 - ▨ ROW - Drive-Through - Travel Only
 - ▭ ROW - Permanent Access Road
 - ▭ ROW - Temporary Access Road
 - ▭ Temporary Construction Workspace
 - ▭ Forested Area on USACE Land
 - ▭ PA Game Commission Leased Lands
 - ▭ Wetland
 - Stream
 - ▭ USACE Property



Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 15 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

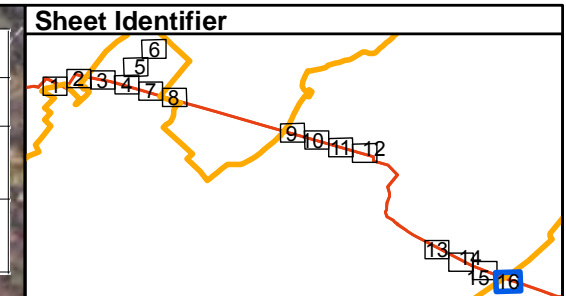
USACE Parcels:
County Assessment
GIS Shapefiles

Note: See Appendix D for list of species that may be planted.
* Tree and shrub species planted will be determined based on availability.

BUFP:GIS\PROJECTS\112005956-PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 5/4/2016 LN

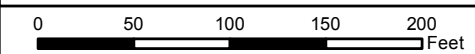
USACE - Raystown Lake Property

Forest Impacts	
PFO/PSS – Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Forested Acreage – Pollinator Habitat Replant	0.558 ac
Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)	0.181 ac



- ### Legend
- USACE Entry/Exit
 - HDD Entry/Exit
 - Recreation Area Entry/Exit
 - Proposed Pipelines
 - HDD
 - ▨ PFO/PSS – Wetland Seed Mix Revegetation
 - ▨ Permanent Right of Way Acreage – Pollinator Habitat Replant
 - ▨ Temporary Right of Way Forested Acreage – Replanted Seedlings (680/acre)
 - ▨ Block Valve (0.101 Acres, No Replanting or Reforestation)
 - ▭ 50-foot ROW
 - ▭ 20 Foot Spoil Space
 - ▭ Block Valve Permanent ROW
 - ▭ ROW - ATWS
 - ▨ ROW - Drive-Through - Clearing Only
 - ▨ ROW - Drive-Through - Travel Only
 - ▭ ROW - Permanent Access Road
 - ▭ ROW - Temporary Access Road
 - ▭ Temporary Construction Workspace
 - ▨ Forested Area on USACE Land
 - ▭ PA Game Commission Leased Lands
 - ▭ Wetland
 - Stream
 - ▭ USACE Property

