

ENLOW FORK MITIGATION BANK

MITIGATION SITE PLAN

JULY 2013



PREPARED BY:



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I. INTRODUCTION

A. Bank Name and Organization

First Pennsylvania Resource, LLC (“Bank Sponsor”) proposes to establish the Enlow Fork Mitigation Bank (“EFMB” or “Bank Site”) within the approved Pennsylvania Statewide Umbrella Mitigation Banking Instrument (“PSUMBI”). The purpose of the PSUMBI is to provide compensatory mitigation for unavoidable impacts to streams and wetlands as a result of activities authorized under Section 401 and 404 of the Clean Water Act; Section 10 of the Rivers and Harbors Act; Pennsylvania Department of Environmental Protection (“PADEP”) Chapters 102, 105, and 106 regulatory programs; and Department of the Army Permits provided such activities have met all applicable requirements and are authorized by the appropriate agencies.

B. Authorities

The establishment, use, operation, and maintenance of the PSUMBI and the EFMB are carried out in accordance with the following authorities:

1. Clean Water Act (33 USC 1251 et seq.);
2. Rivers and Harbors Act (33 USC 403);
3. Fish and Wildlife Coordination Act (16 USC 661 et seq.);
4. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 320-332);
5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230);
6. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990);
7. Regulatory Guidance Letter No. 05-01. U.S. Army Corps of Engineers, February 14, 2005;
8. Compensatory Mitigation for Losses of Aquatic Resources; Final Rule. 33 CFR Parts 325 and 332, Department of the Army, Corps of Engineers and 40 CFR Part 230, Environmental Protection Agency, April 10, 2008;
9. Regulatory Guidance Letter No. 08-03. U.S. Army Corps of Engineers, October 10, 2008;
10. Pennsylvania Department of Environmental Protection, Chapters 102, 105, and 106 regulatory programs; and
11. Pennsylvania State Programmatic General Permits (PASPGP) 3 and 4 and the requirements of Title 25 PA Code 105 rules and regulations.

C. Location

The 44.9-acre site is located 0.8 miles east of West Finley in Washington County, Pennsylvania. The EFMB is generally bound by Burnsville Ridge Road to the west, Red Barn Lane to the north, mid-successional forest to the east, and agricultural land to the south. A map showing the location is included as Figure 1: Vicinity Map. A map providing greater detail is included as Figure 2: Site Location Map.

The EFMB address is as follows:

81 Red Barn Lane
West Finley, PA 16950

The EFMB latitude and longitude coordinates are as follows:

39⁰ 59' 21.98" North
80⁰ 27' 15.89" West

Driving directions from the intersection of West Finley Road and State Route 35 (Burnsville Ridge Road) in West Finley are as follows:

- Head northeast on Burnsville Ridge Road for 0.4 miles.
- Turn right onto Red Barn Lane and the Site is approximately 0.4 miles on the right.

Arrangements should be made with the Bank Sponsor prior to visiting the EFMB.

II. PHASING

This Mitigation Site Plan (“MSP”) is being submitted for approval by the Interagency Review Team (“IRT”) as an addendum to the PSUMBI. Upon approval, the MSP for the EFMB will be attached to the PSUMBI, and the EFMB will be deemed a component of the PSUMBI. Credits will be released consistent with the schedule of credit availability in accordance with this MSP and the PSUMBI. Credits released for the EFMB will be accounted for in the overall bank ledger for the PSUMBI. Bank sites will have separate ledgers and separate entries in RIBITS, but all ledgers will governed by the PSUMBI.

III. BANK GOALS AND OBJECTIVES

The goal of the EFMB is to restore and preserve self-sustaining, functional streams, wetlands, and riparian corridors. In accordance with this goal, the EFMB strives to replace the functions and value lost from adverse impacts to streams and wetland area due to various permitted development projects within the Ohio River Subbasin (State Water Plan Watershed Subbasin 20). The EFMB development efforts will provide an in-kind replacement for the direct loss or functional degradation of stream, wetland, and riparian resources that result from unavoidable aquatic resource impacts. In addition, the structural establishment of these improvements in advance of the compensated impacts will serve to eliminate the temporal loss of function that may result from alternative mitigation approaches.

The proposed actions for the EFMB strongly align with the Washington County Greenways Plan. This plan was created by the Pennsylvania Department of Conservation and Natural Resources (“DCNR”) to implement, at a county level, the Greenways Partnership Program. The goal of this program is to create a statewide interconnected greenways network.

This Washington County Greenways Plan (“WCGP”) identifies priority locations for greenway development. Among these priority locations are those areas listed in the Washington County Natural Heritage Inventory. As a Provisional Species of Concern Site and a Protected Core Habitat Site, the

Enlow Fork Mitigation Bank qualifies as a high priority conservation site and is listed by the WCGP as a Biologically Diverse Area (“BDA”) of exceptional value as well as a Landscape Conservation Area (“LCA”).

Congruent to these designations by the WCGP, the Enlow Fork area carries a designation specific to animals as well. The Enlow Fork area is considered an Important Bird Area (“IBA”) by the Pennsylvania Audubon Society, which considers it as a crucial nesting, feeding, roosting, and migratory habitat. It is also recognized as a Trout Stocked Fishery, meaning that the stream provides for the maintenance and propagation of fish species along with additional flora and fauna indigenous to a warm water habitat.

The EFMB will strive to protect and support all of these designations through its conservative and preservative efforts along tributaries to Enlow Fork. Functional gains in the area to come from the restoration and re-establishment efforts within this stream channel will include:

- Reduction of bank erosion
- Establishment of effective sediment transport
- Increased flood capacity and storage
- Improved water quality
- Increased stable aquatic habitat

Further gains will come from efforts to remove an in-line pond and the associated dam including:

- Removal of an in-stream mitigation restriction
- Elimination of water temperature alteration features
- Restoration of natural sediment transport characteristics throughout the stream corridor

The Washington County Greenways Plan hones in on Riparian Buffers as valuable Conservation Greenways. The EFMB will reforest the riparian buffers of the on-site streams and will help realize the benefits described in the Washington County Greenways Plan. These benefits include: channel shading to cool water temperature, protection against erosion, and the creation of wildlife habitat area.

The EFMB proposes to establish the following resource types in the amounts described below using the indicated proposed methods:

Forested Wetlands

Total Area: 4.55 acres composed of:

- Wetland (PFO) Re-establishment: 1.91 acres
- Wetland (PFO) Rehabilitation: 2.25 acres
- Wetland (PFO) Conservation: 0.39 acres

Stream Mitigation

Total Linear Footage: 6,507 L.F. composed of:

- Perennial Stream Restoration: 2,578 L.F.
- Perennial Stream Enhancement: 1,398 L.F.
- Intermittent Stream Restoration: 145 L.F.
- Intermittent Stream Enhancement: 645 L.F.
- Stream Conservation: 1,741 L.F.

IV. SUITABILITY OF THE BANK SITE

A. Site Selection

The EFMB was selected after careful consideration of multiple alternatives in the watershed. Many alternatives were eliminated as a result of unwillingness on the part of the property owner to permanently restrict the property. The remaining alternatives were ultimately rejected due to a lack of degraded stream, wetland, and riparian resources within the project areas to yield a significant restoration project. This site was selected firstly because of its ability to accomplish ecologically self-sustaining aquatic resource restoration, re-establishment, enhancement, and conservation. The EFMB is adjacent to mature forested habitat that can provide natural species transfer. Following site visits, the U.S. Army Corps of Engineers-Pittsburgh District (“CELRP”), the U.S. Fish and Wildlife Service (“USFWS”) and the Pennsylvania Fish and Boat Commission (“PFBC”) found the EFMB to be a promising restoration site and encouraged the continuation of the filing process.

The high resource value of the primary on-site stream and the degraded condition of the wetlands and streams make this an attractive site from a mitigation perspective, as there is significant potential for functional improvements. The Bank Site’s wetlands and streams have been degraded through anthropogenic alterations including historic and current agricultural activities (i.e. direct livestock access and grazing; planting of non-native herbaceous species), direct channel impacts which support property access (i.e. roads), and timbering activities. The pressure from these activities has resulted in stream bank instability, floodplain detachment, the generation of excessive sediment, and lack of adequate aquatic and terrestrial habitat.

