

**EXHIBIT 4C**

**REPRESENTATIVE SITE PHOTOS AND LOCATION MAP**



Photo 1 – Unnamed tributary as it enters the Site from neighboring western property through culvert.



Photo 2 – Unnamed tributary riparian zone and adjacent upland.



Photo 3 – A head-cut erosion indicating instability on the unnamed tributary.



Photo 4 – Unnamed tributary lacking a forested buffer as it flows through pasture fields.



Photo 5 – Unnamed tributary is incised downstream from the head-cut.



Photo 6 – Pastured and degraded PEM wetlands within floodplain.



Photo 7 – Crossing structure over unnamed tributary. A culvert conveys the stream flow under the structure.



Photo 8 – Structure spanning stream to be removed.



Photo 9 – The North Branch of Pigeon Creek enters the Site through this culvert under Young Road.



Photo 10 – Downstream of the North Branch of Pigeon Creek as it enters the Site.



Photo 11 – Old farm corral to be removed from within the RZOI of the North Branch of Pigeon Creek.



Photo 12 – Pasture grass tussocks within the North Branch of Pigeon Creek.



Photo 13 – Unstable left stream bank of the North Branch of Pigeon Creek which is five feet high limiting the stream to access its historical floodplain.



Photo 14 – Eroding banks downstream of the confluence of the North Branch of Pigeon Creek and the unnamed tributary.



Photo 15 – Degraded wetlands within the stream floodplain.



Photo 16 – Example of the North Branch of Pigeon Creek onsite showing channel migration to the far right extent of the floodplain along the steep confining slope.



Photo 17 – Example of unstable channel characteristics including bank failure in the North Branch of Pigeon Creek onsite.



Photo 18 – Example of lateral instability of the North Branch of Pigeon Creek.



Photo 19 – Under-cut bank of the North Branch of Pigeon Creek.



Photo 20 – Example of stream channel incision in the lower third of Site limiting access to the floodplain.



Photo 21 – Portion of the North Branch of Pigeon Creek onsite showing unstable sinuosity, channel incision below the historical floodplain, and up-valley meander migration.



Photo 22 – The North Branch of Pigeon Creek has very few trees within the riparian buffer.



Photo 23 – Example of sloughing banks on the North Branch of Pigeon Creek.



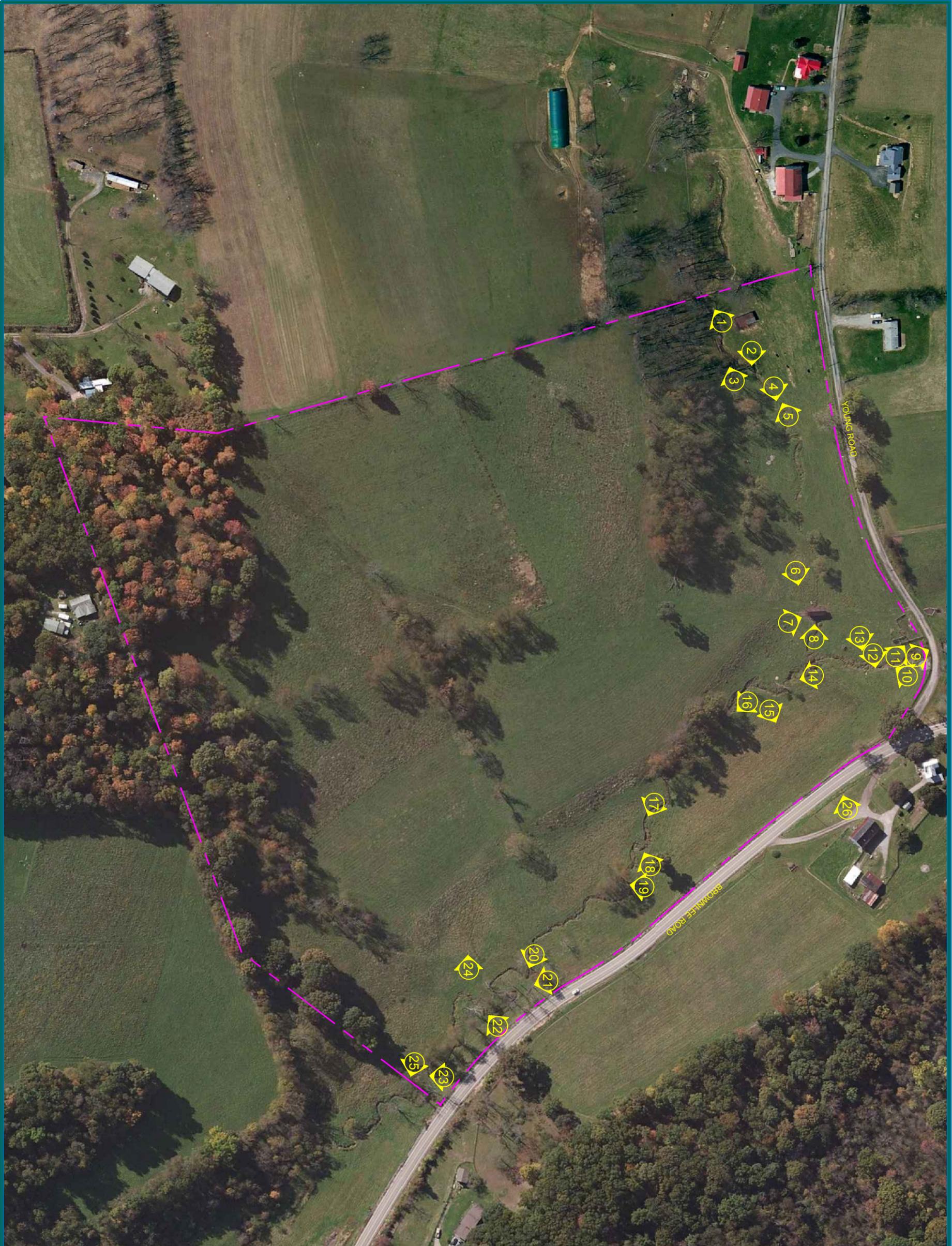
Photo 24 – Example of degraded and pastured wetland within the historical floodplain.