Appendix B - Raystown Lake Non-recreation Area Plantings



Sheet 16 of 16 Scale 1:1200

Prepared By: **TETRA TECH** Date: **05/2016**

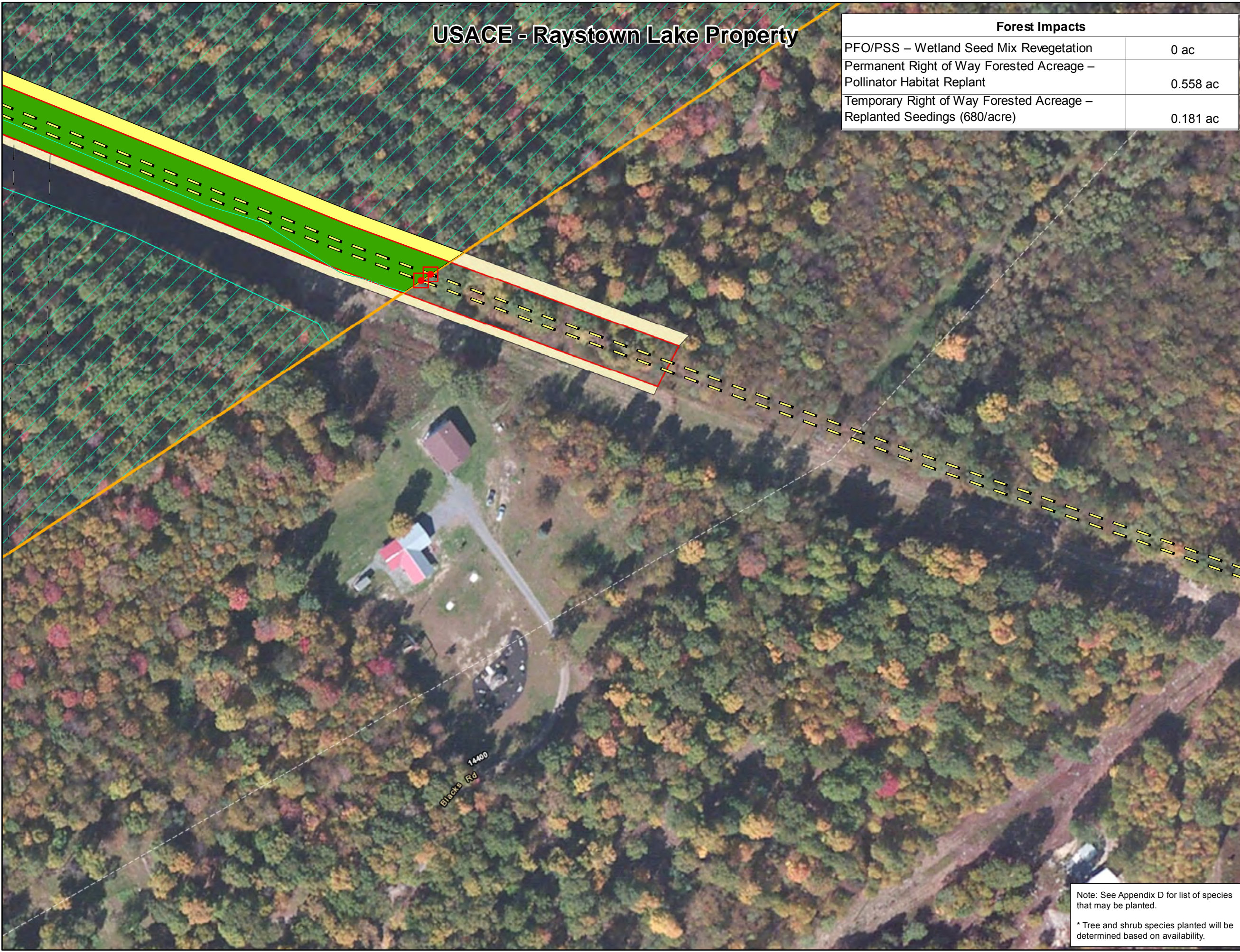
Base Map;
ESRI World Imagery, October 2011
Coordinate System NAD 83
Stateplane, PA South, Feet

USACE Parcels:
County Assessment
GIS Shapefiles



Note: See Appendix D for list of species that may be planted.

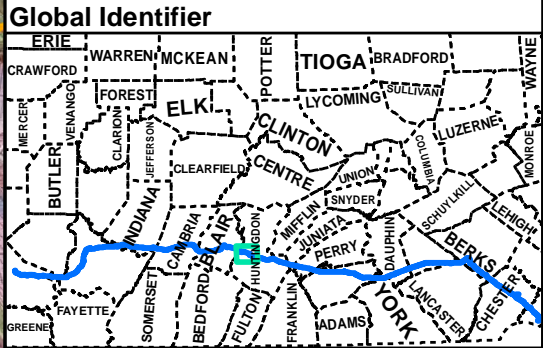
* Tree and shrub species planted will be determined based on availability.