The location of the EFMB will provide compensatory mitigation options to counties within Pennsylvania that are receiving pressures from evolving development in the surrounding area. Providing ecological benefits such as improvements to water quality, fish and wildlife habitat, erosion control, and flood conveyance and storage will ensure that the aquatic resources within the watershed remain in good health. The primary service area for the EFMB is the Ohio River Subbasin (State Water Plan Watershed Subbasin 20). Secondary service areas in adjacent State Water Plan Watershed Subbasins or eight-digit Hydrologic Unit Code Subbasins may be allowed on a case-by-case basis. A Service Area map illustrating the primary service area of the EFMB is included as Figure 3: Service Area Map.

B. Baseline Information

1. Soils

The U.S. Department of Agriculture Natural Resource Conservation Service (“NRCS”) identifies three distinct soil series/complexes within the EFMB. The soil identities and summary attributes are included below. The mapped locations of the soils are shown on Figure 10: Environmental Inventory Map.

- Culleoka silt loam (CaB, CaC and CaD): well drained, 3-8% slopes (CaB), 8-15% slopes (CaC), and 15-25% slopes (CaD), located on hill slopes along the side slope.

- Dormont silt loam (DoD): moderately well drained, 15-25% slopes, located on hill slopes along the side slope.
- Dormont-Culleoka silt loam (DtD and DtF): moderately well drained, 15-25% slopes (DtD) and 8-15% slopes (WeC), located on hill slopes along the side slope.

2. Wetlands

A preliminary wetland delineation was conducted on the EFMB in November 2012 to identify both wetlands and streams within the proposed boundaries of the EFMB. The JD identified approximately 2.25 acres of severely degraded wetlands and 0.33 acres of PFO wetlands. The majority of the wetlands on-site were found within the floodplain of the main second order tributary. Hydrology within the floodplain is derived from a high groundwater table and inundation during high water events. Seeps along the hill slopes also provide additional hydrology to adjacent wetlands and stream channels.

Many of the severely degraded wetlands on-site are located within actively grazed and maintained pastures. The severely degraded wetlands on-site are dominated by tall fescue (*Festuca pratensis*), shallow sedge (*Carex lurida*), soft rush (*Juncus effuses*) and smart weed (*Polygonum hydropiper*). The presence of this allelopathic grass and stress from grazing and mowing have altered the plant community by outcompeting native hydrophytic vegetation.

Forested wetlands on-site are located near the headwaters of first order streams. Vegetation within the forested wetlands consists of various herbaceous species including rushes (*Carex spp.*) and sedges (*Juncus spp.*). Hardwood trees including oak (*Quercus spp.*), hickory (*Carya spp.*), and maple (*Acer spp.*) are growing along the side slopes in adjacent upland areas.

Indicators of wetland hydrology within the land along the floodplain of the main unnamed tributary consist of soil saturation within the upper 12 inches of the soil surface, oxidized rhizospheres on living roots, hydrogen sulfide odor, passing of the FAC neutral test and geomorphic position. These wetlands obtain the majority of their hydrology from a high groundwater table near the soil surface. Wetlands not located within the active floodplain obtain their hydrology from seeps/springs or a perched water table. Indicators of wetland hydrology within these features consist of surface water, high water table, saturation, oxidized rhizospheres on living roots and the presence of reduced iron.

3. Streams

Stream delineation identified 5,708 linear feet of perennial stream channel and 790 linear feet of intermittent stream channel within the EFMB. Intermittent and perennial streams on-site originate from headwater springs. The stream channels present within the EFMB exist as first and second order tributaries.

While much of the northern and western tributaries have stable stream channels with mature forested and herbaceous buffer, the downstream portion of the EFMB streams flow through pastured fields. These areas lack forest buffer and are accessible to livestock making the streams prone to erosion and currently burdened by more sediment

than they are capable of mitigating. An in-line farm pond near the southern boundary of the EFMB further impedes the flow of water within the stream channel.

C. Threatened and Endangered Species

The EFMB was screened for potential impacts so species of special concern using the Pennsylvania Natural Diversity Inventory (“PNDI”). The PNDI Review found that the EFMB is located within known summer habitat of an Indiana bat maternity colony. However, the review found that proposed actions on the EFMB would not have a significant adverse effect on overall habitat quality for the Indiana bat. Additionally, a bog turtle habitat screening was not performed given that the EFMB is located in Washington County and not within the counties known to contain bog turtle habitat.

In order to avoid the direct take of roosting Indiana bats, the Bank Sponsor will comply with the USFWS recommended seasonal restriction on tree cutting from October 15 to March 31. The Bank Sponsor will also incorporate the seven conservation measures encouraged by the USFWS to reduce impacts to Indiana bats and their foraging and roosting habitats as described in Exhibit 3: PNDI Review Letter.

By reforesting areas of upland and riparian forest, the EFMB has the potential to create additional habitat for the Indiana Bat. The Bank Sponsor may seek to develop a species credit bank for the Indiana bat at the EFMB.

D. Cultural Resources

In order to gain information regarding the presence of historical and cultural resources within the project study limits, a Cultural Resource Notice Form was sent to the Pennsylvania Historical and Museum Commission (“PHMC”) for review on February 21, 2013. The PHMC determined that the project would have no effect on architectural or archaeological cultural resources. A copy of the PHMC’s February 27, 2013 determination letter providing this certification is attached as Exhibit 4: Cultural Resource Clearance Letter.

V. BANK ESTABLISHMENT

A. Determination of Credits

Tables showing the projected stream and wetland functional credit gain using the USACE-sponsored functional model within PSUMBI are included in Exhibit 2: USACE Functional Ratio Method Calculation. Upon approval of the Compensation Protocol, either model, or both, may be used to provide compensatory mitigation. The Bank ledger is attached as Exhibit 6: Bank Ledger. A description of the physical work delivering functional gain is described in sections V.A.1&2 below.

1. Wetlands and Riparian Buffer

Wetland and upland riparian zone restoration will be conducted along one or both sides of all streams on-site. The size of this riparian zone will vary throughout the Bank depending on the site constraints. Currently, the majority of the riparian zone on-site

consists of actively grazed pasture lacking both a tree and shrub layer. Restoration of the degraded areas will consist of converting the existing herbaceous dominated condition to a diverse forested community. Heavy woody stem plantings are proposed to improve the stream functions by filtering runoff, absorbing nutrients, lower water temperatures through shading, increase submerged woody and leafy debris, and providing habitat for both aquatic and terrestrial wildlife species.

2. Streams

The stream restoration efforts will focus on areas of the stream channel that are experiencing channel bed and/or bank instability due to improper dimension, pattern, and profile. Restoration as a combined approach of stream rehabilitation and re-establishment of dimension, pattern, and profile of these reaches utilizing Natural Channel Design (NCD) techniques is proposed to improve the overall channel condition, stabilize channel banks, and re-establish hydraulic connectivity to flood prone areas.

The restoration will also consist of the installation of in-stream structures such as rock and log sills in order to maintain a stable width/depth ratio, maintain channel capacity, decrease near-bank shear stress, reduce water velocity, and improve in-stream habitat. Bank grading (bank layback) and/or bankfull bench creation will be undertaken as needed to prevent stream bank soil loss and provide as-needed cross sectional capacity adjustments resulting in stable passage of flood flow and appropriate sediment transport. Stream restoration will also be conducted within an existing agricultural pond. Restoration activities within the pond will include the removal of the dam and the construction of a stream channel using NCD techniques within the pond's existing footprint. Additionally, live stakes will be installed along both of the restored stream's banks to promote stream bank stabilization.

Stream re-establishment will also be conducted within existing, in-line agricultural ponds. Re-establishment activities associated with the ponds will include the removal of the dams, legacy sediment management, and the construction of a stream channel using NCD techniques within the pond's footprint.

As previously discussed in Section III, Bank Goals and Objectives, the functional gains foreseen from the restoration efforts within this stream channel include the reduction of bank erosion/sediment, establishment of effective sediment transport, increased flood capacity and storage, improved water quality, and increased stable aquatic habitat. In addition, the removal of the in-line pond and associated dams will remove an in-stream migration restriction, eliminate a water temperature alteration features, and restore natural sediment transport characteristics throughout the stream corridor on-site.