Photo 25 – North Branch of Pigeon Creek as it flows off Site.



Photo 26 – Overview of upper portion of Site showing the confluence of the North Branch of Pigeon Creek and the unnamed tributary near the red stream crossing structure.



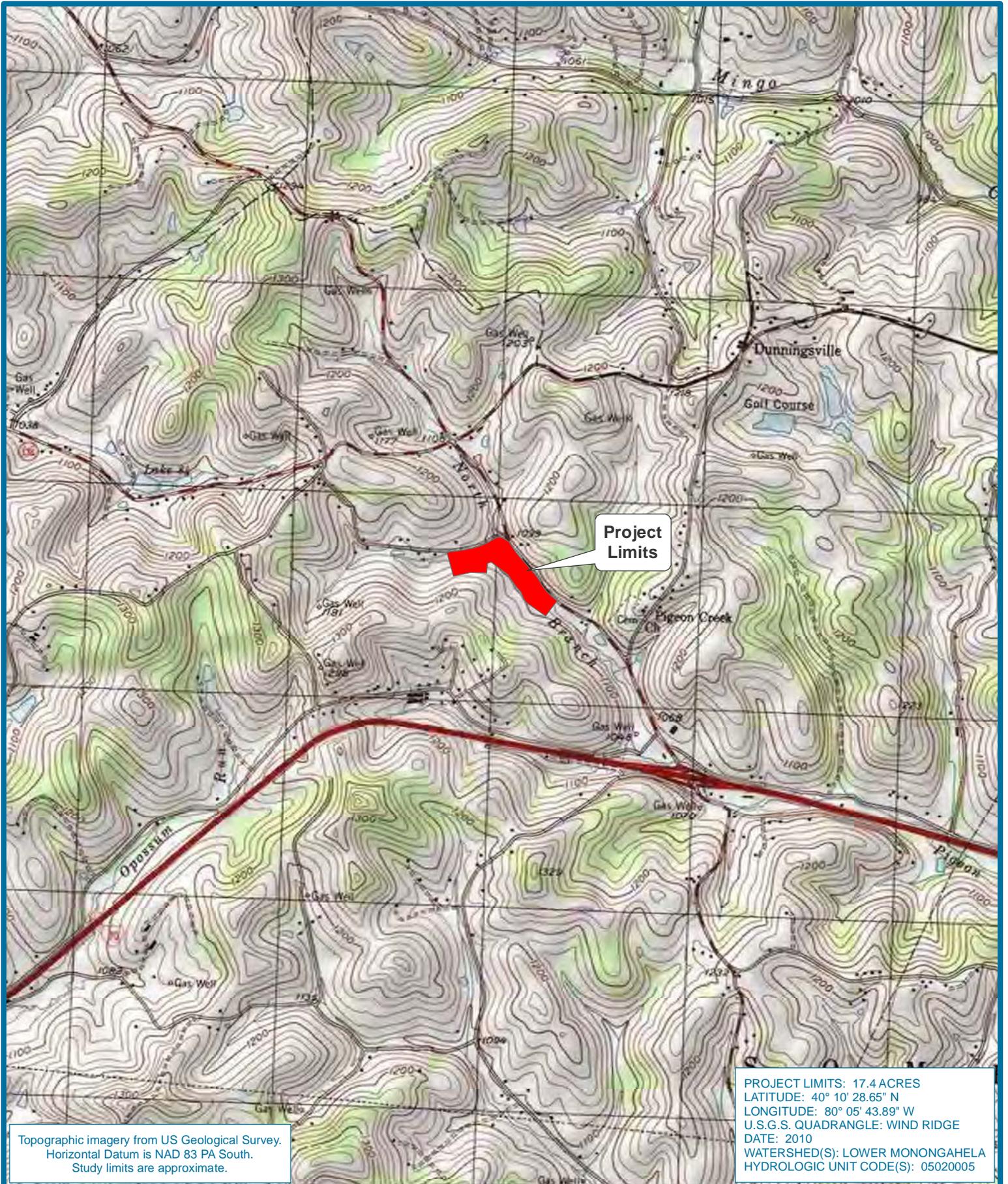
**FIGURE 3**  
 NORTH BRANCH  
 PIGEON CREEK  
 MITIGATION BANK  
 PHOTOGRAPH LOCATION  
 MAP  
 WASHINGTON COUNTY,  
 PENNSYLVANIA