BUFP\GIS\PROJECTS\112005956\PPP\MAXDIPERMIT\USACE_RAYSTOWNLAKE\ROLLINATORPLANTING.MXD 5/4/2016 LN

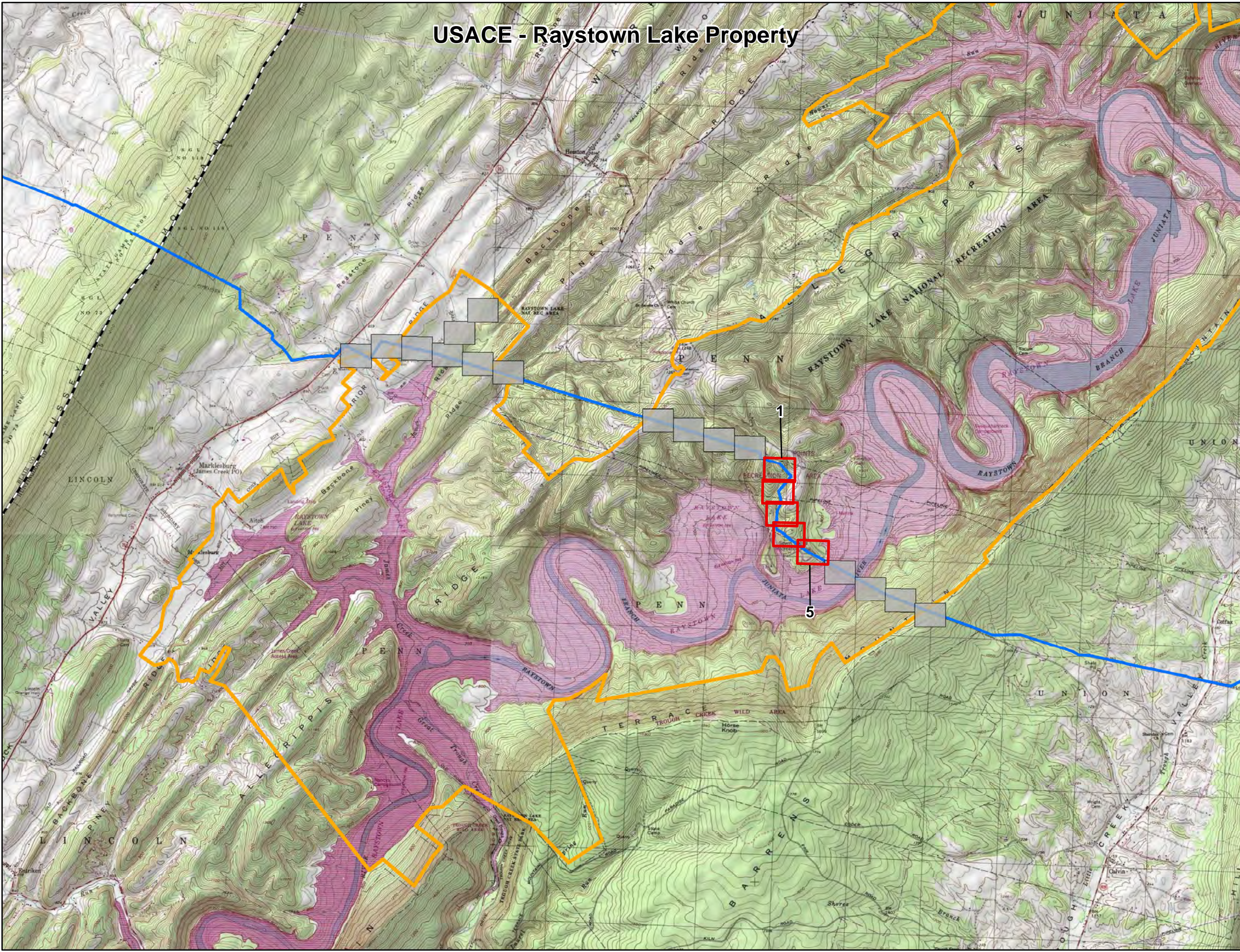
Planting Plan for Raystown Recreational Areas

USACE - Raystown Lake Property

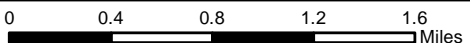


Legend

- Nonrecreation Area Sheet Boundaries (See Appendix B)
- Recreation Area Sheet Boundaries
- Proposed Pipelines
- USACE Raystown Lake Property
- County Boundary



