



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Active and Abandoned Mine Operations

# Planning and Implementation of the 2017 AML Pilot Program in Pennsylvania

Tom Wolf, Governor

Patrick McDonnell, Secretary

# AML Pilot Program Background

- The 2017 AML Pilot Program was authorized by Congress under the Consolidated Appropriations Act, 2017 (Public Law 115-31) and provides an additional \$25 million of US Treasury Funds to PA's AML Program
- The funds are to be used “for the reclamation of abandoned mine lands in conjunction with economic revitalization and community development and reuse goals”

# Continuation of the AML Pilot Program

- This is the second year that Pennsylvania has received funding from the AML Pilot Program
- Pennsylvania, along with Kentucky and West Virginia, each received \$30 million of AML Pilot Funding in FY2016

# Language from OSMRE Guidance for the 2017 AML Pilot Program

“State AML programs, in consultation with state and local economic and community development authorities, must develop a list of eligible projects in Appalachian counties that demonstrate a nexus with AML cleanup and economic and community development.”

# Language from OSMRE Guidance for the 2017 AML Pilot Program

“This AML Pilot is an opportunity for local communities and states to return impacted areas to productive reuse, which should be defined by the state in cooperation with local communities, to achieve the economic and community development goals identified for the community and/or region.”

# AML Pilot Program Purpose

- Explore ways to return legacy coal sites to productive reuse
- Inform Congress of programmatic impacts of changes to the underlying federal law (SMCRA) such as those included in the proposed RECLAIM Act of 2017 which would accelerate distributions from the AML Trust Fund for similar economic revitalization and community development projects associated with the reclamation of AML sites

# Proposed AML Pilot Projects

- PA DEP solicited proposals for AML Pilot projects from other states agencies, county and local governments, NGOs, Watershed Groups, and other AML advocacy groups
- PA DEP received 26 proposals which were evaluated using the OSMRE AML Pilot Program Guidance and also for project costs and benefits

# Proposed AML Pilot Projects

- From the proposals PA selected a wide variety of project types with a variety of possible economic or community development benefits and partners
- DEP is targeting 12 proposed AML Pilot Projects (4 Bituminous and 8 Anthracite) which are located in 8 coal field counties
- Additional Pilot Projects may be considered



# AML Pilot Program Proposed Projects

- Vetting documents were submitted to OSMRE for all 12 of the proposed 2017 AML Pilot Projects by November 28, 2017
- OSMRE reviewed the proposed projects during December of 2017 and provided feedback along with requests for additional information for a few of the projects during January of 2018
- OSMRE indicated that the list had been fully vetted and approved by OSMRE Headquarters on March 2, 2018

# AML Pilot Program Guidelines and Grant Application Timelines

- AML Pilot Program Guidance for the 2017 AML Pilot funding was issued by OSMRE on August 11, 2017
- PA submitted its 2017 AML Economic & Community Development Pilot Program Grant Application to OSMRE on October 5, 2017 (to make the funding available for projects)
- PA's AML Pilot Program Grant Application was approved by OSMRE on November 15, 2017 with a period of performance of November 1, 2017 to October 31, 2020

# PA's Plan for the AML Pilot Funding

- PADEP-BAMR will allocate the majority of the AML Pilot Program funds for the reclamation of Title IV eligible AML & AMD problems
- Project partners will then work to fund and complete non-AML economic development aspects of the projects

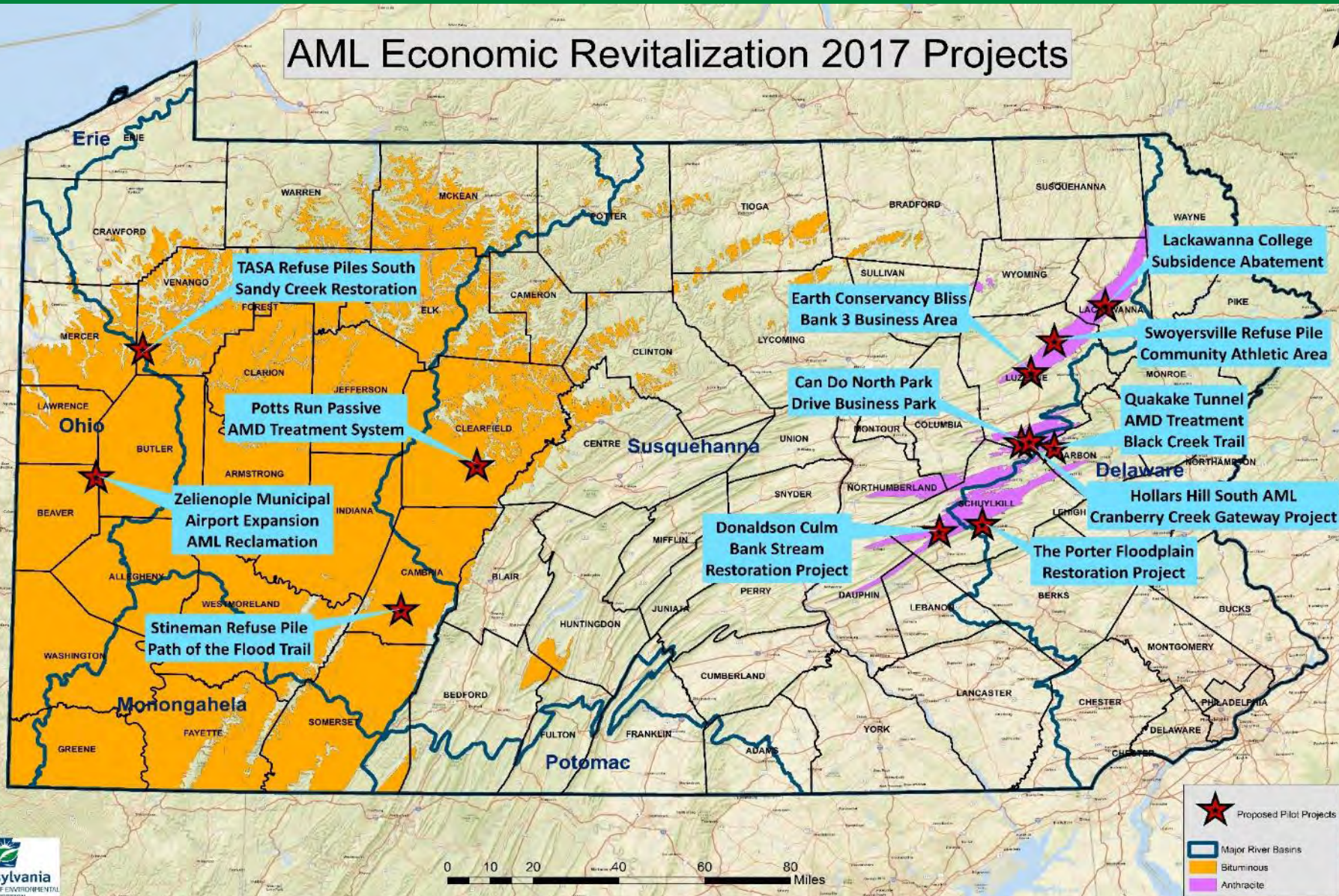
# AML Pilot Project Types

## The 12 AML Pilot Projects include:

- 4 surface mine reclamation projects
- 2 acid mine drainage treatment projects
- 5 coal refuse pile/culm bank removal or remediation projects
- 1 project to remediate a potential subsidence prone area on a college campus

# 2017 AML Pilot Projects Location Map

## AML Economic Revitalization 2017 Projects



# Significant Benefits

In addition to eliminating a number high-priority AML/AMD features, benefits of the projects include:

- development of a youth sports complex
- creation or expansion of several industrial and/or business parks
- a new housing development
- protection of college campus buildings and surrounding grounds from future mine subsidence issues

# Significant Benefits

- expansion of a regional airport including development of a new jet center
- reforestation and restoration of public lands
- improved groundwater quality
- significant stream water quality improvement including restored fisheries
- increased tourism through public trail development

# Leveraging of Funds

These 12 Proposed AML Pilot Projects have the potential to leverage up to an additional \$2 for every \$1 of AML Pilot Program funding from other AML/AMD funds and/or economic development funds (Both public and private)



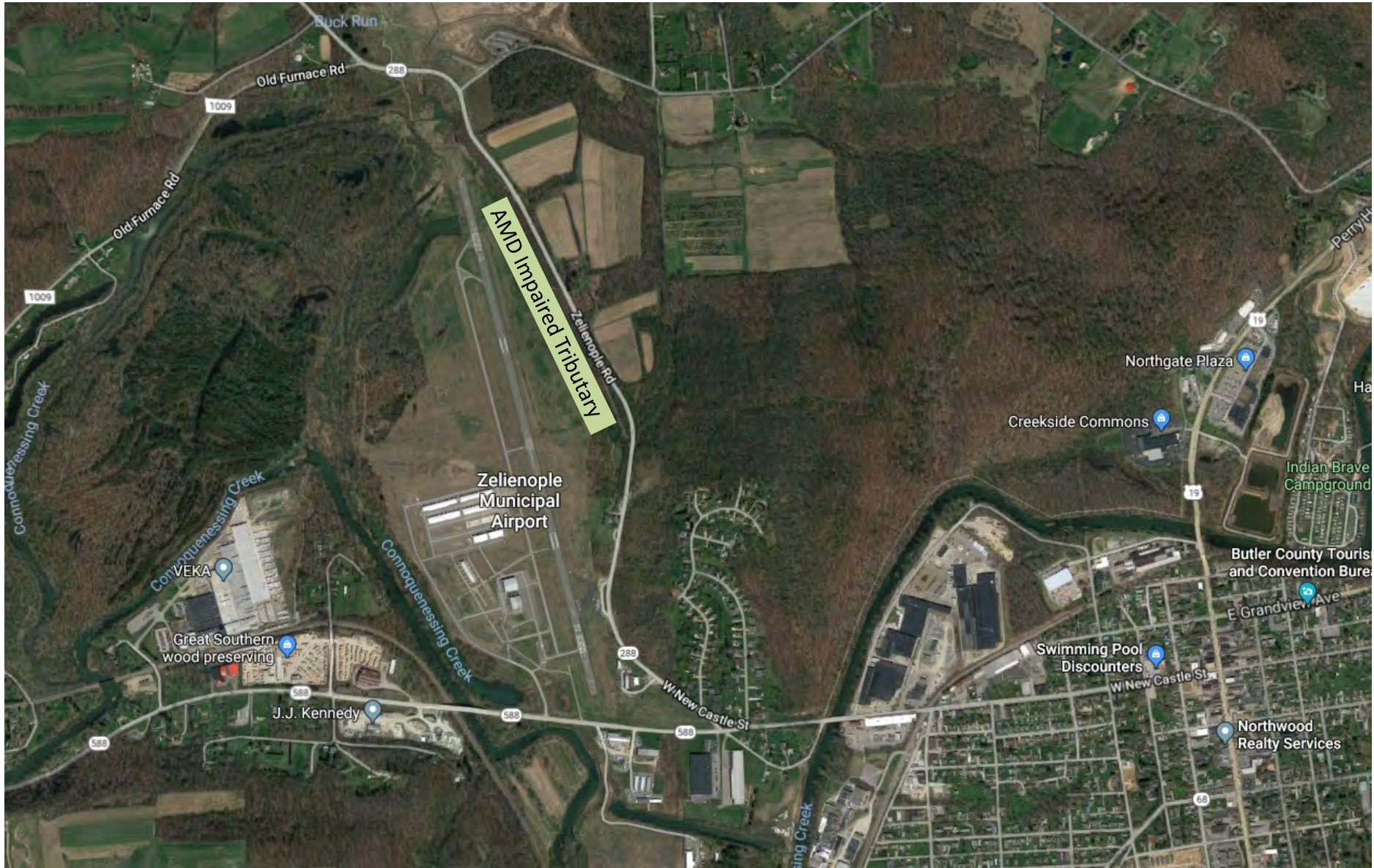
# Pennsylvania's 2017 AML Pilot Projects