- LEGEND**
-  NORTH BRANCH PIGEON CREEK MITIGATION BANK PROJECT LIMITS (44.1 AC)
  -  PHOTOSTATION

- NOTES:**
1. PROJECT STUDY LIMITS ARE APPROXIMATE.
  2. AERIAL IMAGERY FROM ESRI ONLINE-2012.

**EXHIBIT 4D**

**SITE MAPS**



Topographic imagery from US Geological Survey.  
 Horizontal Datum is NAD 83 PA South.  
 Study limits are approximate.

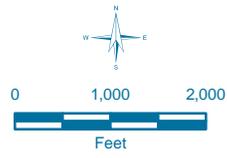
PROJECT LIMITS: 17.4 ACRES  
 LATITUDE: 40° 10' 28.65" N  
 LONGITUDE: 80° 05' 43.89" W  
 U.S.G.S. QUADRANGLE: WIND RIDGE  
 DATE: 2010  
 WATERSHED(S): LOWER MONONGAHELA  
 HYDROLOGIC UNIT CODE(S): 05020005

FIGURE 4D-1

NORTH BRANCH PIGEON CREEK MITIGATION BANK

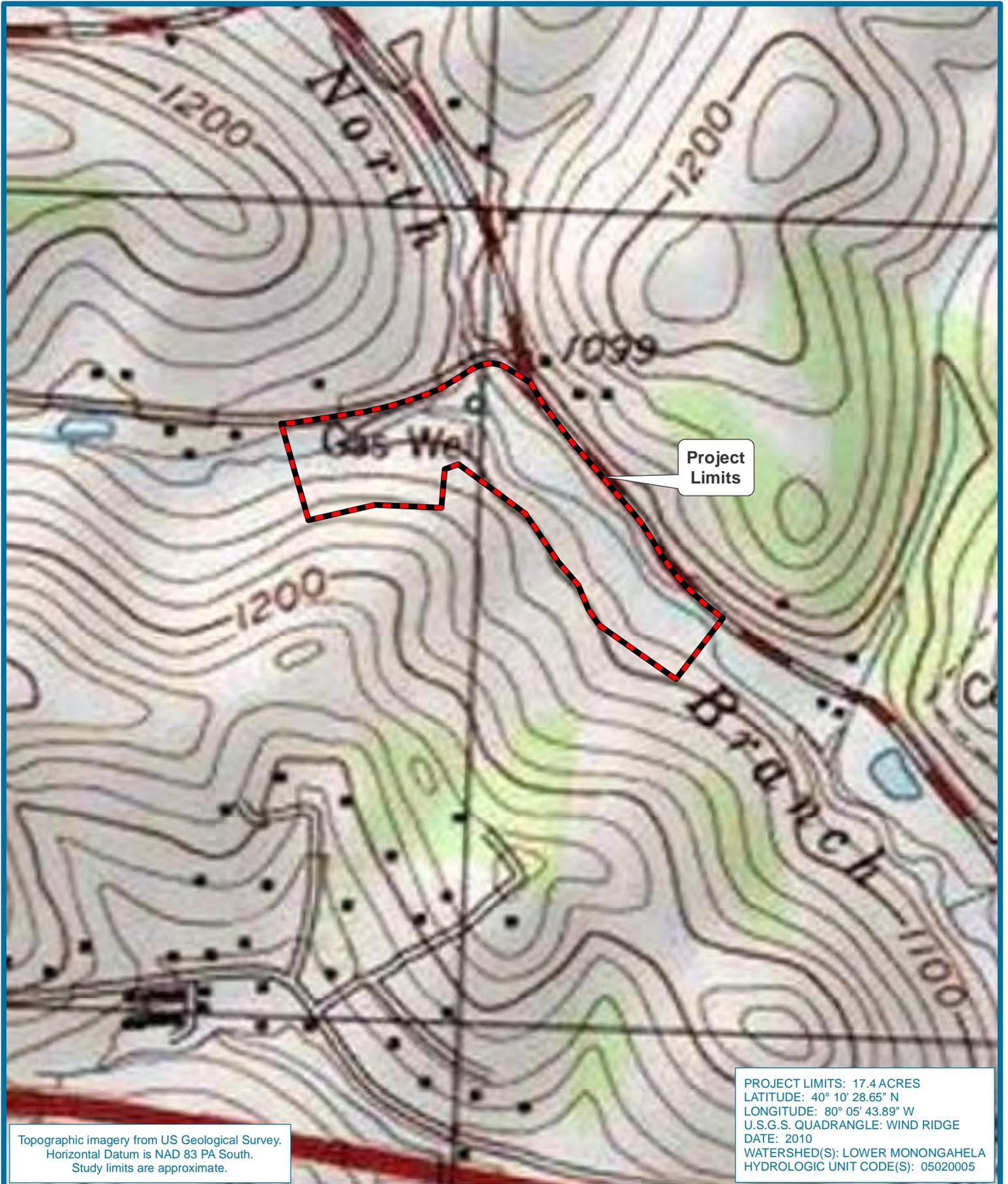
VICINITY MAP

WASHINGTON COUNTY, PENNSYLVANIA



J/N: 33548  
 Date: 04/10/13  
 Revised: 06/06/13





Topographic imagery from US Geological Survey.  
 Horizontal Datum is NAD 83 PA South.  
 Study limits are approximate.

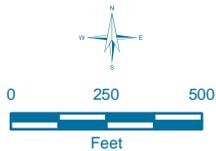
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 LATITUDE: 40° 10' 28.65" N  
 LONGITUDE: 80° 05' 43.89" W  
 U.S.G.S. QUADRANGLE: WIND RIDGE  
 DATE: 2010  
 WATERSHED(S): LOWER MONONGAHELA  
 HYDROLOGIC UNIT CODE(S): 05020005