Appendix C Raystown Lake Recreation Area Planting Sheet Key



Scale 1:48,000

Prepared By:



Date:

05/2016

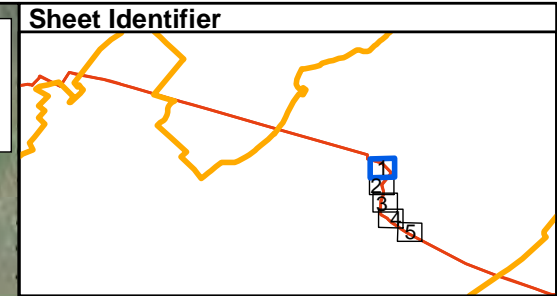
Base Map:
USGS Topographic maps
from Esri ArcGIS Online.

USACE Parcels:
County Assessment
GIS Shapefiles



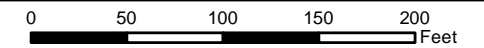
USACE - Raystown Lake Property

Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.



- ### Legend
- Shrub Species - 2' Potted
 - + Shrub Species - 5'-6' Balled and Burlapped
 - Tree Species - Seedling
 - + Tree Species - 5'-6' Balled and Burlapped
 - HDD Entry/Exit
 - USACE Entry/Exit
 - Recreation Area Entry/Exit
 - HDD
 - Proposed Pipelines
 - Permanent Right of Way Acreage - Pollinator Planting
 - Block Valve Forested Impacts (0.101 Acres, No Replanting or Reforestation)
 - PEM - Wetland Seed Mix Revegetation
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Temporary Construction Workspace
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - Block Valve Permanent ROW
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Stream
 - Wetland
 - Forested Area on USACE Land
 - USACE Property
 - County Boundary
 - Sheet Boundary

Appendix C Planting Plan for Raystown Lake Recreational Areas



Sheet 1 of 5 Scale 1:1200

Prepared By: **TETRA TECH** Date: **07/2016**

Planting Acreages	
PEM - Wetland Seed Mix Revegetation	0.152 ac
Permanent Right of Way Acreage - Pollinator Habitat Replant	1.558 ac
Temporary Right of Way Forested Acreage - Replanted Seedlings (680/Acre)	0.723 ac

Base Map;
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

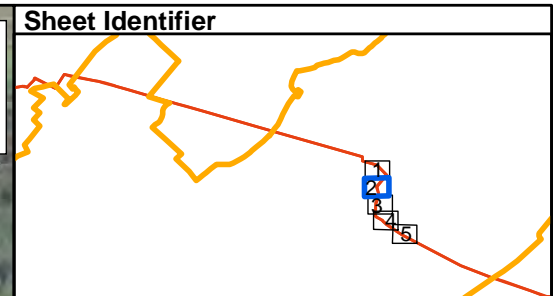
USACE Parcels:
 County Assessment
 GIS Shapefiles