B. Mitigation Work Plan

In accordance with the PSUMBI, the Mitigation Work Plan for the EFMB is attached as Exhibit 5: Mitigation Work Plan. This plan includes:

- Hydrology and Channel Design Parameters
- Erosion and Sediment Control Plan

- Construction Details
- Grading Plan and Profile
- Planting Specifications
- Planting Details
- Planting and Seeding Schedules

Per the CELRP office's requests, additional figures have been included within the Mitigation Work Plan identifying the planting plan and in-stream structures proposed for the EFMB.

C. Performance Standards

Modifications of the performance standards set forth within the PSUMBI in Exhibit A are required for the 0.39 acres of forested wetlands and 1,741 L.F. of high-functioning streams located on-site. For these areas, designated for Conservation, performance standards pertaining to resource development do not apply. In the stream and wetlands conservation areas within the EFMB, the following performance standards are proposed. 100 percent of credits shall be released upon:

- The approval of the EFMB Mitigation Site Plan,
- The implementation of Financial Assurances, and
- The recordation of the approved Site Protection Instrument.

The EFMB requires no further deviations from the performance standards set forth within the PSUMBI in Exhibit A.

VI. OPERATIONS

A. Site Protection Instrument

The Bank Sponsor has attached the proposed Site Protection Instrument for the EFMB as Exhibit 7: Revised Site Protection Instrument. The responsibilities set forth within the Site Protection Instrument may be transferable to an acceptable conservation organization upon fulfillment of project objectives with the property ownership remaining with the titled owner. The Bank Sponsor will provide for the perpetual protection and preservation of the EFMB through maintenance agreements or restrictive covenants. These provisions will conform to the current CELRP and PADEP guidance. The restrictions of the attached Site Protection Instrument have been reviewed by the IRT.

B. Maintenance Plan

The Bank Sponsor agrees to perform all necessary maintenance to ensure the continued viability of the EFMB once initial construction is complete. The need to perform maintenance will be assessed in the monitoring reports and during monitoring site visits, and if deemed necessary by the Bank Sponsor or the IRT, the appropriate required maintenance will be conducted.

Upon Bank Closure, all of the terms and conditions set forth in the Long-Term Management and Maintenance Plan, described in Section D of this document, will take effect.

C. Monitoring Requirements

The EFMB will perform at least one monitoring report annually between Tiers 1-3 until all credits are sold or final success criteria are met, whichever is later, pursuant to Exhibit B in the PSUMBI. In any event where the Bank Sponsor can demonstrate the meeting of performance criteria culminating in a request for release of credits, a Tier 2 monitoring event shall occur. In any event of Default, a Tier 3 monitoring event will be required to demonstrate a renewal of compliance. If this Mitigation Site Plan is amended to alter crediting, a Tier 3 monitoring report will be required. In all other cases, a Tier 1 monitoring event will be the minimum allowed, unless the IRT requests otherwise, in which case the wishes of the IRT shall prevail.

D. Long-term Management and Maintenance Plan

A Long-Term Management and Maintenance Plan (“LTMM Plan”) ensures that the EFMB is managed, monitored, and maintained in perpetuity. The Bank Sponsor has set aside \$25,625 for the Long-Term Steward fee to fund the LTMM Plan. This value was arrived at using the Stewardship Costs Calculator developed by the Pennsylvania Land Trust Association. The LTMM Plan, described below, establishes objectives, priorities, and tasks to monitor, manage, maintain, and report on the jurisdictional waters of the U.S. within the EFMB. An annual report will be submitted to the IRT by November 30 containing photographic information and a brief discussion of any maintenance needed to keep the property in a mature non-threatened state.

- a. Periodic Patrols. At least one annual walk-through survey will be conducted to qualitatively monitor the general condition of these habitats in perpetuity. General topographic conditions, hydrology, general vegetation cover and composition, invasive species, and erosion will be noted, evaluated and mapped during a site examination. Notes to be made will include observations of species encountered; water quality; general extent of wetlands and streams, and any occurrences of erosion; structure failure; or invasive or non-native species establishment. The report should provide a discussion of any recent changes in the watershed.
- b. Invasive Species Monitoring. Each year’s annual walk-through survey (or a supplemental survey) will include a qualitative assessment (e.g. visual estimate of cover) of invasive species. Additional actions to control invasive species will be evaluated and prioritized in coordination with the IRT.
- c. Signage. Signage will be installed and maintained at property boundaries to prevent casual trespass while allowing necessary access. During each site visit, notes will be made as to the condition of signs, crossings, and property boundaries. Recommendations to implement repair or replacement to signage, crossings, or property boundary markers will be made, if applicable.
- d. Fencing. Fencing will be erected and maintained during the Initial Monitoring Period in order to prevent trespassing and allow maturation of the project. After this time the Long-Term Steward will determine the need to keep this fencing in consultation with the IRT. If there is no need, the fencing will be allowed to deteriorate naturally.
- e. Crossings and Structures. There are no crossings or other structures to maintain within the EFMB.

- f. Forestry Management Practices. Vegetation will be reduced in any areas recommended by authorities, and as approved by the IRT, for fire control. Any practices to reduce diseased or dead vegetation will be allowed if the vegetation compromises the long-term viability of the project or any installed structure on the EFMB.
- g. Trash and Trespass. At least once yearly trash will be removed and any necessary measures to prevent or repair damage from vandalism and trespass impacts will be taken.
- h. Right to Inspection. The IRT and its authorized agents shall have the right to inspect the EFMB and take actions necessary to verify compliance with this Long-Term Management Plan. The Long-Term Management Plan herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the IRT, including the Corps or PADEP. Failure by any agency (or owner) to enforce the Long-Term Management Plan contained herein shall in no event be deemed a waiver of the right to do so thereafter. If the Long-Term Steward fails to succeed to adhere to the requirements Long-Term Maintenance and Monitoring Plan, the IRT Chairs may locate a new Long-Term Steward or request that the Sponsor assist in the process if occurring after Bank Closure.

E. Financial Assurances

The Bank Sponsor evaluated multiple options for Financial Assurances. The Bank Sponsor chose to use utilize a Performance Bond to fund aspects associated with the expenses identified below. The Bank Sponsor is seeking to utilize a Performance Bond to fund aspects associated with the expenses identified below. The performance bonding entity has a rating of A+ (Fitch Ratings, 2010). A model document conforming to PSUMBI's sample document with minor alterations is attached per the bonding company's request as Exhibit 8: Performance Bond. A complete line item budget has been provided separately to the IRT for detailed review.