FIGURE 4D-2

NORTH BRANCH PIGEON CREEK MITIGATION BANK

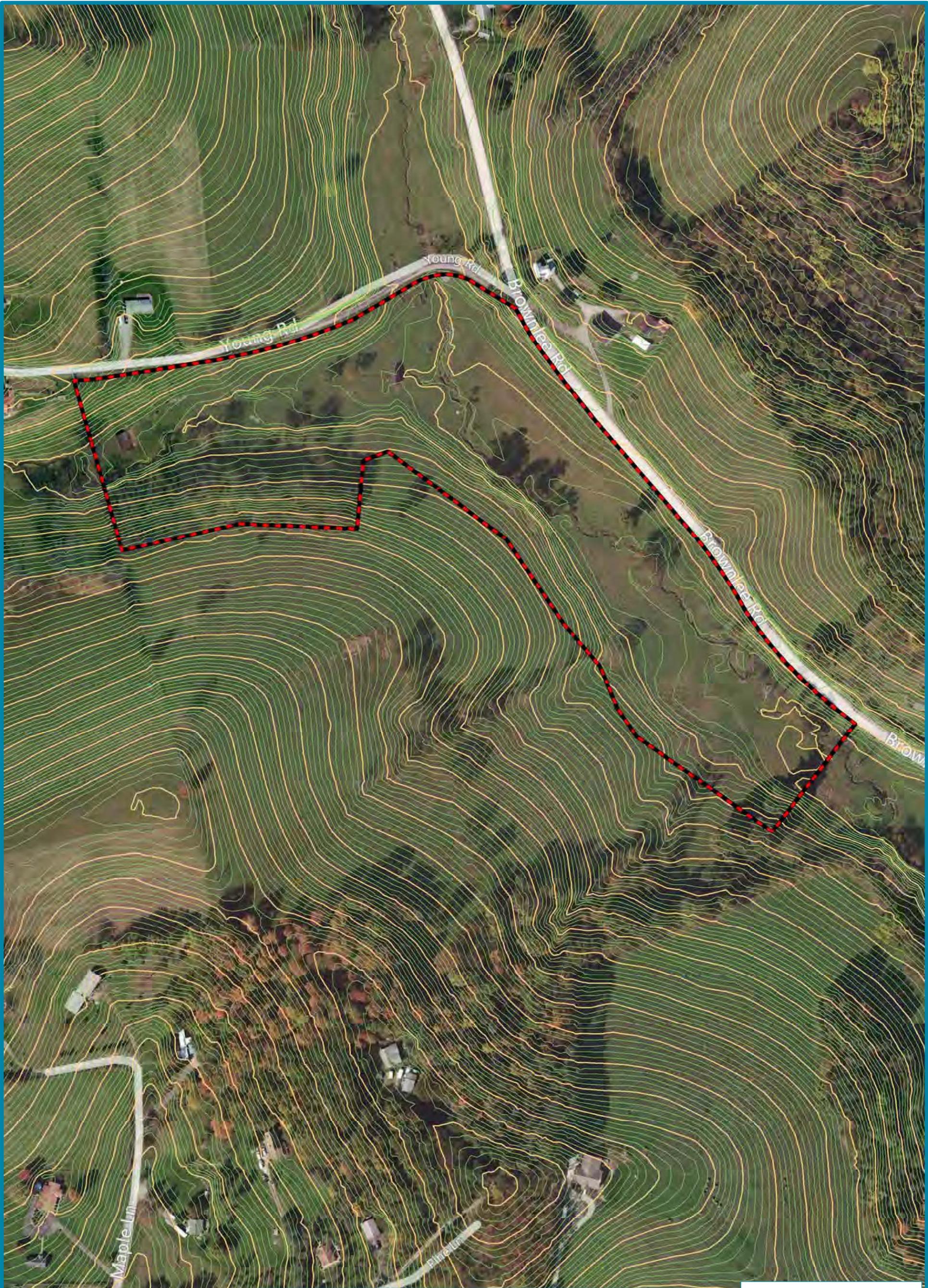
SITE LOCATION MAP

WASHINGTON COUNTY, PENNSYLVANIA



J/N: 33548  
 Date: 04/10/13  
 Revised: 06/06/13





Aerial imagery from Bing Maps-2012.  
 County boundary from PA DOT.  
 Map coordinate system is NAD 83 PA North.

**Legend**

-  North Branch Pigeon Creek Mitigation Bank Project Limits - 17.4 Acres+/-
-  Index Contours
-  Intermediate Contours

PROJECT STUDY LIMIT: +/- 17.4 ACRES  
 LATITUDE: 41° 56' 02.72" N  
 LONGITUDE: 77° 36' 21.27" W  