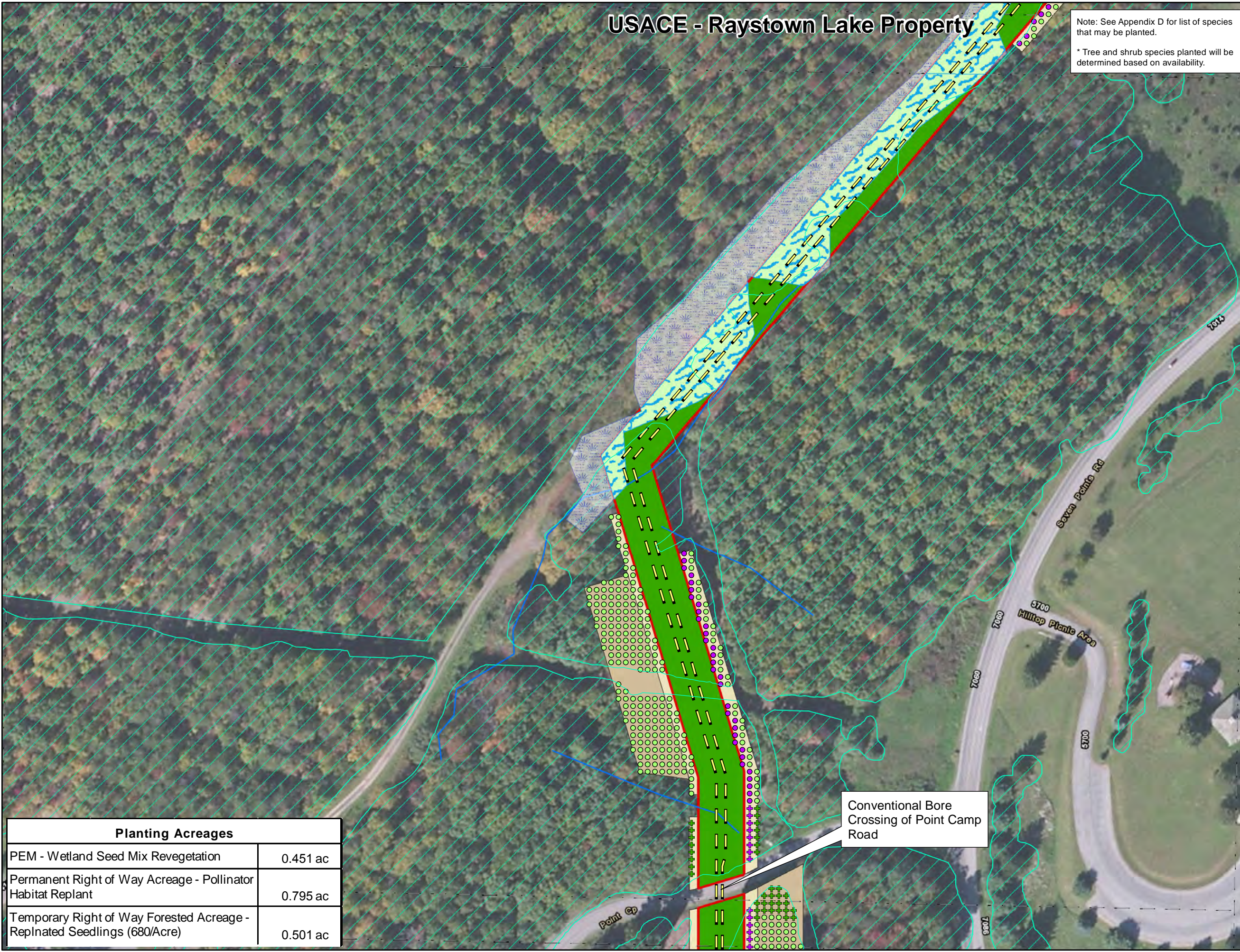
BUFP:GIS\PROJECTS\112C06966-PPP\MAXDIPERMIT\USACE_RAYSTOWN_LAKE_RECREATION_AREA_PLANTING.MXD 7/6/2016 LN

USACE - Raystown Lake Property

Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.

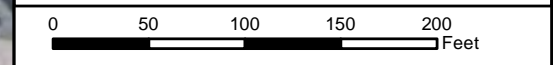


- ### Legend
- Shrub Species - 2' Potted
 - ✦ Shrub Species - 5'-6' Balled and Burlapped
 - Tree Species - Seedling
 - ✦ Tree Species - 5'-6' Balled and Burlapped
 - ◻ HDD Entry/Exit
 - ◻ USACE Entry/Exit
 - ◻ Recreation Area Entry/Exit
 - HDD
 - Proposed Pipelines
 - Permanent Right of Way Acreage - Pollinator Planting
 - Block Valve Forested Impacts (0.101 Acres, No Replanting or Reforestation)
 - PEM - Wetland Seed Mix Revegetation
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Temporary Construction Workspace
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - Block Valve Permanent ROW
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Stream
 - Wetland
 - Forested Area on USACE Land
 - USACE Property
 - County Boundary
 - Sheet Boundary