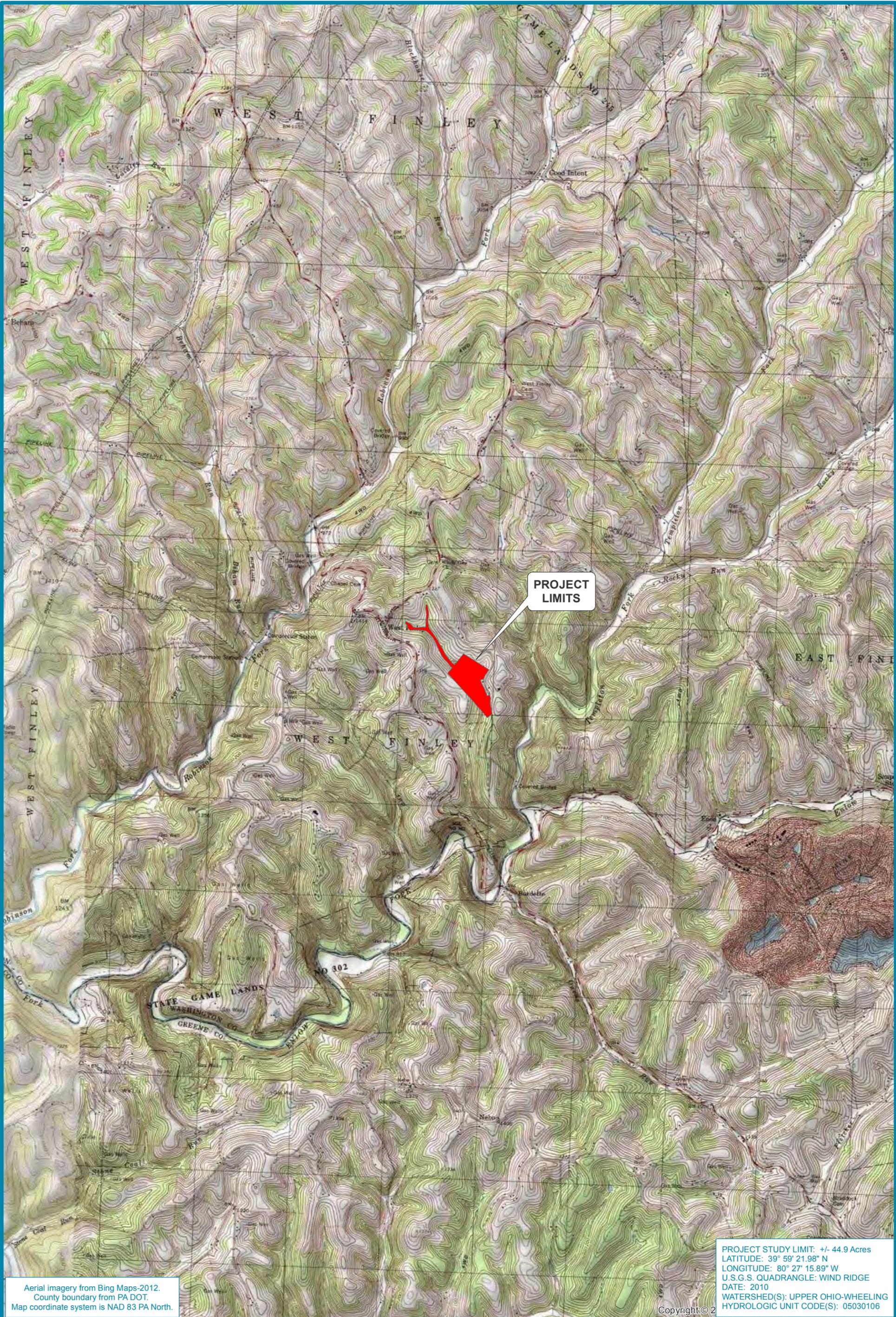
Financial Assurances are required to include the following items:

- Construction/Development
 - Land Acquisition
 - Planning
 - Engineering
 - Legal Fees
 - Mobilization
 - Construction
- Initial Monitoring Period
 - Year 1-10 Maintenance, Monitoring, Reporting, and Contingency
- Fees and Costs Associated with Maintenance, Monitoring, Reporting, Contingency for Long-Term Steward
- Catastrophic Event Fund
- Costs Associated with Locating a Replacement Site

VII. REFERENCES

- Pennsylvania Department of Conservation and Natural Resources. 2006. "Washington County Greenways Plan." Available at http://www.dcnr.state.pa.us/cs/groups/public/documents/document/d_001212.pdf. Accessed June 2013.
- U.S. Fish and Wildlife Service (USFWS). 2012. "Guidance on Developing and Implementing an Indiana Bat Conservation Plan." Available at http://www.fws.gov/northeast/pafo/pdf/IBATconservationplanguidance_PAFO_040412.pdf. Accessed June 2013.

FIGURES



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

PROJECT STUDY LIMIT: +/- 44.9 Acres
LATITUDE: 39° 59' 21.98" N
LONGITUDE: 80° 27' 15.89" W
U.S.G.S. QUADRANGLE: WIND RIDGE
DATE: 2010
WATERSHED(S): UPPER OHIO-WHEELING
HYDROLOGIC UNIT CODE(S): 05030106

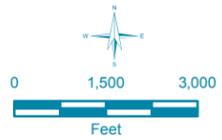
Copyright © 2010

FIGURE 1

ENLOW FORK MITIGATION BANK

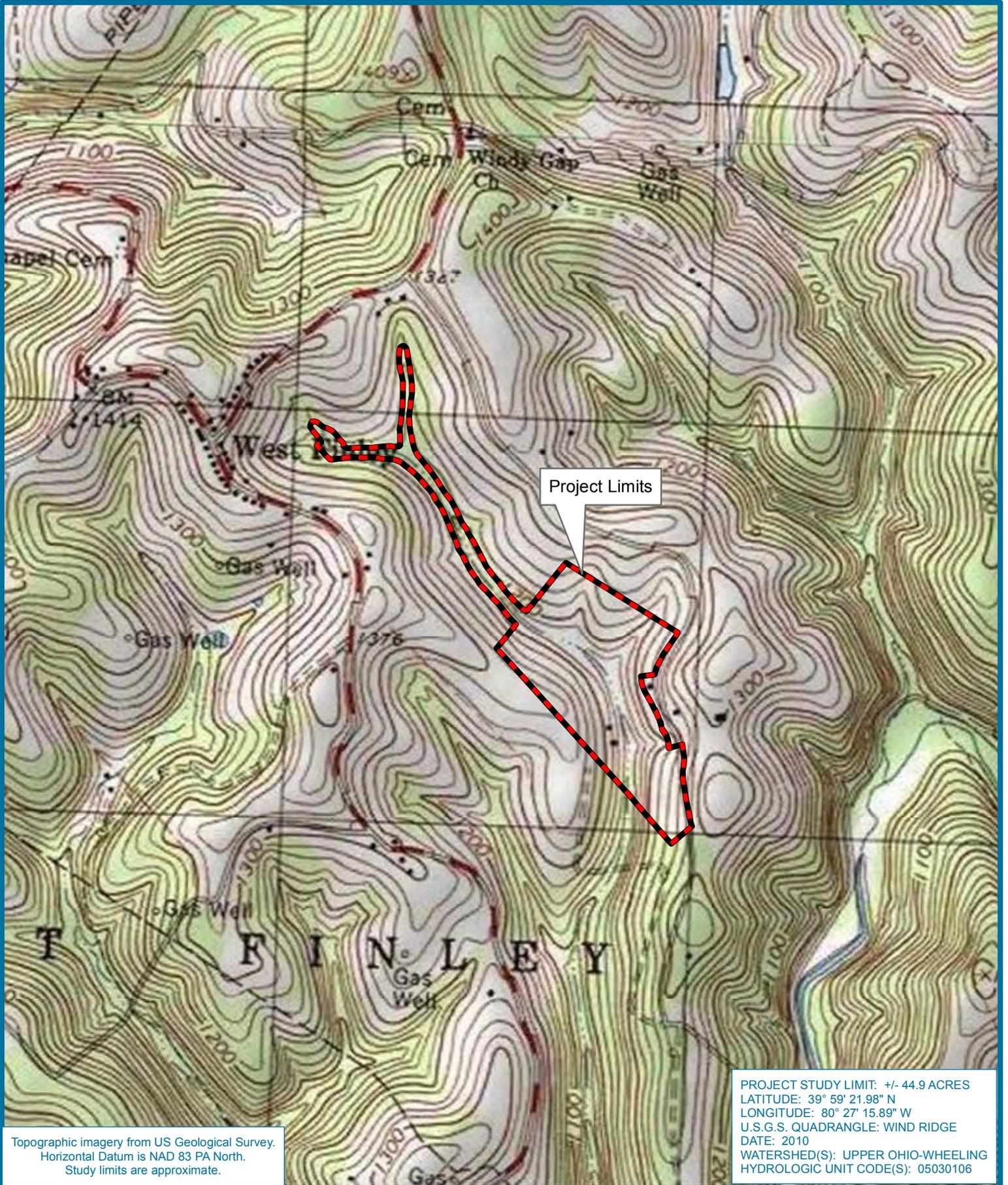
VICINITY MAP

WASHINGTON COUNTY, PENNSYLVANIA



J/N: 33362
Date: 05/01/13
Revised: 06/05/13





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

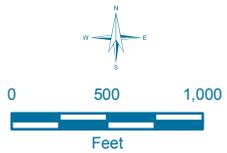
PROJECT STUDY LIMIT: +/- 44.9 ACRES
 LATITUDE: 39° 59' 21.98" N
 LONGITUDE: 80° 27' 15.89" W
 U.S.G.S. QUADRANGLE: WIND RIDGE
 DATE: 2010
 WATERSHED(S): UPPER OHIO-WHEELING
 HYDROLOGIC UNIT CODE(S): 05030106