No.	AML Pilot Project Name	Project Type	Municipality	County
1	<b>Zelienople Municipal Airport Expansion - AML Reclamation</b>	<b>Reclaim 3,470 feet of P2 Dangerous Highwall (DH) and 4 acres of P3 associated Spoil Area. (SA)</b>	<b>Franklin Township</b>	<b>Beaver</b>
2	<b>Stineman Refuse Pile - Path of the Flood Trail</b>	<b>Reclaim 20 acres of P2 Dangerous Pile and Embankment (DPE).</b>	<b>South Fork Borough and Adams Township</b>	<b>Cambria</b>
3	<b>Quakake Tunnel AMD Treatment - Black Creek Trail</b>	<b>Actively treat 6,000 GPM of P3 AMD improving 8 miles of stream</b>	<b>Packer Township and Weatherly Borough</b>	<b>Carbon</b>
4	<b>Potts Run Passive AMD Treatment System</b>	<b>Passively treat 500 GPM of P3 AMD improving 2.7 miles of stream</b>	<b>Knox Township</b>	<b>Clearfield</b>
5	<b>Lackawanna College Subsidence Abatement</b>	<b>The project will stabilize 0.5 acres of P2 Subsidence Prone Area</b>	<b>City of Scranton</b>	<b>Lackawanna</b>
6	<b>Can Do – North Park Drive Business Park</b>	<b>The project will eliminate 1,100 feet of Dangerous Highwall, a Hazardous Waterbody, and 56 acres of unproductive spoil material.</b>	<b>Hazle Township</b>	<b>Luzerne</b>

# Pennsylvania's 2017 AML Pilot Projects

No.	AML Pilot Project Name	Project Type	Municipality	County
7	Hollars Hill South AML - Cranberry Creek Gateway Project	The project will reclaim multiple AML problems: 650 feet of P1 Dangerous Highwall; 14 acres of P2 Dangerous Pile or Embankment; 6 P2 Hazardous Equipment and Facilities; a P2 Vertical Opening; 1.5 acres of P2 Industrial or Residential Waste; and 42 acres of P3 Spoil Area	Hazle Township	Luzerne
8	Earth Conservancy Bliss Bank 3 Business Area	Reclamation of 1200 feet of Dangerous Highwall (P2) and 6 acres of Spoil Area (P3)	Hanover Twp and Newport Twp	Luzerne
9	Swoyersville Refuse Pile - Community Athletic Area	The project will remove coal refuse material and reclaim 14.3 acres of Dangerous Pile and Embankment	Swoyersville Borough	Luzerne
10	The Porter Floodplain Restoration Project	Remove and reclaim 90,000 cubic yards of P2 Clogged Stream Land, Remove 2 - P3 Equipment/Facilities	West Brunswick Township	Schuylkill
11	Donaldson Culm Bank Stream Restoration Project	Reclaim 600,000 CY of P2 Clogged Stream Land, restore 4,600 LF of P2 Clogged Stream, backfill 4,500 LF of P2 Dangerous Highwall	Frailey Township	Schuylkill
12	TASA Refuse Piles - South Sandy Creek Restoration	The project will reclaim multiple AML problems: 5-P2 hazardous equipment & facilities; 8 acres of P2 dangerous pile or embankment; 2-P2 polluted water human consumption; 6 acres of P3 slurry; 6 acres of P3 spoil area; and 7 acres of P3 gob	Irwin Township	Venango

# Zelienople Municipal Airport Expansion



# Zelienople Municipal Airport Expansion

The AML Pilot funding, in combination with other funding, will be used to help complete a runway extension and other safety improvements at the Zelienople Airport. As part of the project, an adjacent roadway will be lowered to eliminate several safety concerns. The lowering of the roadway will generate a significant amount of cut material that will be used to reclaim a high-priority dangerous highwall located on airport property. An AMD impaired tributary of the Connoquenessing Creek will also be relocated.

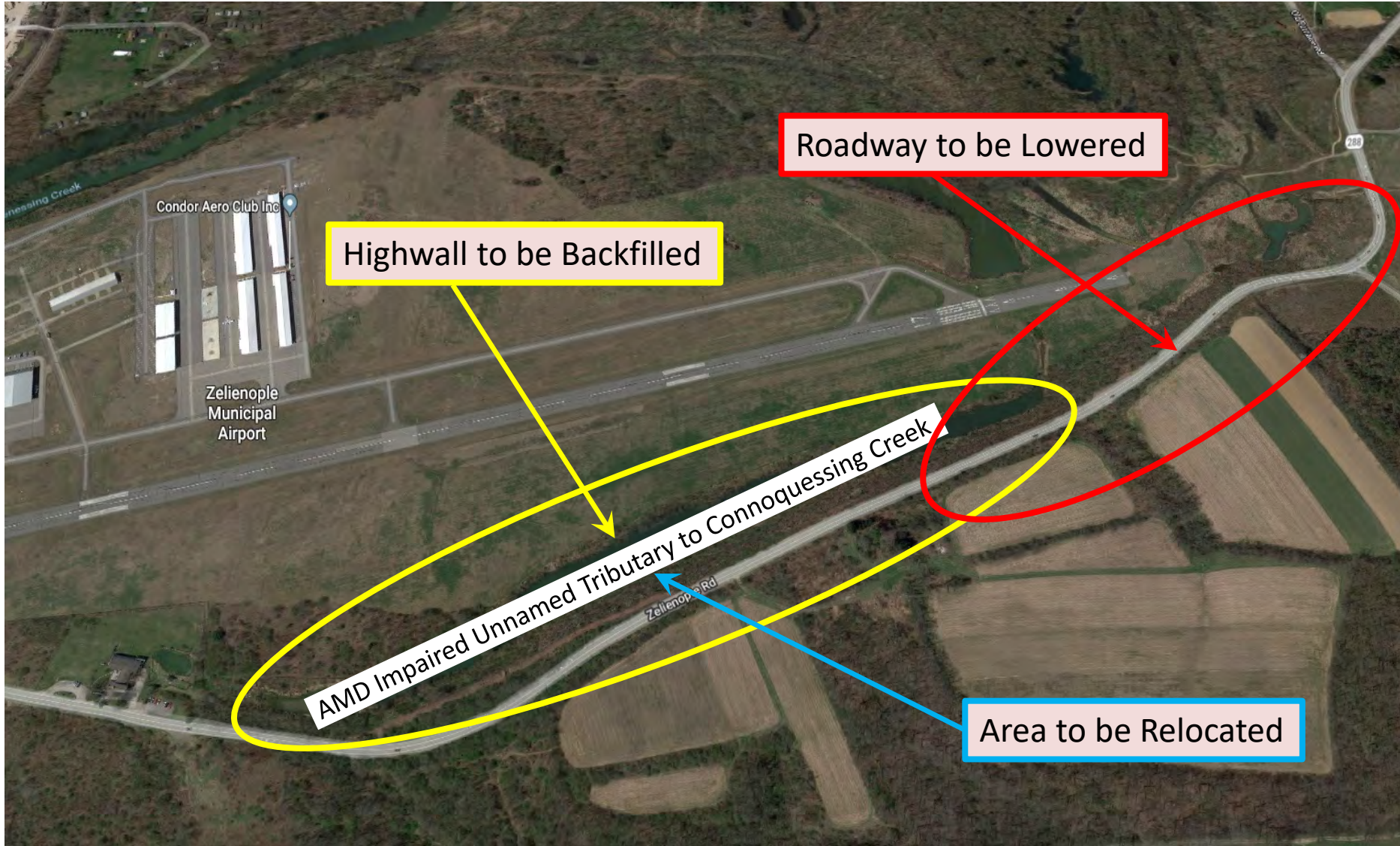
# Zelenople Municipal Airport Expansion



# Zelienople Municipal Airport Expansion

The project will involve the reclamation of a 44 acre abandoned surface mine with 3,470 linear feet of dangerous highwall, having an average height of 70 feet, by backfilling and grading with on-site spoil material and supplemental waste material from the adjacent aviation safety project. The project will also include relocating a portion of an AMD impaired unnamed tributary of the Connoquenessing Creek with 2,730 feet of conveyance channel. The project will facilitate an extension of the airport runway, regain 24 hour airport operations and improve water quality.

# Zelienople Municipal Airport Expansion



# Significant Benefits

- Elimination of 3,470 feet of dangerous highwall
- 24-hour airport operations will be restored by eliminating a 12-acre, 60-foot hillside obstruction currently restricting night operations
- SR 288 will be lowered and realigned to increase safety
- Creation of more than 25 jobs at the Airport
- Increased use of Airport resulting in economic growth for the Cranberry Area



# Project Partners

- Landowner, Zelenople Airport Authority
- PA Fish & Boat Commission
- PennDOT Bureau of Aviation
- PennDOT Engineering District 11-0
- USACE – Pittsburgh District
- PADEP – Southwest Regional Office
- Beaver County Conservation District
- Widmer Engineering Pennsylvania
- Department of Environmental Protection
- Office of Surface Mining Reclamation and Enforcement

# Project Construction – May 2018



# Project Construction – May 2018



# Stineman Refuse Pile Reclamation – Path of the Flood Trail Extension



# Stineman Refuse Pile Reclamation – Path of the Flood Trail Extension

The AML pilot funding will be used to remove coal refuse with fuel value for use in electricity generation at a cogeneration facility and to regrade any remaining refuse material onsite. Alkaline material will be added to neutralize acidity, and the site will be revegetated resulting in improved water quality in the South Fork Little Conemaugh River. The project will also facilitate a 3 mile extension of the Path of the Flood Trail to connect the existing trail in Ehrenfeld Borough to the Johnstown Flood National Memorial.