Planting Acreages	
PEM - Wetland Seed Mix Revegetation	0.451 ac
Permanent Right of Way Acreage - Pollinator Habitat Replant	0.795 ac
Temporary Right of Way Forested Acreage - Replanted Seedlings (680/Acre)	0.501 ac

Appendix C Planting Plan for Raystown Lake Recreational Areas



Sheet 2 of 5 Scale 1:1200

Prepared By: Date: 07/2016

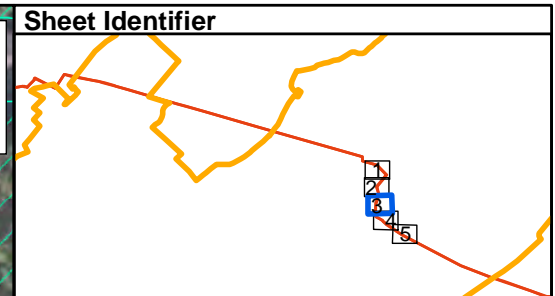
Base Map;
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

USACE Parcels:
 County Assessment
 GIS Shapefiles

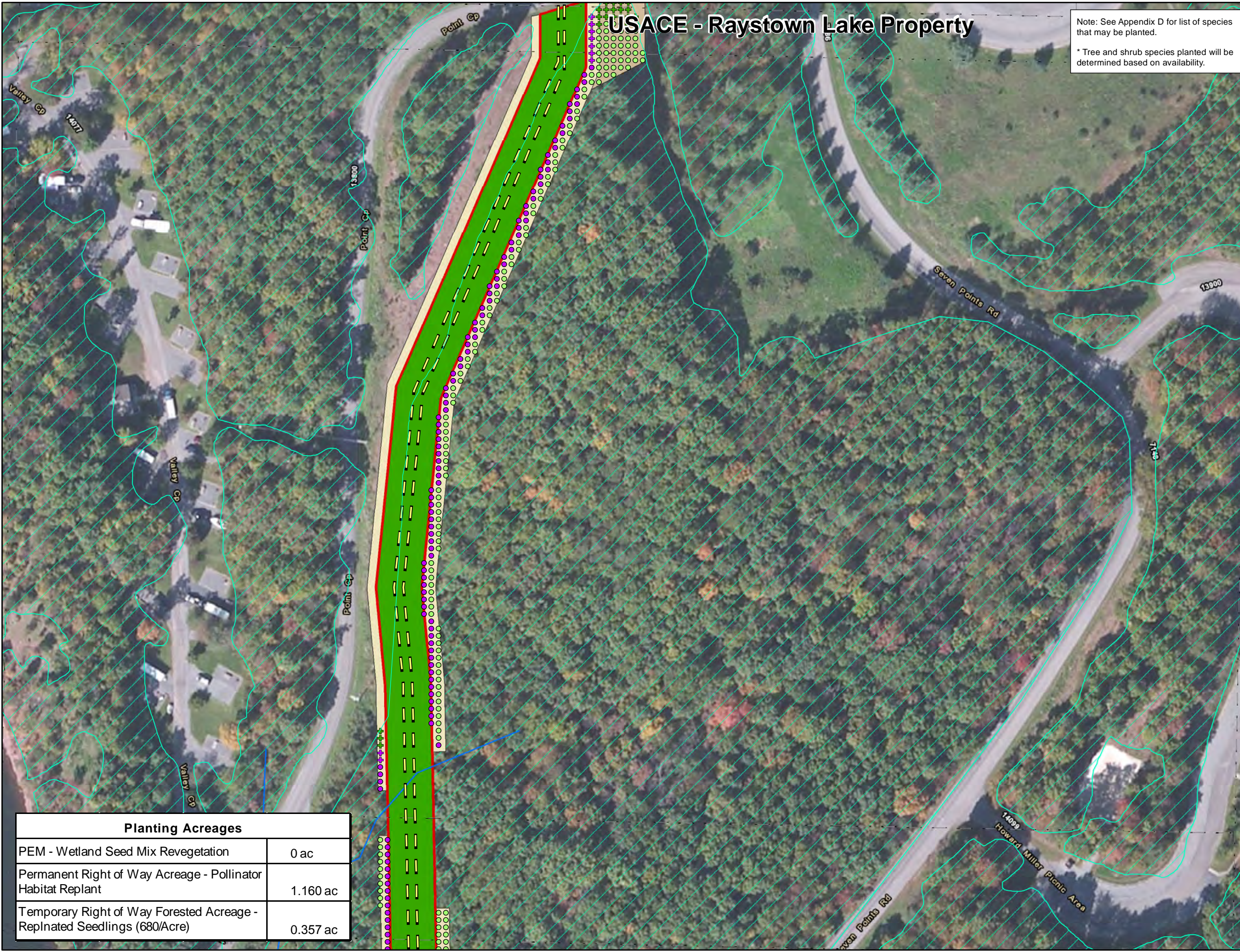
BUF:\GIS\PROJECTS\112006966-PPP\MAXDIPERIMITS\USACE_RAYSTOWN LAKE RECREATION AREA PLANTING.MXD 7/6/2016 LN