 U.S.G.S. QUADRANGLE: POTTER BROOK  
 DATE: 2010  
 WATERSHED(S): TIOGA  
 HYDROLOGIC UNIT CODE(S): 02050104

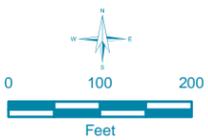
2013 Micro

FIGURE - 4D-3

NORTH BRANCH PIGEON CREEK MITIGATION BANK

TOPOGRAPHIC SITE MAP

WASHINGTON COUNTY, PENNSYLVANIA



J/N: 33548  
 Date: 06/10/13  
 Revised: -----

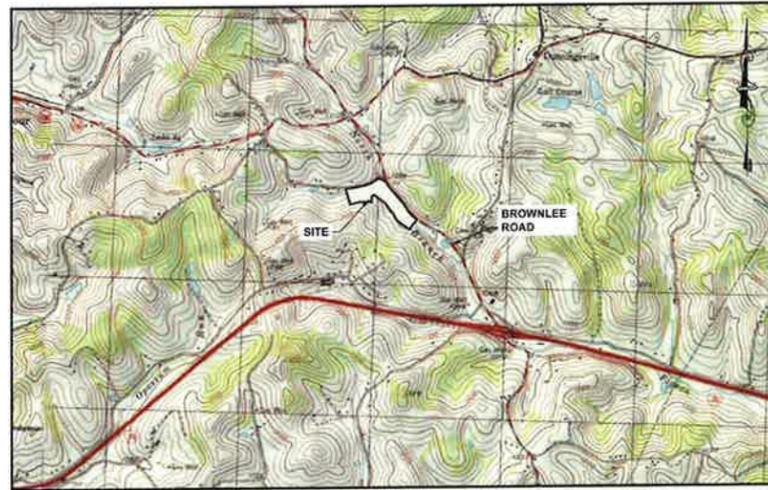


**EXHIBIT 5**

**MITIGATION WORK PLAN**

# NORTH BRANCH PIGEON CREEK RESTORATION SITE

SOMERSET TOWNSHIP  
WASHINGTON COUNTY, PENNSYLVANIA



VICINITY MAP  
SCALE: 1" = 2,000'