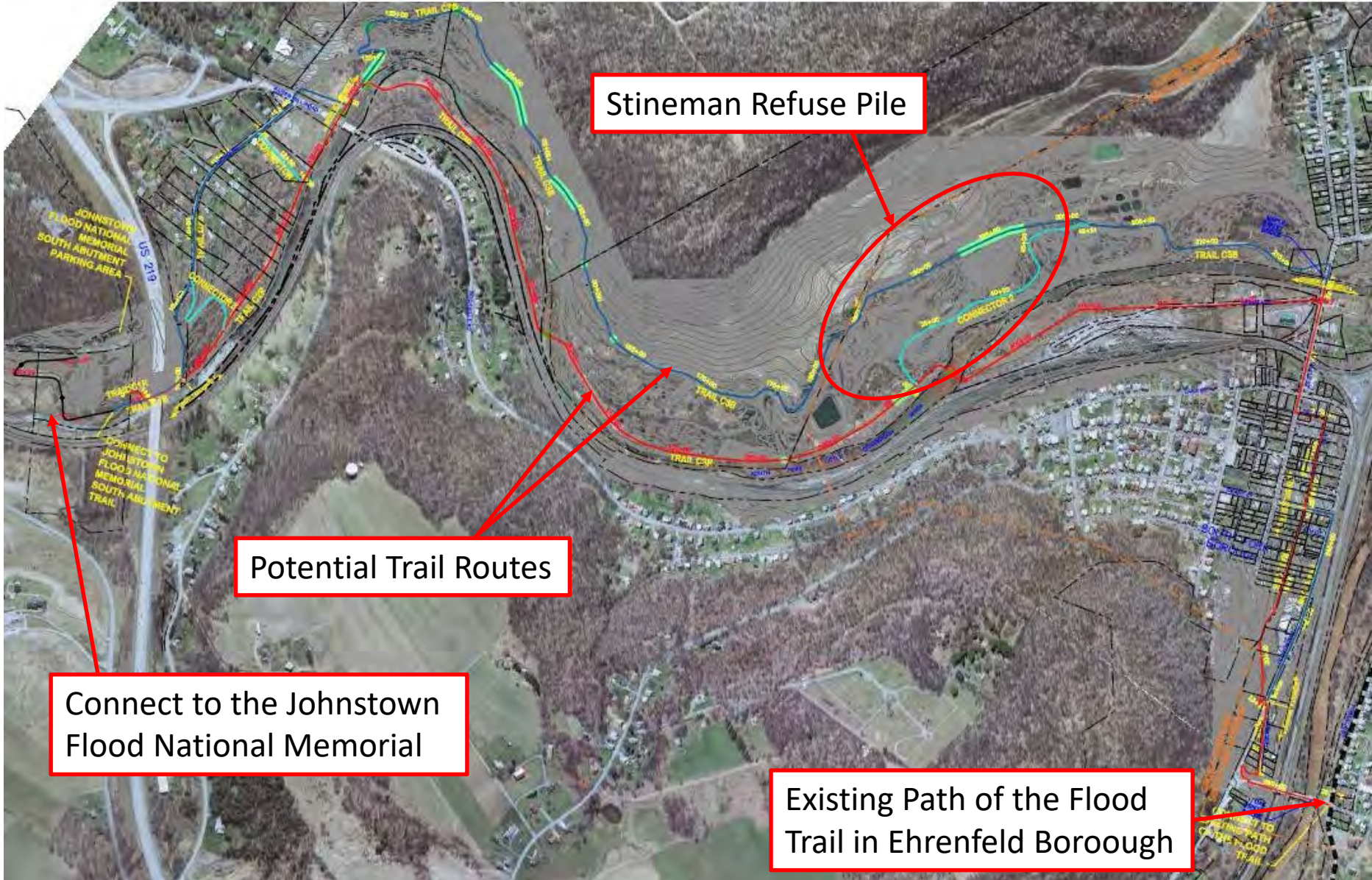
# Stineman Refuse Pile



# Stineman Refuse Pile



# Path of the Flood Trail



Stineman Refuse Pile

Potential Trail Routes

Connect to the Johnstown Flood National Memorial

Existing Path of the Flood Trail in Ehrenfeld Borough



# Significant Benefits

- Reclamation of a 20 acre refuse pile
- Improved water quality of the South Fork Little Conemaugh River
- Extension of the Path of the Flood Trail
- This 3 mile extension will connect the Johnstown Flood National Memorial at the South Fork Dam to the Johnstown Flood Museum in Johnstown following the flood's path in its entirety
- Potential for trail head and parking lot construction

# Significant Benefits

- Path of the Flood race participation is expected to increase (held annually)
- Walking tours of the Path of the Flood
- Interpretative signage planned to be installed along the trail to educate tourists of the history
- Increased tourism to the area
- Local businesses in South Fork will benefit from the sale of soft and hard goods
- Improved opportunities for hiking, biking, kayaking, and sightseeing

# Project Partners

- Cambria County Conservation & Recreation Authority (CCCRA)
- Robindale Energy Services
- Al Penn En, Inc (Landowner)
- Cambria County
- Foundation for PA Watersheds
- Pennsylvania Department of Environmental Protection
- Office of Surface Mining Reclamation and Enforcement

# ▶ Quakake Tunnel & Weatherly Borough Trail



## ▶ Quakake Tunnel & Weatherly Borough Trail

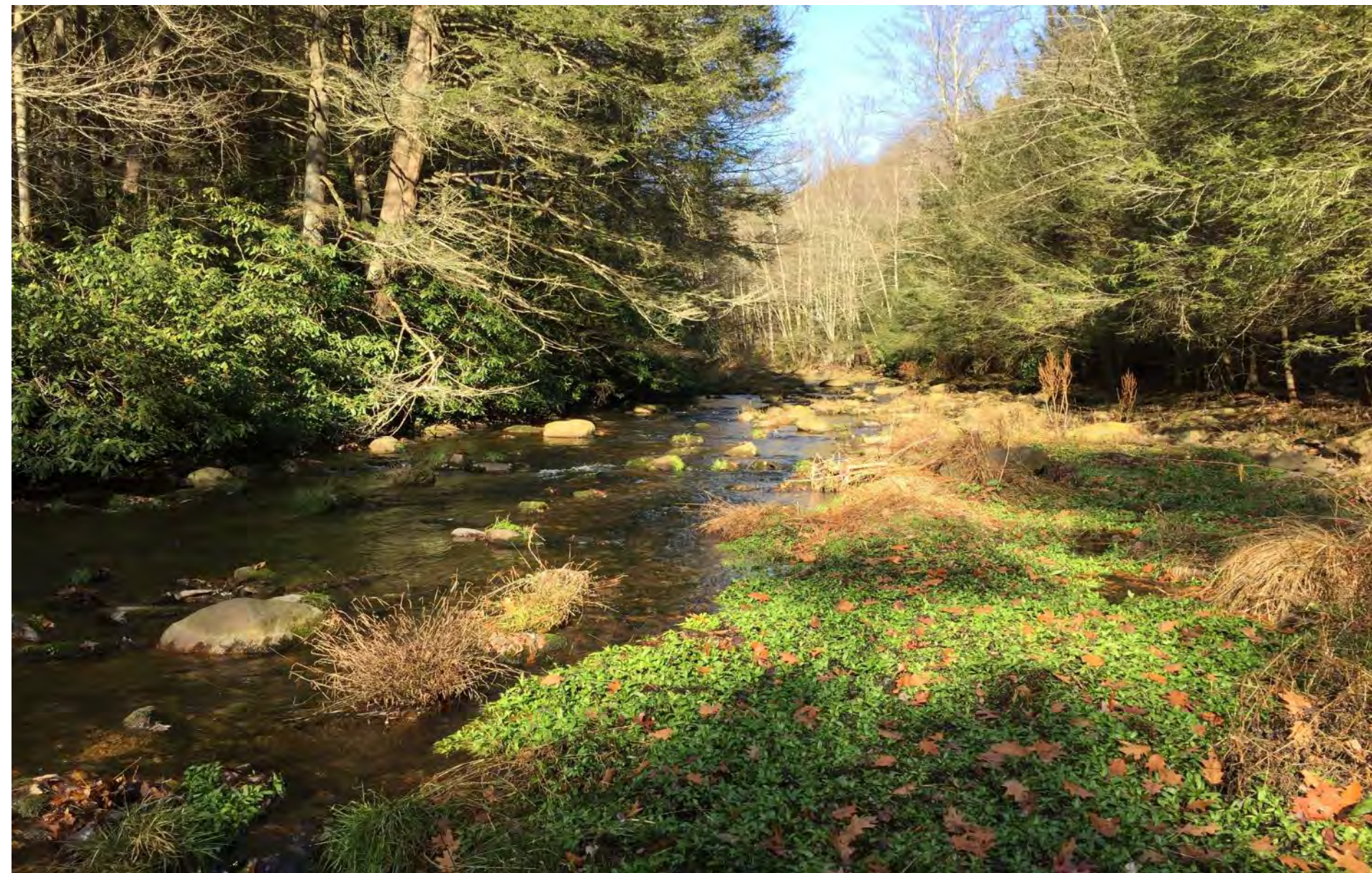
The AML Pilot funding, in combination with other funding, will be used to design and construct an active treatment system to treat the Quakake Tunnel discharge. Approximately 8 miles of wild trout stream (Quakake and Black Creeks) will be restored upon the completion and initiation of operation of the treatment system. Funding will also be used to create approximately 5 miles of new trail beginning at the existing Weatherly Borough building and extending into the Lehigh Gorge State Park. The new trail will traverse in close proximity to the restored stream.