FIGURE 2

ENLOW FORK MITIGATION BANK

SITE LOCATION MAP

WASHINGTON COUNTY, PENNSYLVANIA



J/N: 33362
 Date: 06/03/13
 Revised: 06/06/13



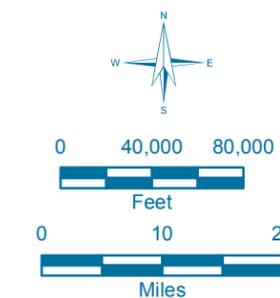
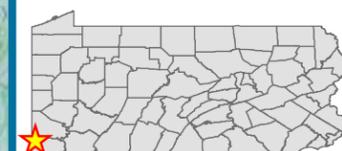


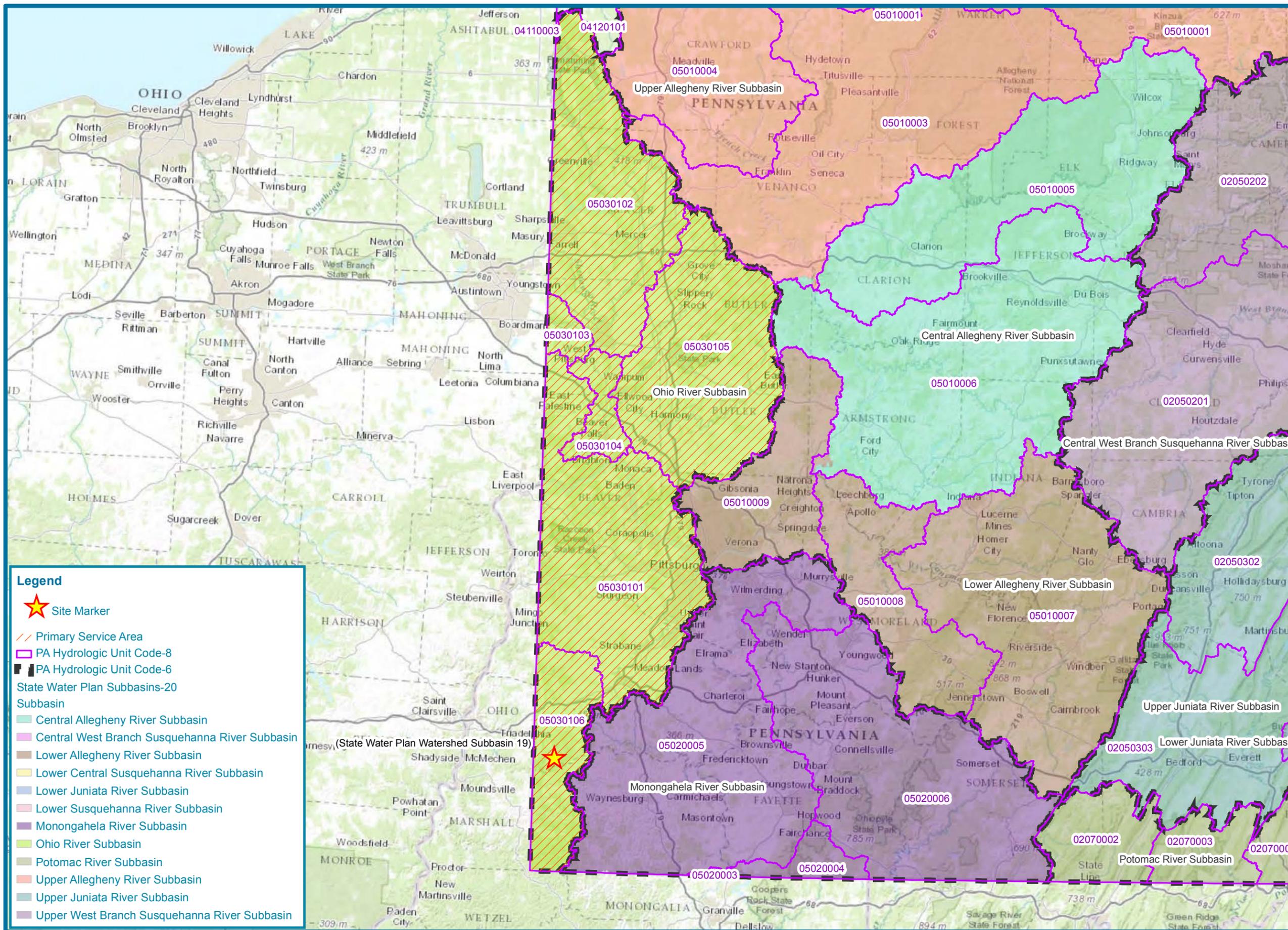
FIGURE 3
ENLOW FORK
MITIGATION BANK
SERVICE AREA MAP
WASHINGTON COUNTY,
PENNSYLVANIA



J/N: 33362
 Date: 05/07/13
 Revised: 06/05/13

REFERENCE

- 1) Topographic imagery from ESRI Online-2012.
- 2) State subbasin data from PA Dept. of Environmental Protection.



Legend

- Site Marker
- Primary Service Area
- PA Hydrologic Unit Code-8
- PA Hydrologic Unit Code-6
- State Water Plan Subbasins-20 Subbasin
- Central Allegheny River Subbasin
- Central West Branch Susquehanna River Subbasin
- Lower Allegheny River Subbasin
- Lower Central Susquehanna River Subbasin
- Lower Juniata River Subbasin
- Lower Susquehanna River Subbasin
- Monongahela River Subbasin
- Ohio River Subbasin
- Potomac River Subbasin
- Upper Allegheny River Subbasin
- Upper Juniata River Subbasin
- Upper West Branch Susquehanna River Subbasin