USACE - Raystown Lake Property

Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.

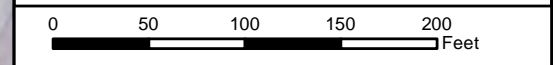


- ### Legend
- Shrub Species - 2' Potted
 - ✦ Shrub Species - 5'-6' Balled and Burlapped
 - Tree Species - Seedling
 - ✦ Tree Species - 5'-6' Balled and Burlapped
 - ◻ HDD Entry/Exit
 - ◻ USACE Entry/Exit
 - ◻ Recreation Area Entry/Exit
 - HDD
 - Proposed Pipelines
 - Permanent Right of Way Acreage - Pollinator Planting
 - Block Valve Forested Impacts (0.101 Acres, No Replanting or Reforestation)
 - PEM - Wetland Seed Mix Revegetation
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Temporary Construction Workspace
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - Block Valve Permanent ROW
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Stream
 - Wetland
 - Forested Area on USACE Land
 - USACE Property
 - County Boundary
 - Sheet Boundary



Planting Acreages	
PEM - Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Acreage - Pollinator Habitat Replant	1.160 ac
Temporary Right of Way Forested Acreage - Replanted Seedlings (680/Acre)	0.357 ac

Appendix C Planting Plan for Raystown Lake Recreational Areas



Sheet 3 of 5 Scale 1:1200

Prepared By: Date: 07/2016

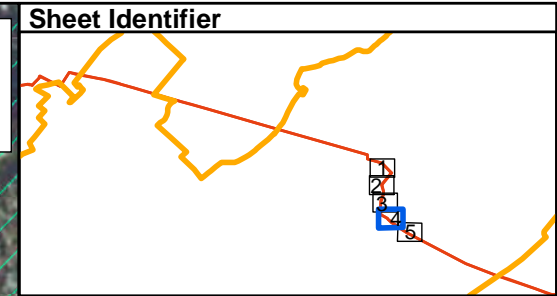
Base Map;
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

USACE Parcels:
 County Assessment
 GIS Shapefiles

BUF-P\GIS\PROJECTS\112005956-PPP\MAXDIPERMIT\USACE_RAYSTOWN LAKE RECREATION AREA PLANTING.MXD 7/6/2016 LN

USACE - Raystown Lake Property

Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.