# ▶ Quakake Tunnel & Weatherly Borough Trail

Typical flow: 13 CFS (6,000 GPM)  
Low pH and Elevated Metals  
– Primarily Aluminum



# ▶ Black Creek Downstream of Quakake Tunnel



# Black Creek Downstream of Weatherly Borough

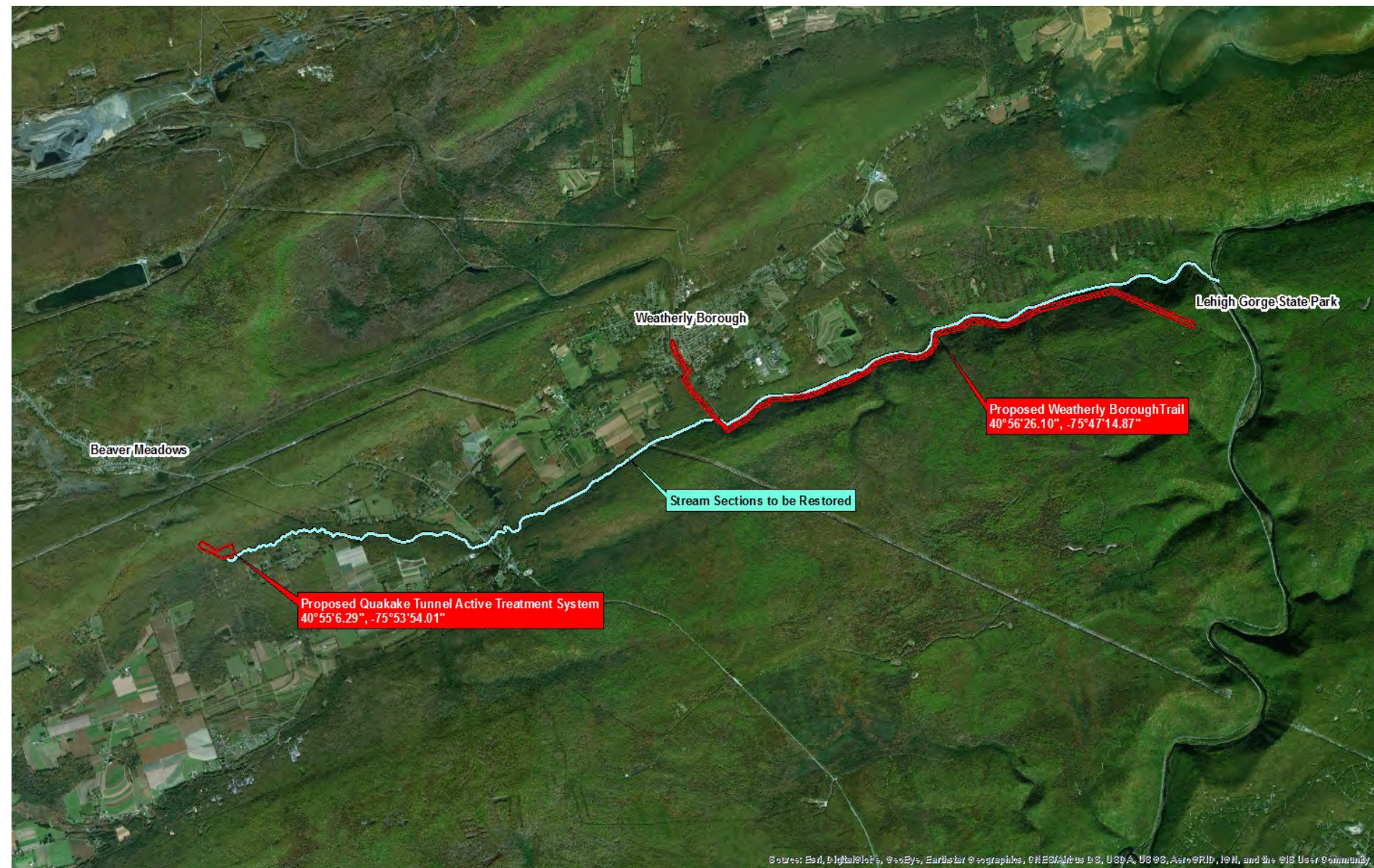




# Lehigh Gorge State Park at Black Creek



# ▶ Quakake Tunnel & Weatherly Borough Trail



# Significant Benefits

The Quakake Tunnel & Weatherly Borough Trail will have significant benefits, including:

- 8 miles of wild trout stream restored
- Improved water quality within the Black Creek watershed
- Newly created trail will connect Weatherly Borough to the Lehigh Gorge State Park
- Increased tourism to the area
- Improved opportunities for fishing, hiking, and sightseeing

# Project Partners

- Weatherly Borough
- Carbon County Commissioners
- Wildlands Conservancy
- United States Geological Survey (USGS)
- Department of Community & Economic Development (DCED)
- PA Department of Conservation and Natural Resources (DCNR)

# Potts Run Restoration

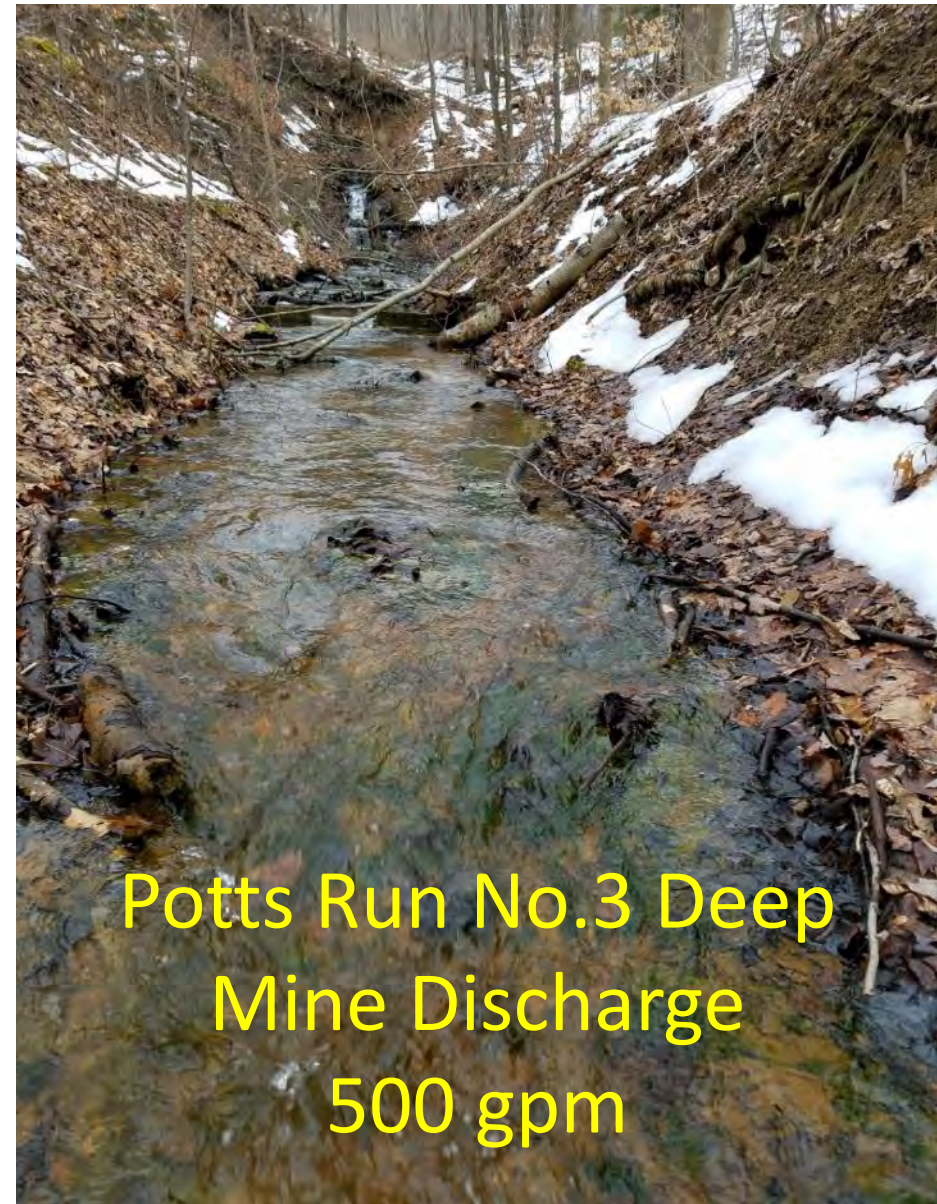
The AML pilot funding will construct a passive AMD treatment system that will treat 620 gpm of AMD emanating from the Potts Run No. 3 deep mine which closed in the mid to late 1950s. This deep mine drainage was identified as the major source of AMD pollution to Potts Run introducing high loadings of acid, aluminum and iron into the lower 0.4 mile of the Oak Ridge tributary which then enters and pollutes the final 2.7 miles of the Potts Run main stem. Twenty-five acres of abandoned surface mine will also be reclaimed including alkaline addition and reforested using the FRA.

Potts Run Restoration Project

# Potts Run Restoration

The AML pilot funding will construct a passive AMD treatment system that will treat 620 gpm of AMD emanating from the Potts Run No. 3 deep mine which closed in the mid to late 1950s. This deep mine drainage was identified as the major source of AMD pollution to Potts Run introducing high loadings of acid, aluminum and iron into the lower 0.4 mile of the Oak Ridge tributary which then enters and pollutes the final 2.7 miles of the Potts Run main stem. Twenty-five acres of abandoned surface mine will also be reclaimed including alkaline addition and reforested using the FRA.

# Potts Run Restoration



Potts Run No.3 Deep  
Mine Discharge  
500 gpm

# Potts Run Restoration



Oak Twin Deep Mine  
Discharge  
120 gpm

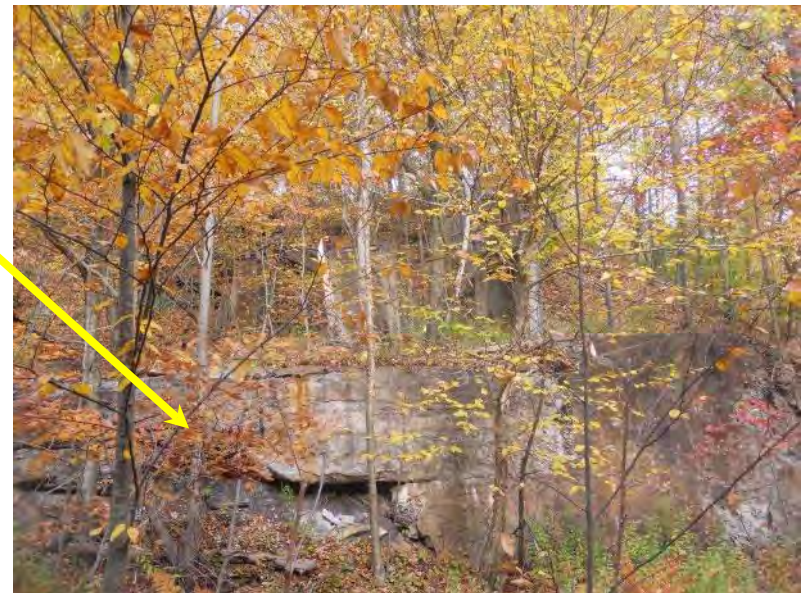
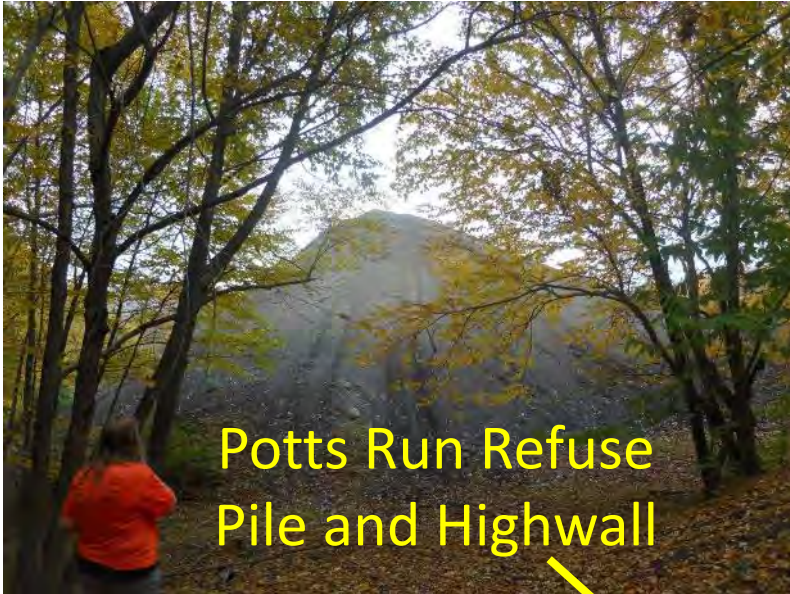