## FIRST PENNSYLVANIA RESOURCE, LLC

SPONSOR

ATTN: Will Donaldson  
380 Southpointe Blvd., Suite 405  
Canonsburg, PA 15317

JUNE 2013

### NOTES

- PROJECT DESCRIPTION:**  
This plan is for the construction of the North Branch Pigeon Creek Restoration Site. The Site is located approximately 2 miles east of Washington, Pennsylvania. The Site will include the restoration and conservation of all stream channels and wetlands onsite and their associated riparian zones. The project includes a variable width riparian protection zone throughout the site. The 17.4 +/- acre site limits will be entered into a perpetual conservation easement by the easement owner and landowners.
- SITE ADDRESS:**  
202 Brownlee Rd.  
Eight-Four, PA 15330
- SITE COORDINATES:**  
Latitude: N40° 10' 28.65"  
Longitude: W80° 05' 43.89"
- PROJECT ENGINEER:**  
Timmons Group  
1001 Boulders Parkway, Suite 300  
Richmond, Virginia 23225  
ATTN: Rebecca Napier, PE  
Email: rebecca.napier@timmons.com  
Phone: (804) 200-6437  
Fax: (804) 560-1438
- LANDOWNERS:**  
First Pennsylvania Resource, LLC  
380 Southpointe Blvd., Suite 405  
Canonsburg, PA 15317  
ATTN: Will Donaldson  
Email: will@frs.us  
Phone: (504) 493-6148
- SURVEY INFORMATION:**  
6" contour interval topography of the stream corridors and adjacent wetland and buffer restoration areas was performed by Timmons Group on January 15, 2013.  
Horizontal datum: NAD83 Pennsylvania State Plane, South Zone.  
Vertical datum: NAVD83.  
2' contour interval topography of drainage area map was obtained from the PAMAP Program, PA Department of Conservation and Natural Resources, Bureau of Topographic and Geologic Survey.
- WETLAND INFORMATION:**  
Wetland delineation was performed and wetland limits were GPS located with submeter accuracy by Timmons Group on January 15, 2013.
- SOILS INFORMATION:**  
Soil Survey information is from the U.S. Department of Agriculture, Natural Resources Conservation Service for Washington County, Pennsylvania downloaded on February 06, 2013, from <http://soildatamart.nrcs.usda.gov/>
- BOUNDARY INFORMATION:**  
Parcel boundary information from McTish, Kunkel & Associates dated 01/17/13.  
Conservation easement limits are approximate and not recorded.
- SITE AREA:**  
Conservation Easement Total: 17.4 ± Acres  
NPDES Boundary: 56.1 ± Acres  
Limits of Construction associated with Bank Construction: 7.1 ± Acres  
Limits of Grading associated with Bank Construction: 6.5 ± Acres
- BURIAL SITES:**  
No graves or burial markers were found on this site.

Sheet Number	Sheet Title
1.00	COVER
1.01	LEGEND
2.00	DRAINAGE AREA MAP
2.01	HYDROLOGY AND CHANNEL DESIGN PARAMETERS
2.02	GEOMORPHOLOGIC CALCULATIONS
2.03	SOILS MAP
3.00	DEMOLITION PLAN
3.01	EROSION AND SEDIMENT CONTROL NARRATIVE
3.02	EROSION AND SEDIMENT CONTROL DETAILS
3.03	EROSION AND SEDIMENT CONTROL SHEET INDEX
3.04	EROSION AND SEDIMENT CONTROL PLAN
3.05	EROSION AND SEDIMENT CONTROL PLAN
3.06	EROSION AND SEDIMENT CONTROL MATTING PLAN
3.07	EROSION AND SEDIMENT CONTROL MATTING PLAN
3.08	POST - CONSTRUCTION STORMWATER MANAGEMENT PLAN
4.00	CONSTRUCTION NOTES
4.01	STRUCTURE TABLE AND CONSTRUCTION DETAILS
4.02	CONSTRUCTION DETAILS
5.00	GRADING SHEET INDEX
5.01	GRADING PLAN AND PROFILE REACH 1 STA. 0+40.00 TO 2+80.00
5.02	GRADING PLAN AND PROFILE REACH 2 STA. 2+80 - 7+38
5.03	GRADING PLAN AND PROFILE REACH 2 STA. 7+38 - 12+38
5.04	GRADING PLAN AND PROFILE REACH 2 STA. 12+38 - 17+20
5.05	GRADING PLAN AND PROFILE REACH 3 STA. 20+00 - 25+00
5.06	GRADING PLAN AND PROFILE REACH 3 STA. 25+00 - 29+63.77
6.00	PLANTING SPECIFICATIONS AND DETAILS
6.01	PLANTING DETAILS
6.02	PLANTING AND SEEDING SCHEDULE
6.03	PLANTING PLAN



THIS DRAWING PREPARED AT THE  
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www.timmons.com

YOUR VISION. ACHIEVED THROUGH OURS.