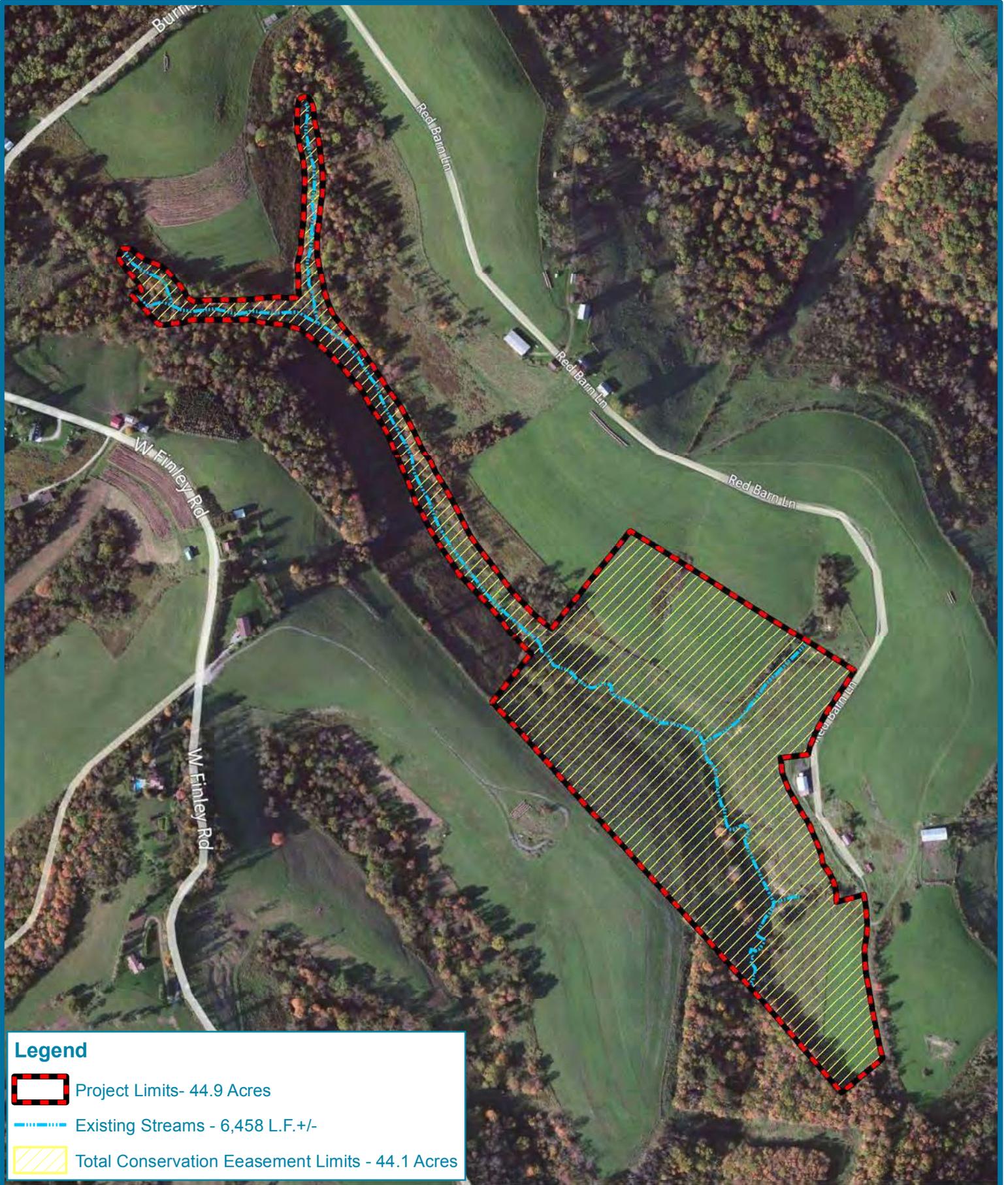


FIGURE 4

ENLOW FORK MITIGATION BANK

PROTECTED AREAS MAP

WASHINGTON COUNTY, PENNSYLVANIA



J/N: 33362
Date: 06/03/13
Revised: 06/05/13





0 750 1,500
Feet

0 0.25 0.5
Miles

FIGURE 5
ENLOW FORK
MITIGATION BANK
PENNSYLVANIA
CHAPTER 93 USE MAP
WASHINGTON COUNTY,
PENNSYLVANIA

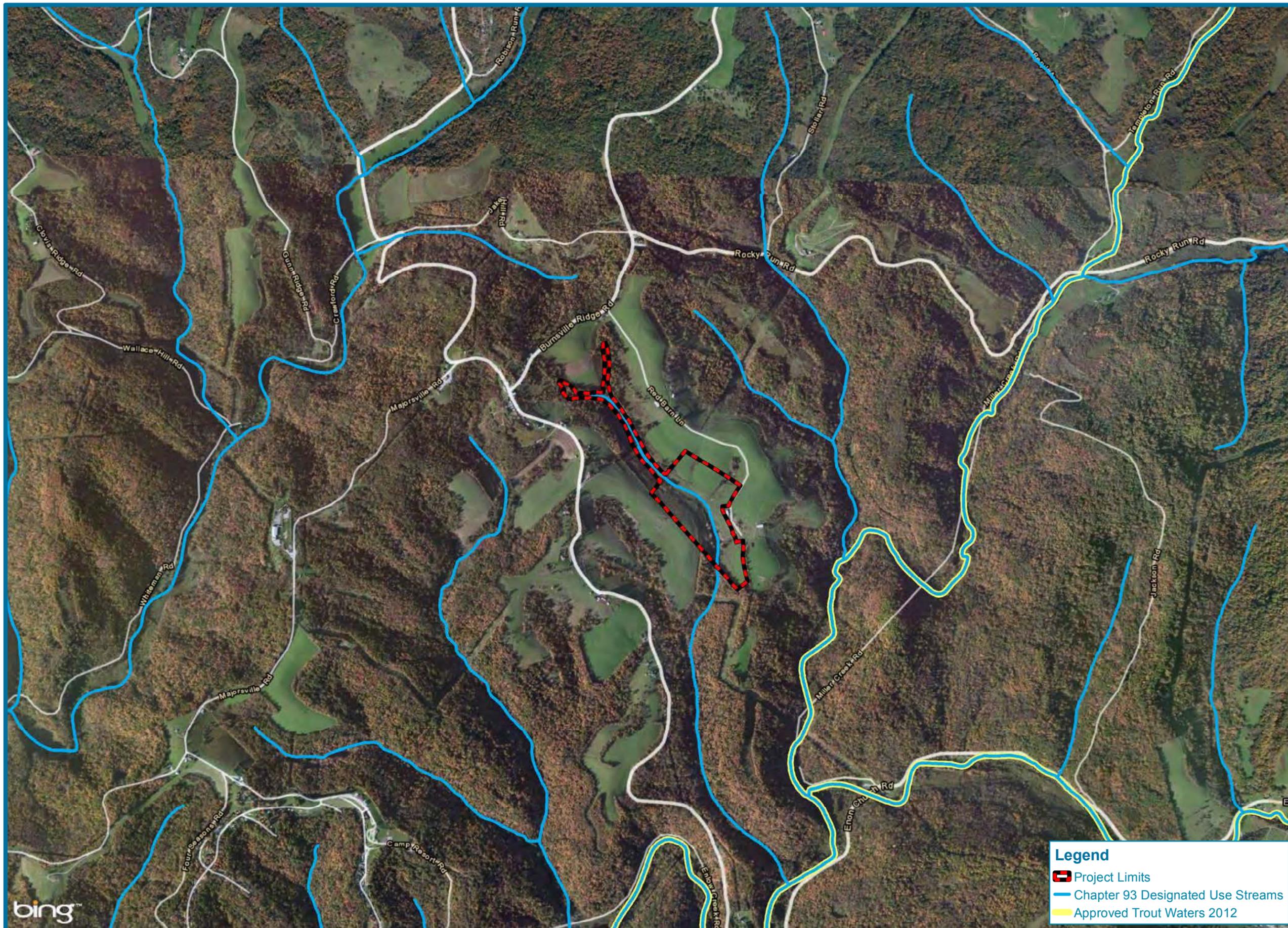
J/N: 33362
Date: 06/03/13
Revised: 06/05/13