# Potts Run Restoration

## Quality and Flow Characteristics of the Potts Run Discharges

Discharge Description	Flow (gpm)	pH (units)	Acidity (mg/l)	Alkalinity (mg/l)	Fe (mg/l)	Al (mg/l)	Mn (mg/l)	Sulfate (mg/l)
Potts Run No.3 Discharge	510	3	107	0	5.6	8.5	2.7	240
Oak Twin Discharge	104	3.5	65	0	0.7	6.4	7.2	306

# Potts Run Restoration



# Potts Run Restoration



Unreclaimed  
Contour  
Surface Mine

# Potts Run Treatment Concept

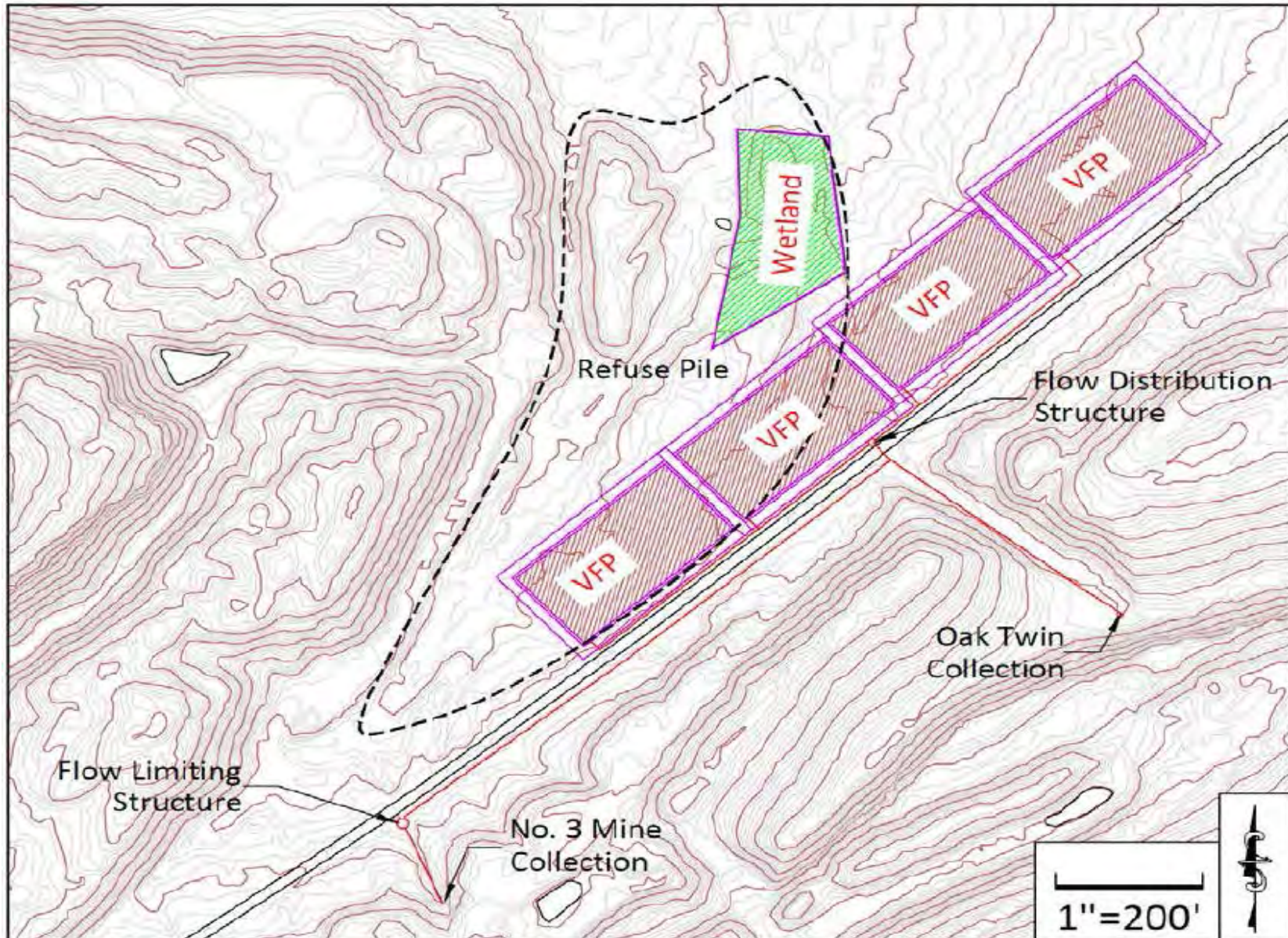


Figure 3

No. 3 Mine  
Concept Treatment Plan

DATE:	REVISED:
May 2014	Potts Run.dwg
DESIGNED BY:	ISSUED BY:
NAW	AS SHOWN
CHECKED BY:	



195 Castle Shannon Blvd.  
Pittsburgh, PA 15228  
www.hedinenv.com

# Significant Benefits

- Potts Run has a Cold Water Fishery designated use but is listed as impaired due to AMD on the Commonwealth's 303(d) list of impaired waters.
- Treatment of the Potts Run No. 3 deep mine drainage should result in the removal of Potts Run from the impaired waters list.

# Significant Benefits

- Increased property values, tourism and recreational use for the area.
- The project will recoup a recreational use loss valued at \$102,393 annually that is presently being experienced by these same waters by creating a projected 14 full-time temporary jobs and 5 full-time permanent jobs.

# Primary Project Partners

- Trout Unlimited
- Landowners
- Foundation for PA Watersheds
- Pennsylvania Department of Environmental Protection
- Office of Surface Mining Reclamation and Enforcement

# Lackawanna College Subsidence Abatement

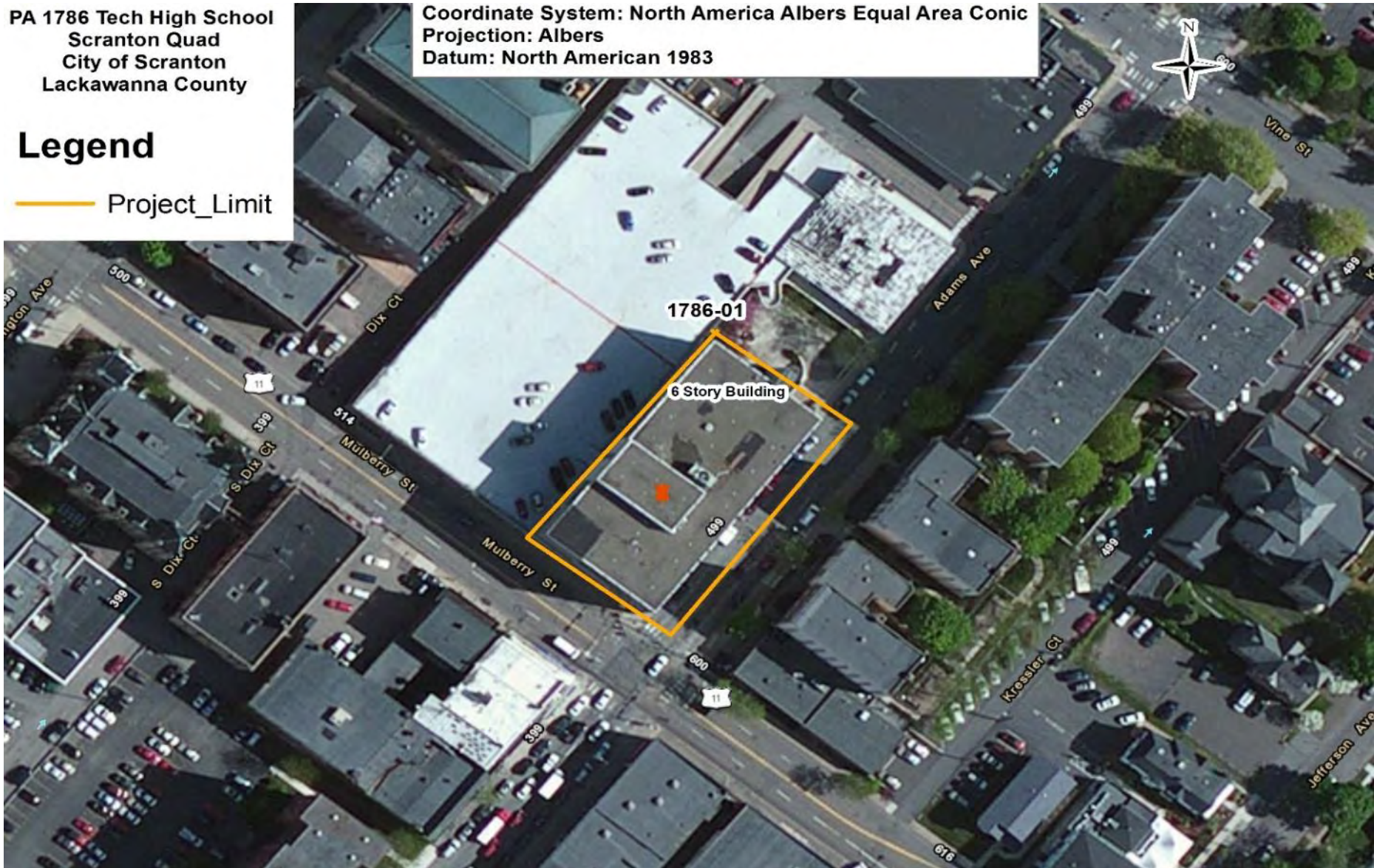
PA 1786 Tech High School  
Scranton Quad  
City of Scranton  
Lackawanna County

Coordinate System: North America Albers Equal Area Conic  
Projection: Albers  
Datum: North American 1983