DATE  
JUNE 2013

DRAWN BY  
M. HUGHES

DESIGNED BY  
M. HUGHES

CHECKED BY  
R. NAPIER

SCALE  
1" = 2000'

REVISION DESCRIPTION

JOB NO.  
33548

SHEET NO.  
1.00

**TIMMONS GROUP**

NORTH BRANCH PIGEON CREEK RESTORATION SITE  
SOMERSET TOWNSHIP - WASHINGTON COUNTY - PENNSYLVANIA  
COVER

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**PROPOSED EROSION CONTROL**

- LOD — LIMITS OF DISTURBANCE
- Substrate Mix
- TEMPORARY VEHICULAR STREAM CROSSING
- SILT FENCE
- CURLEX® I FIBRENET™ EC BLANKET
- 700 g COIR FABRIC MATTING
- SAF — SAFETY FENCE
- NPDES — NPDES BOUNDARY

**PROPOSED IMPROVEMENTS**

- CONSERVATION AREA
- DESIGN STREAM CENTERLINE
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPOSED 100-YR FLOODPLAIN BY TIMMONS GROUP

**ROCK WEIR**

**ROCK SILL**

**LOG SILL**

- TOE WOOD
- REINFORCED SOIL LIFT
- CLAY PLUG

**PROPOSED PLANTING/SEEDING**

- WETLAND PERMANENT SEEDING ONLY
- UPLAND PERMANENT SEEDING ONLY
- WETLAND PLANTING AND PERMANENT SEEDING
- UPLAND PLANTING AND PERMANENT SEEDING
- STREAMBANK LIVE STAKING
- VERNAL POOL PLANTING AND PERMANENT SEEDING

**EXISTING CONDITIONS**

- PROPERTY LINE
- MAJOR CONTOUR
- MINOR CONTOUR
- TREELINE
- GRAVEL ROAD
- FENCELINE
- FENCELINE (TO BE REMOVED)
- WETLANDS
- STREAM CENTERLINE
- 100 YEAR FLOODPLAIN BY TIMMONS GROUP
- STORM PIPE
- OVERHEAD UTILITY
- GAS LINE
- WWT — WARM WATER FISHERY