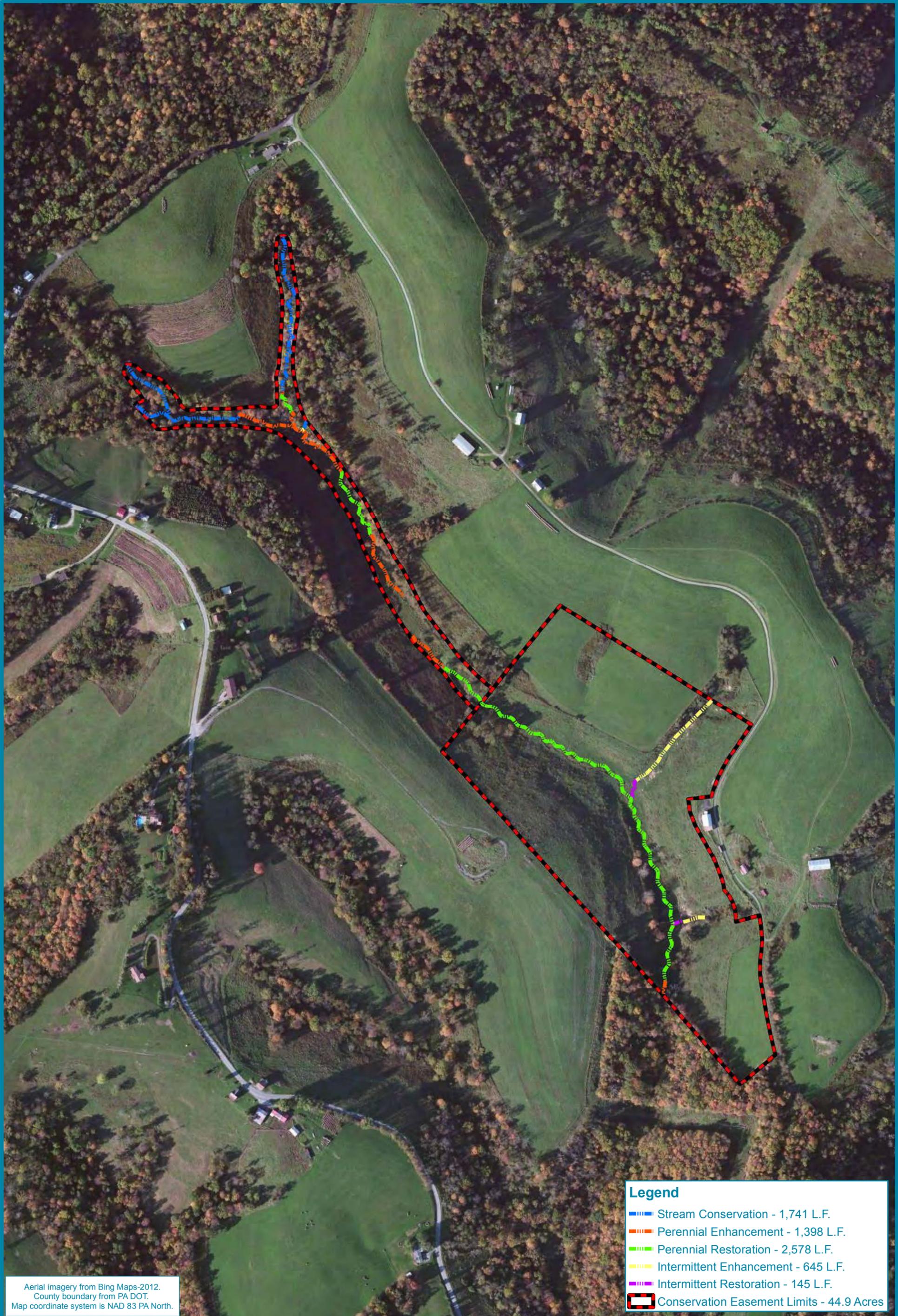
REFERENCE

No wetlands located within the site area.
Stream data from PA Dept. of Environmental Protection.
Aerial imagery from Bing Maps-2011.
Study limits are approximate.

Legend

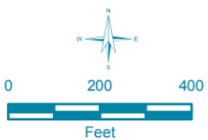
- Project Limits
- Chapter 93 Designated Use Streams
- Approved Trout Waters 2012





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

- Legend**
-  Stream Conservation - 1,741 L.F.
 -  Perennial Enhancement - 1,398 L.F.
 -  Perennial Restoration - 2,578 L.F.
 -  Intermittent Enhancement - 645 L.F.
 -  Intermittent Restoration - 145 L.F.
 -  Conservation Easement Limits - 44.9 Acres

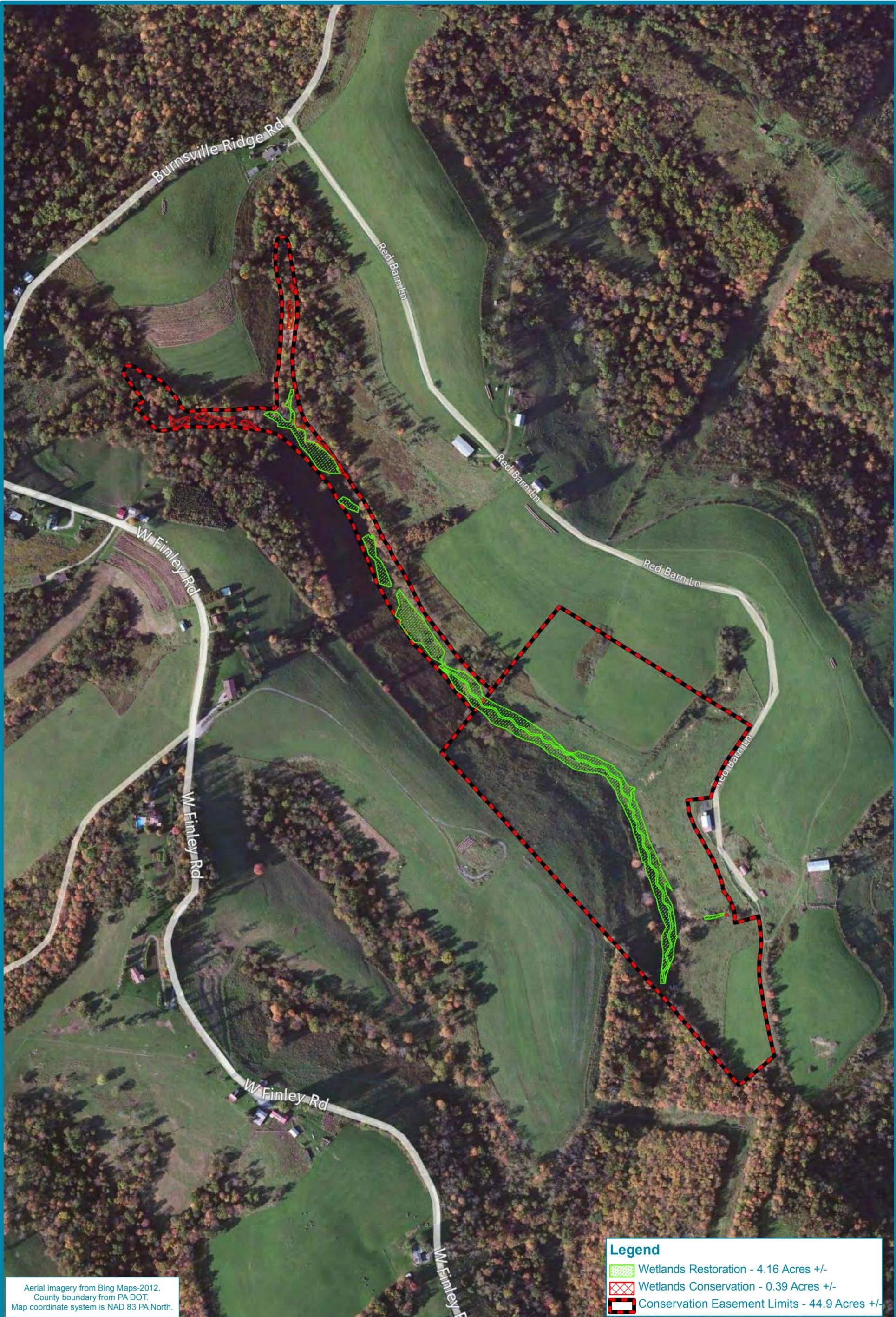


J/N: 33362
Date: 10/30/12
Revised: 06/19/13

FIGURE 6
ENFLOW FORK MITIGATION BANK
RESOURCE DEVELOPMENT
MAP- STREAMS

WASHINGTON COUNTY, PENNSYLVANIA

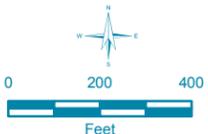




Aerial imagery from Bing Maps-2012.
County boundary from PA DOT.
Map coordinate system is NAD 83 PA North.

Legend

-  Wetlands Restoration - 4.16 Acres +/-
-  Wetlands Conservation - 0.39 Acres +/-
-  Conservation Easement Limits - 44.9 Acres +/-