## Legend

— Project\_Limit

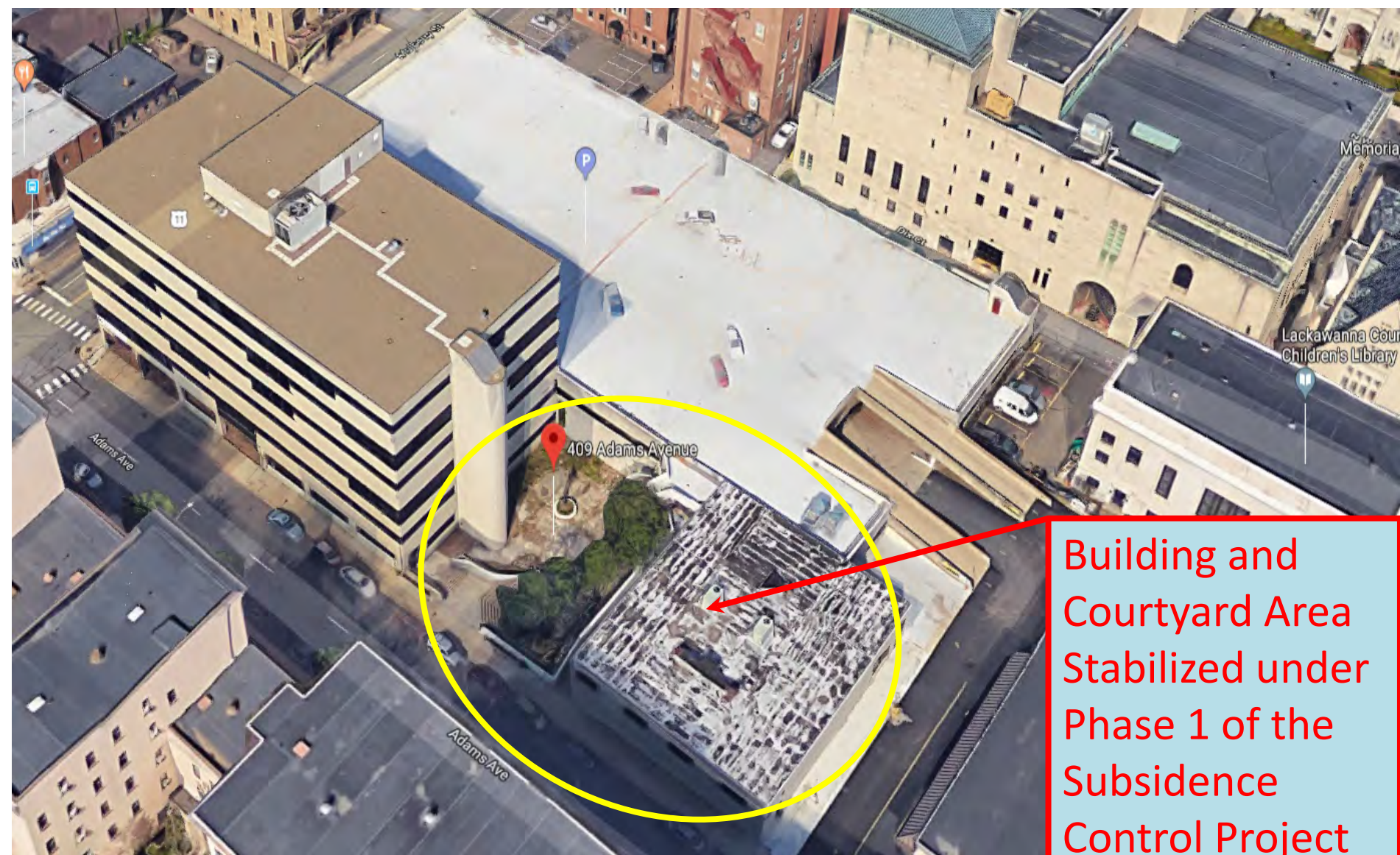




# Lackawanna College Subsidence Abatement

Lackawanna College acquired several vacant buildings in downtown Scranton to expand the campus as part of their Cornerstone Commons Project . It was subsequently determined that the buildings were undermined and required abatement work to prevent mine subsidence. The College completed a project to address mine voids under a 2-story building and a central courtyard area at 409 Adams Avenue. The AML Pilot Funding will be used for a second phase of the project to address mine voids under a 6-story building at 401 Adams Avenue by drilling and injecting grout into the abandoned underground mine voids.

# Lackawanna College Subsidence Abatement



Building and Courtyard Area Stabilized under Phase 1 of the Subsidence Control Project

# Lackawanna College Subsidence Abatement



**Six Story Building** Located at 401 Adams Avenue

# Lackawanna College Subsidence Abatement



# Lackawanna College Campus Map and Project Location



## Welcome to Lackawanna College

Our main campus, located in downtown Scranton, is home to the Seeley Memorial Library, the College's three student dormitories, the Student Union, and much more. The surrounding attractions in the city offer a wide variety of cultural experiences for our students to enjoy.

Start your college career at Lackawanna and find your future today. Email [questions@lackawanna.edu](mailto:questions@lackawanna.edu) for details.

### Map key

**A: ANGELI HALL**  
501 VINE ST., SCRANTON

**Ground floor**  
Admissions  
Bookstore  
Community Concerts  
Forensic classroom

**First floor**  
Administrative offices  
Business Office  
Developmental Education  
Learning Disability Services

Maintenance  
Public Safety  
Theater offices  
Falcons' Nest

Financial Aid  
Registrar  
Student Affairs  
Tutoring labs

**Second floor**  
Board room  
Classrooms

**Third floor**  
Allied Health  
Cafeteria / Reception Hall  
Classrooms  
Computer lab

**B: SEELEY HALL**  
406 N. WASHINGTON AVE., SCRANTON

**Lower level**  
Seeley Memorial Library

**First floor**  
Resident Director

**Second to Fourth floors**  
Dorm

**Fifth floor**  
Laundry room

**C: HEALEY HALL**  
415 N. WASHINGTON AVE., SCRANTON

**Lower level**  
Classrooms  
EMS Academy

**First floor**  
Classrooms  
Culinary Arts Kitchen

**Second floor**  
Academic Affairs  
Career Services

Computer labs

Continuing Education  
Paramedic Institute  
Science labs

Computer lab

Student Health Services

Police Academy

Veterans' Lounge

Advancement

Faculty offices

**D: MCKINNIE HALL**  
440 WYOMING AVE., SCRANTON

Residence Life  
Director's office

Dorm

**E: STUDENT UNION**  
500 JEFFERSON AVE., SCRANTON

Athletics offices  
Fitness center  
Gym

Lyceum  
Student lounge  
Training room

**F: TOBIN HALL**  
VINE ST. AND MADISON AVE., SCRANTON

**First floor**  
Housing  
Advisor's office

Dorm

**Second floor**  
Wright Center for Graduate Medical Education

**Rear of building**  
Student parking

**G: CORNERSTONE COMMONS**  
401 ADAMS AVE., SCRANTON

**Coming soon!**  
Cornerstone Pavilion  
Alumni Courtyard

**H: CULINARY COMPLEX**  
409 ADAMS AVE., SCRANTON

**Coming soon!**  
Student dining  
New Culinary Arts program home

■ Indicates local landmark

# Lackawanna College Subsidence Abatement



# Lackawanna College Subsidence Abatement

## Students to be Served Annually in New 401 Complex

Main Dining Hall	1,625
School of Culinary and Hospitality	200
School of Engineering Technology	296
Degree Programs Related to Ancillary Industry Growth	35
Vocational Technology & Certificates Information Technology & Other Related Programs	380
Petroleum & Natural Gas Continuing Education Institute	820
<b>Total</b>	<b>3,596</b>

# Significant Benefits

This overall expansion by Lackawanna College will create:

- Permanent Full-Time jobs-69
- Permanent Part-Time jobs- 21
- Non- permanent construction jobs- 110
- Indirect positions will also be created-265
- Increasing State Tax base
- Increase student population



# Project Partners

- Lackawanna College
- Pennsylvania Department of Environmental Protection
- Office of Surface Mining Reclamation and Enforcement

# CAN DO – North Park Drive Business Park



## CAN DO – North Park Drive Business Park

The AML pilot funding will be used to regrade an area previously impacted by both coal and non-coal mining. A total of 129 acres of previously disturbed area will be regraded to its approximate pre-mining condition for the creation of 7 property parcels to be developed in the CAN DO Industrial Park. It is anticipated that 70-140 permanent full time positions will be created.

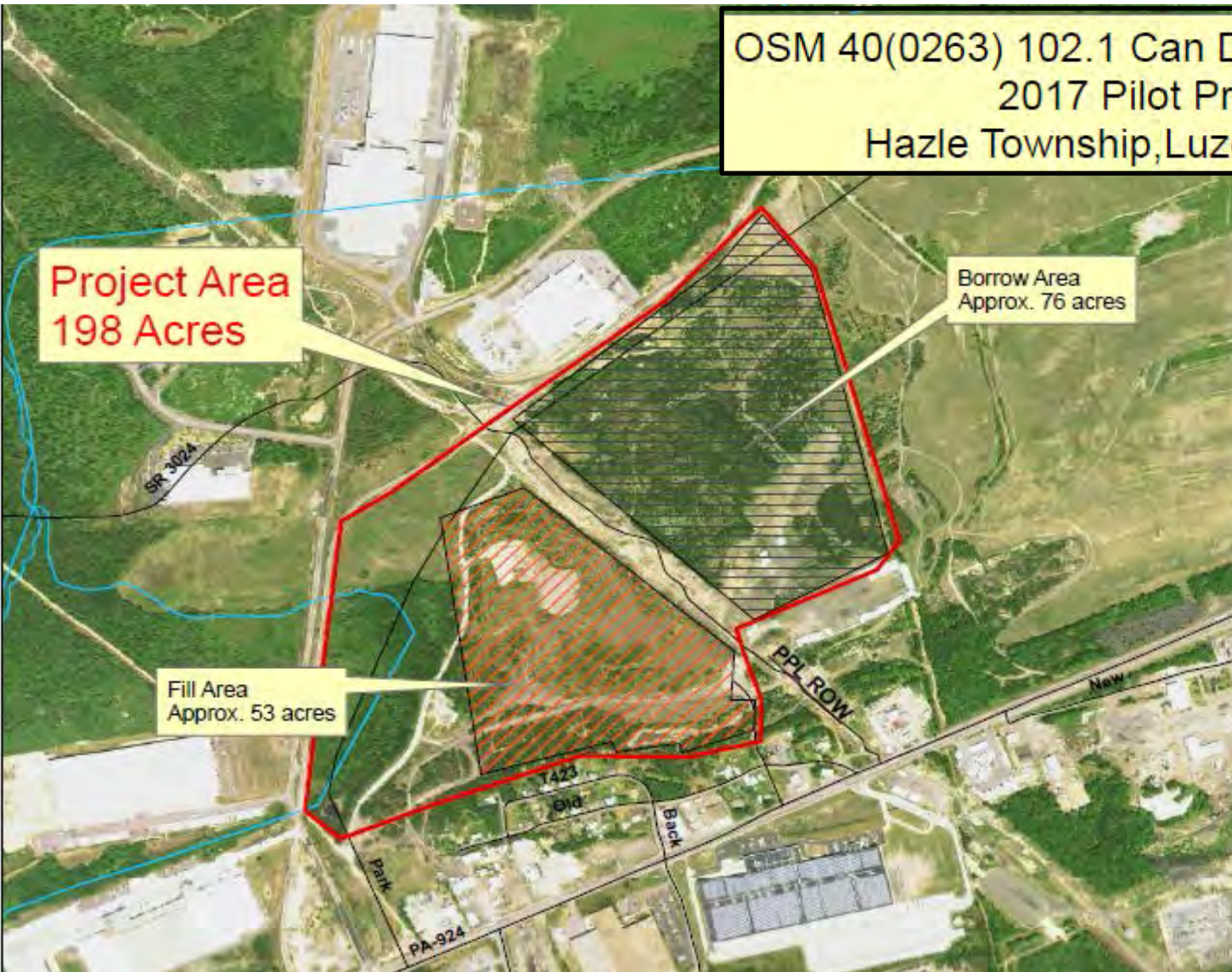
# CAN DO – North Park Drive Business Park