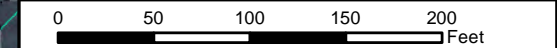


- ### Legend
- Shrub Species - 2' Potted
 - ✦ Shrub Species - 5'-6' Balled and Burlapped
 - Tree Species - Seedling
 - ✦ Tree Species - 5'-6' Balled and Burlapped
 - HDD Entry/Exit
 - USACE Entry/Exit
 - Recreation Area Entry/Exit
 - HDD
 - Proposed Pipelines
 - Permanent Right of Way Acreage - Pollinator Planting
 - Block Valve Forested Impacts (0.101 Acres, No Replanting or Reforestation)
 - PEM - Wetland Seed Mix Revegetation
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Temporary Construction Workspace
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - Block Valve Permanent ROW
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Stream
 - Wetland
 - Forested Area on USACE Land
 - USACE Property
 - County Boundary
 - Sheet Boundary

Block Valve Site Layout - 0.124 Acre Permanent Gravel

Planting Acreages	
PEM - Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Acreage - Pollinator Habitat Replant	2.070 ac
Temporary Right of Way Forested Acreage - Replanted Seedlings (680/Acre)	0.619 ac

Appendix C Planting Plan for Raystown Lake Recreational Areas



Sheet 4 of 5 Scale 1:1200

Prepared By: TETRA TECH Date: 07/2016

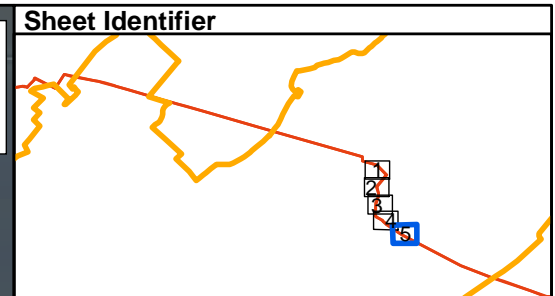
Base Map;
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

USACE Parcels:
 County Assessment
 GIS Shapefiles

BUFP:GIS\PROJECTS\112006969-PPP\MAXDIPERMIT\USACE_RAYSTOWN_LAKE\RECREATION AREA PLANTING.MXD 7/6/2016 LN

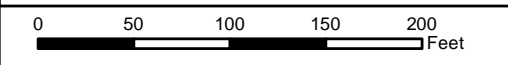
USACE - Raystown Lake Property

Note: See Appendix D for list of species that may be planted.
 * Tree and shrub species planted will be determined based on availability.



- ### Legend
- Shrub Species - 2' Potted
 - ✦ Shrub Species - 5'-6' Balled and Burlapped
 - Tree Species - Seedling
 - ✦ Tree Species - 5'-6' Balled and Burlapped
 - HDD Entry/Exit
 - USACE Entry/Exit
 - Recreation Area Entry/Exit
 - HDD
 - Proposed Pipelines
 - Permanent Right of Way Acreage - Pollinator Planting
 - Block Valve Forested Impacts (0.101 Acres, No Replanting or Reforestation)
 - PEM - Wetland Seed Mix Revegetation
 - 50-foot ROW
 - 20 Foot Spoil Space
 - Temporary Construction Workspace
 - ROW - ATWS
 - ROW - Drive-Through - Clearing Only
 - ROW - Drive-Through - Travel Only
 - Block Valve Permanent ROW
 - ROW - Permanent Access Road
 - ROW - Temporary Access Road
 - Stream
 - Wetland
 - Forested Area on USACE Land
 - USACE Property
 - County Boundary
 - Sheet Boundary

Appendix C Planting Plan for Raystown Lake Recreational Areas



Sheet 5 of 5 Scale 1:1200

Prepared By: TETRA TECH Date: 07/2016

Base Map;
 ESRI World Imagery, October 2011
 Coordinate System NAD 83
 Stateplane, PA South, Feet

USACE Parcels:
 County Assessment
 GIS Shapefiles



Planting Acreages	
PEM - Wetland Seed Mix Revegetation	0 ac
Permanent Right of Way Acreage - Pollinator Habitat Replant	0 ac
Temporary Right of Way Forested Acreage - Replanted Seedlings (680/Acre)	0.036 ac



BUF-P:\GIS\PROJECTS\112005956-PPP\MXD\PERMITS\USACE_RAYSTOWN_LAKE_RECREATION_AREA_PLANTING.MXD 7/6/2016 LN