J/N: 33362
Date: 03/13/13
Revised: 06/19/13

FIGURE 7
ENLOW FORK MITIGATION BANK
RESOURCE DEVELOPMENT
MAP- WETLANDS

WASHINGTON COUNTY, PENNSYLVANIA



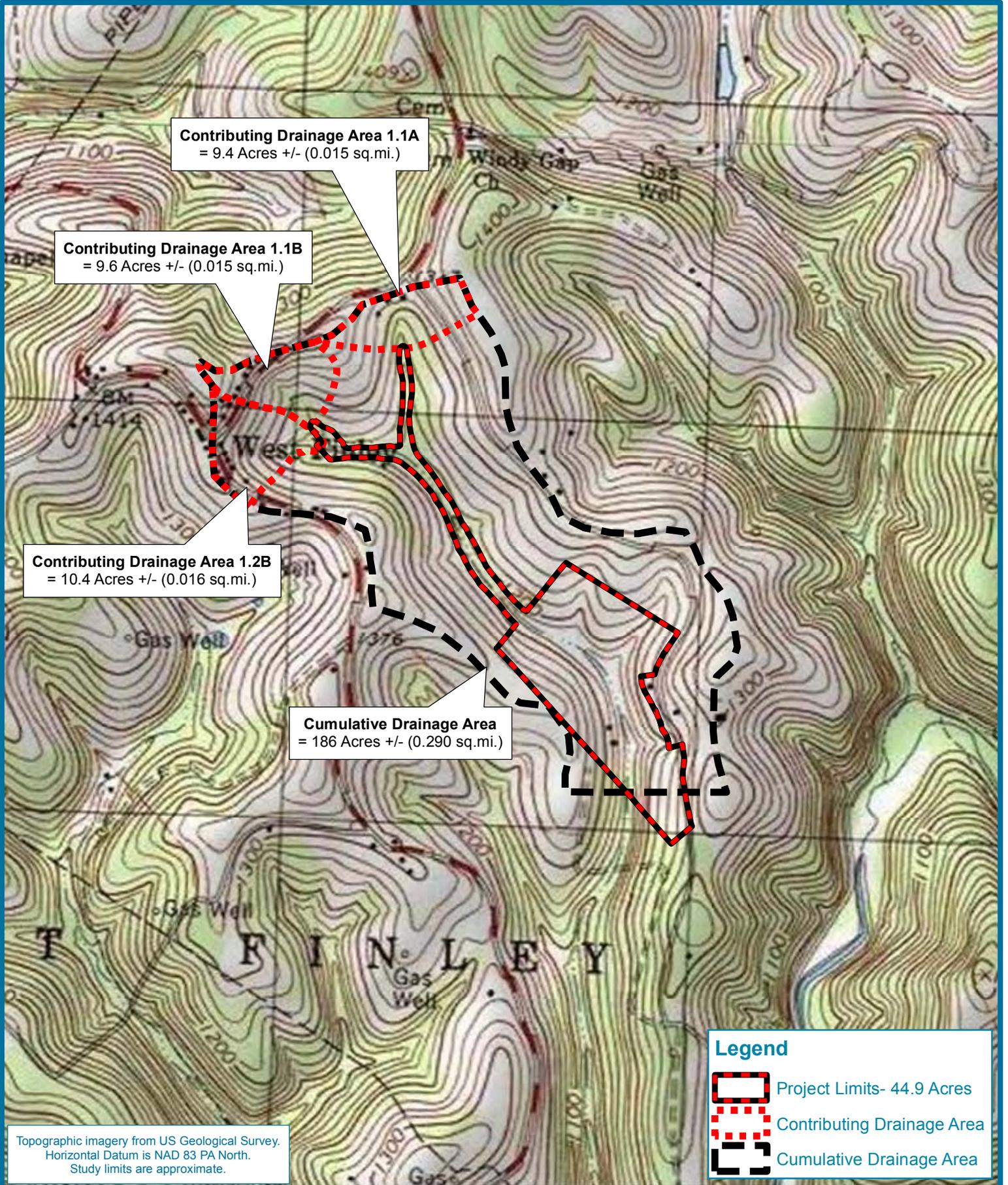
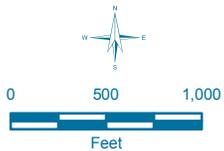


FIGURE 8

ENLOW FORK MITIGATION BANK

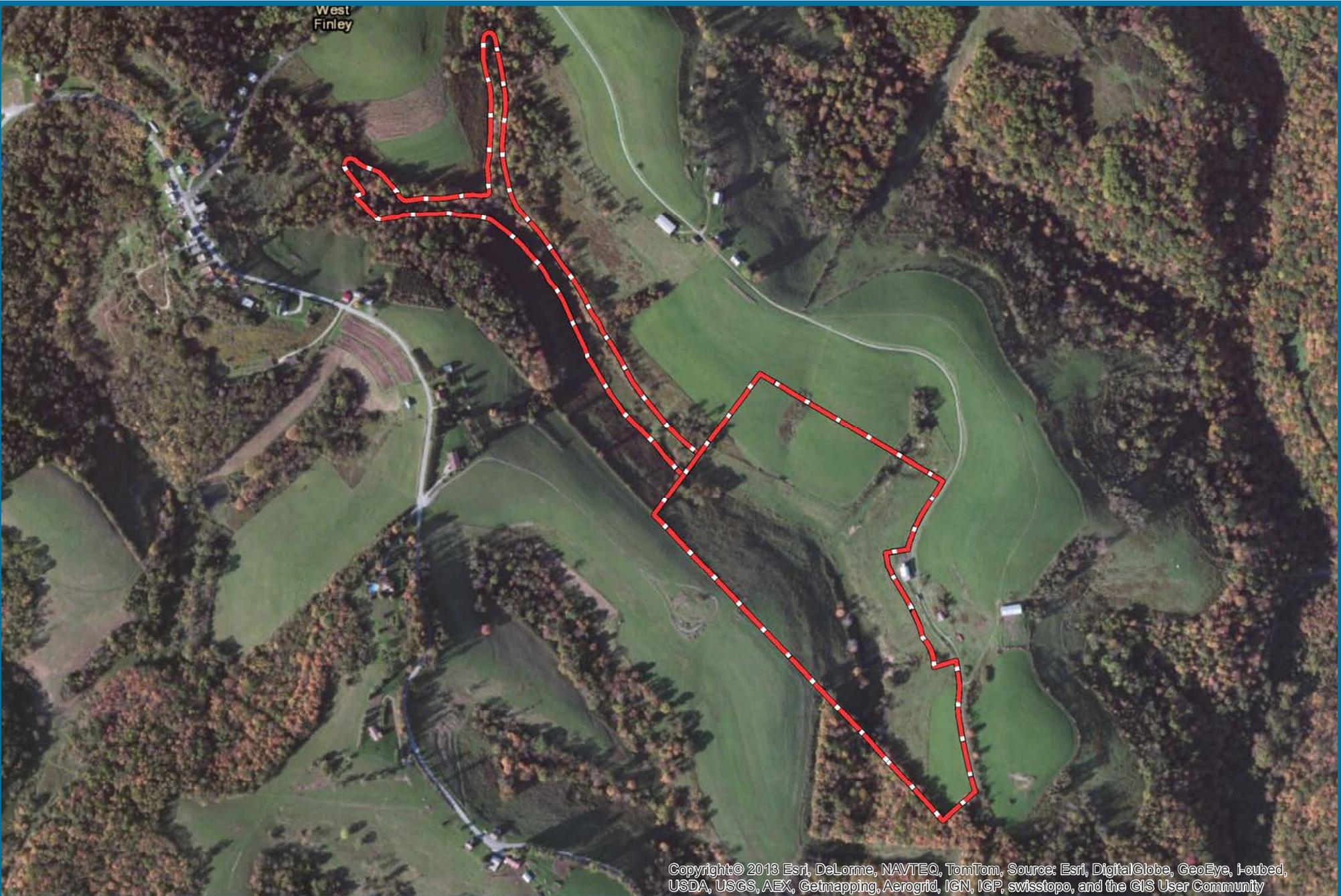
DRAINAGE AREA MAP

WASHINGTON COUNTY, PENNSYLVANIA



J/N: 33362
Date: 06/03/13
Revised: 06/05/13



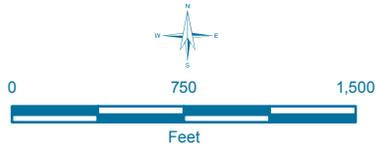


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FIGURE 9

ENLOW FORK MITIGATION BANK
 EXISTING CONDITIONS AERIAL MAP
 WASHINGTON COUNTY, PENNSYLVANIA

Legend
 Project Limits - 44.9 acres



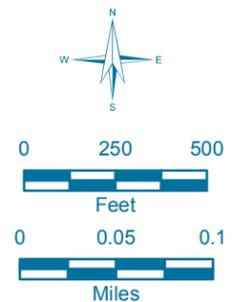


FIGURE 10
ENLOW FORK MITIGATION BANK
ENVIRONMENTAL
INVENTORY MAP
WASHINGTON COUNTY,
PENNSYLVANIA

J/N: 33362
 Date: 06/03/13
 Revised: 06/05/13

REFERENCE

No wetlands located within the site area.
 Soils data from National Resources Conservation Service.
 Stream data from PA Dept. of Environmental Protection.
 Aerial imagery from Bing Maps-2011.
 Study limits are approximate.

- Legend**
- Project Limits- 44.9 Acres
 - Washington County Streams
 - Hydic Soils
 - Non-Hydic Soils
 - Washington County Wetlands