OSM 40(0263) 102.1 Can Do North Park Drive  
2017 Pilot Project  
Hazle Township, Luzerne County

Project Area  
198 Acres

Borrow Area  
Approx. 76 acres

Fill Area  
Approx. 53 acres



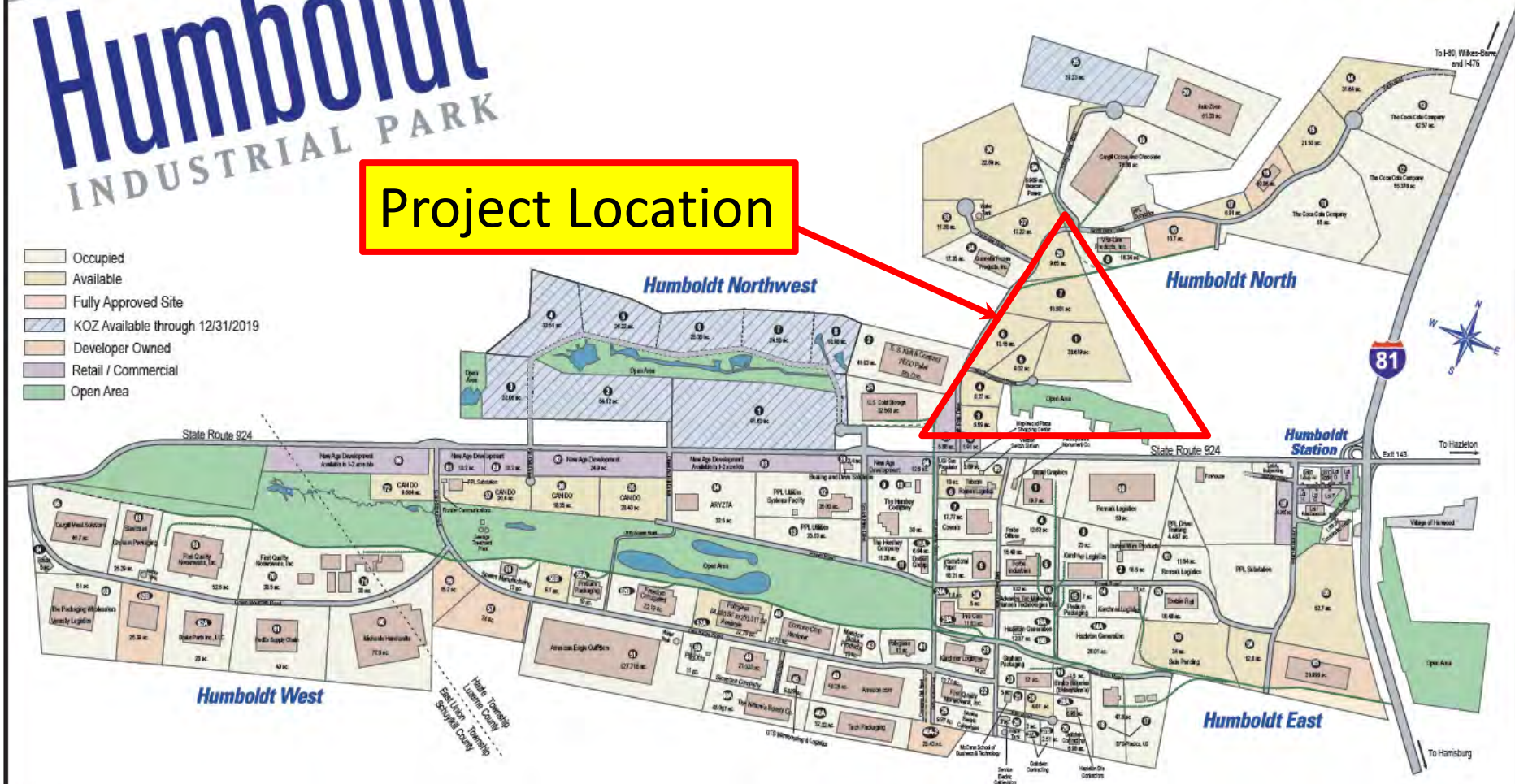
# CAN DO – North Park Drive Business Park



## Humboldt INDUSTRIAL PARK

**Project Location**

- Occupied
- Available
- Fully Approved Site
- KOZ Available through 12/31/2019
- Developer Owned
- Retail / Commercial
- Open Area



# Significant Benefits

- Development of 7 property parcels on currently unproductive land.
- Creation of up to 140 permanent full time positions.
- Reduction of hazards associated with previous mining.
- Expansion of industrial development to an economically depressed region in the anthracite coal fields.

# Project Partners

- Pennsylvania Department of Environmental Protection.
- CAN DO Inc.
- Office of Surface Mining Reclamation and Enforcement.
- Private Landowner.

# Hollars Hill South AML – Cranberry Creek Gateway Project





# Hollars Hill South AML – Cranberry Creek Gateway Project

The AML pilot funding and Title IV AML funding, will be used to reclaim 150 acres, with 650 feet of dangerous highwall acres of dangerous mine spoil pile acres of industrial/residential waste, a mine shaft, and five (5) hazardous structures. A 30-acre portion of the overall project lies within CAN DO, Inc.'s future Cranberry Creek Gateway Project. On this 30-acre portion, the shaft will be backfilled and the hazardous structures will be demolished. Clean fill debris from the demolition work will be placed in a former coal silt basin and covered with mine spoil and topsoil to prepare for the future development of a community ballfield complex.

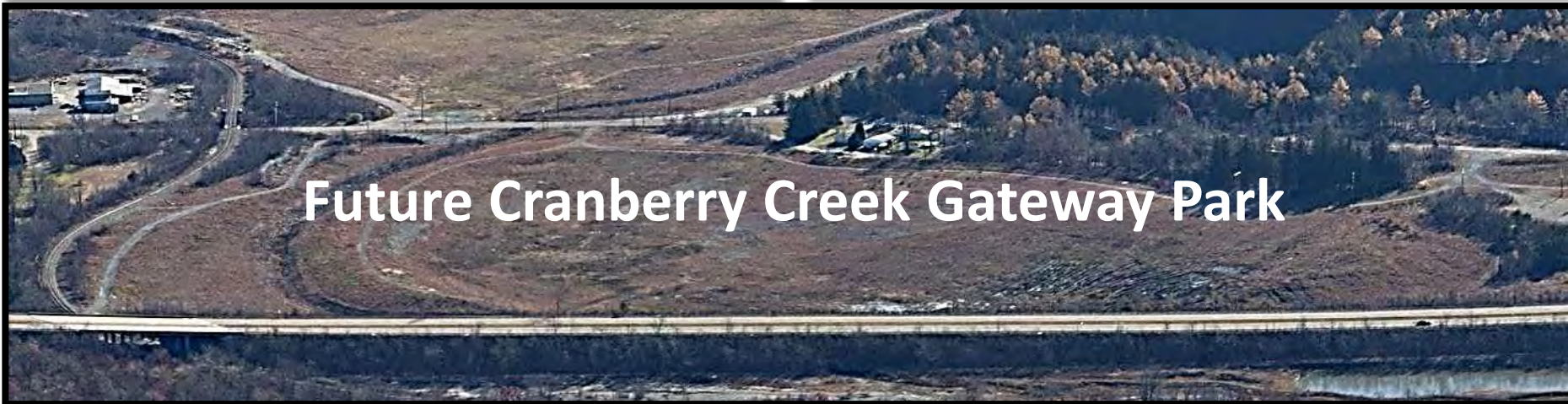
# Hollars Hill South AML-Cranberry Creek Gateway Project



**Wash House**



**Concrete Structures**



**Future Cranberry Creek Gateway Park**

# Hollars Hill South AML – Cranberry Creek Gateway Project



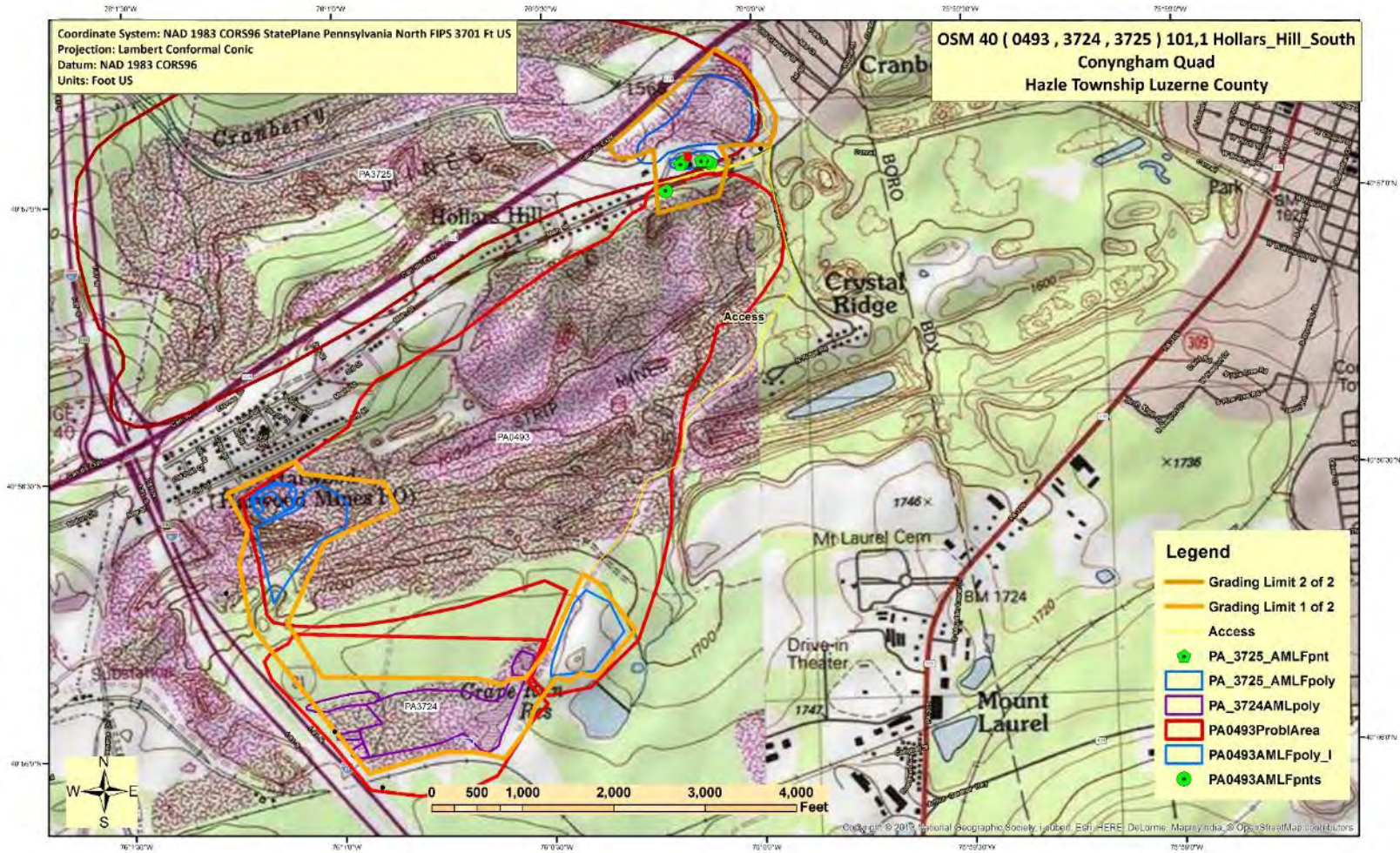
# Hollars Hill South AML – Cranberry Creek Gateway Project