**DRAINAGE & SOILS**

- MAJOR DRAINAGE AREA
- MINOR DRAINAGE AREA
- SOIL GROUP BOUNDARY
- SOIL GROUP IDENTIFIER

**PROFILES**

- EXISTING GRADE (FIELD TOPO)
- PROPOSED GRADE
- DESIGN TOP OF BANK
- SUBSTRATE MIX
- FILL

**ROCK SILL**

**LOG SILL**

**EXISTING STORM AND SANITARY PIPE**

**EXISTING STORM AND SANITARY PIPE (CROSSING)**



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REVISION DESCRIPTION

DATE	DESCRIPTION

**TIMMONS GROUP**

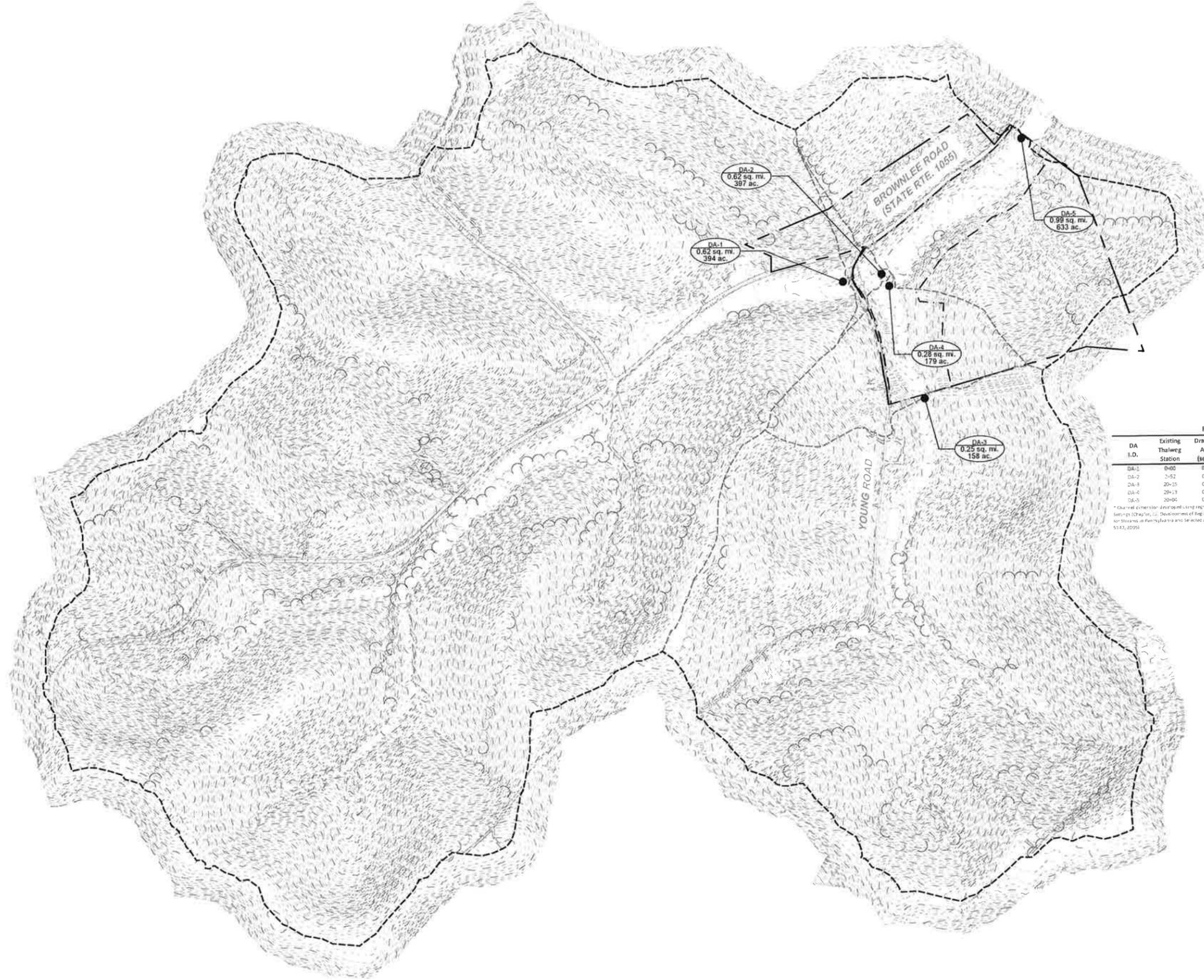
**NORTH BRANCH PIGEON CREEK RESTORATION SITE**  
SOMERSET TOWNSHIP - WASHINGTON COUNTY - PENNSYLVANIA

**LEGEND**

JOB NO.	33548
SHEET NO.	1.01

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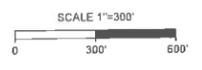
V:\041324\48-RES - Branch - Paper\0 - MIF041324\48-RES-02-DRAINAGE AREA MAP.dwg | Printed on 6/13/2013 3:51 PM | by Michael Hughes



Regional Curve Calculations

DA I.D.	Existing Thalweg Station	Drainage Area (sq mi)	Cross-Sectional Area (ft <sup>2</sup> )	Bankfull Discharge (cfs)	Bankfull Width (ft)	Bankfull Mean Depth (ft)	Manning's n
DA-1	0+00	0.62	8.19	28.41	13.79	0.75	0.045
DA-2	2+52	0.62	8.23	28.57	11.83	0.75	0.045
DA-3	20+15	0.25	3.97	12.91	7.86	0.55	0.045
DA-4	29+13	0.28	4.37	14.35	8.33	0.58	0.045
DA-5	20+04	0.98	11.94	22.83	13.58	0.87	0.045

\* Channel cross-section development using regression equations based upon the Regional Curves developed for Non-Caribbean Streams (Cappin, et al. Development of Regional Curves Relating Bankfull Channel Geometry and Discharge to Drainage Area for Streams in Pennsylvania and Selected Areas of Maryland, U.S. Geological Survey Scientific Investigations Report 2005-5113, 2005).



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DATE: JUNE 2013  
 DRAWN BY: M. HUGHES  
 DESIGNED BY: M. HUGHES  
 CHECKED BY: R. NAPIER

SCALE: 1" = 300'

# TIMMONS GROUP

NORTH BRANCH PIGEON CREEK RESTORATION SITE  
 SOMERSET TOWNSHIP - WASHINGTON COUNTY - PENNSYLVANIA  
 DRAINAGE AREA MAP

JOB NO. 33548  
 SHEET NO. 2.00

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