# Hollars Hill South AML-Cranberry Creek Gateway Project



# Hollars Hill South AML-Cranberry Creek Gateway Project



# Hollars Hill South AML-Cranberry Creek Gateway Project



# Hollars Hill South AML-Cranberry Creek Gateway Project





# Significant Benefits

- Reclamation of 150 acres of Abandoned Mine Land (AML).
- Elimination of dangerous AML features
- The future community ballfield complex
- Creating job and housing opportunities with the development of the remainder of the proposed 366-acre Cranberry Creek Gateway

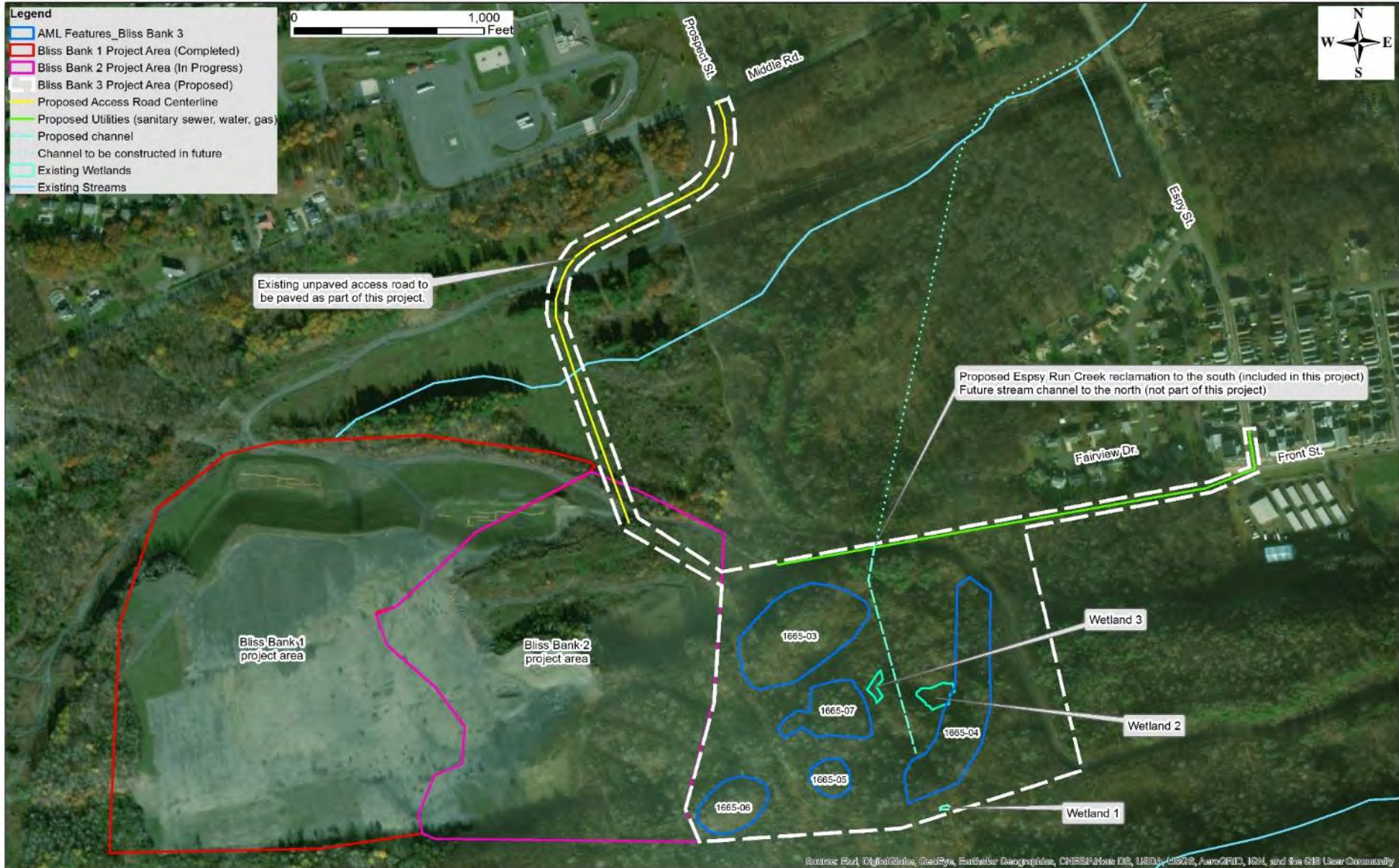
# Project Partners

- Greater Hazleton CAN DO, Inc.
- Pagnotti Enterprises Inc.
- Office of Surface Mining Reclamation and Enforcement
- Pennsylvania Department of Environmental Protection

# Project Partners

- Greater Hazleton CAN DO, Inc.
- Office of Surface Mining Reclamation and Enforcement
- Pennsylvania Department of Environmental Protection

# Earth Conservancy Bliss Bank 3 Business Park



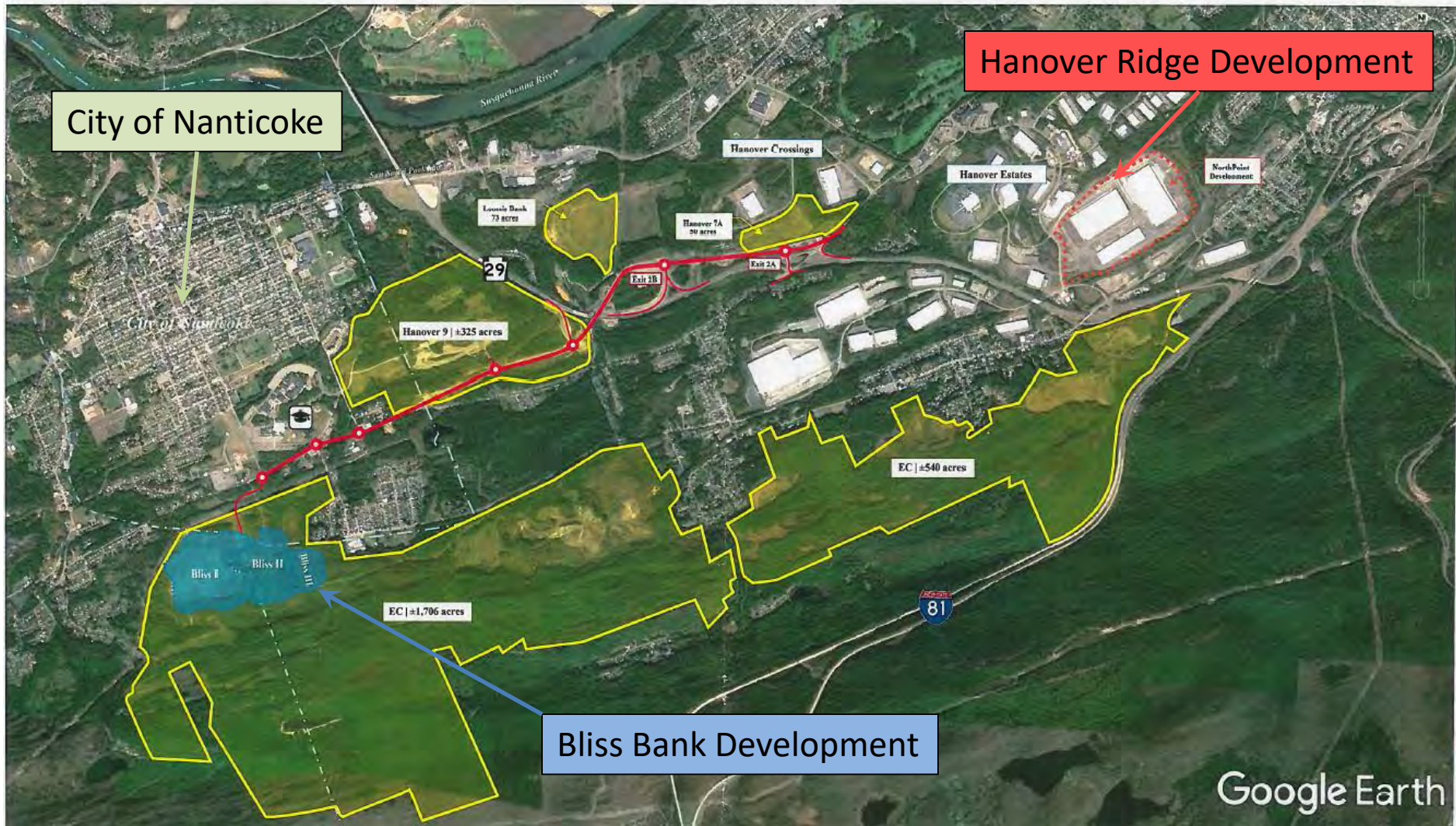
# Earth Conservancy Bliss Bank 3 Business Park

The AML Pilot Funding, in combination with other funding, will be used to complete the Bliss Bank 3 Project (55 acres) and will bring natural gas, water, and sanitary sewer services to the entire Earth Conservancy Bliss Bank Development (+220 acres). Bliss Bank 3 will abate 1,200' of dangerous highwalls and spoil areas. NorthPoint Development is working with Earth Conservancy to market the site and estimate this project will result in over 1,000 permanent full time positions.

# Earth Conservancy Bliss Bank 3 Business Park



Earth Conservancy Properties & Projects



# Bliss Bank Reclamation Project Phases

Bliss Bank 3 Project Area



Bliss Bank Phase 1

Bliss Bank Phase 2

# Earth Conservancy Bliss Bank 3 Business Park

**HANOVER RIDGE** // Progress Photo, 09.2017





# Earth Conservancy Bliss Bank 3 Business Park

## HANOVER RIDGE // Masterplan

- » LEASED: 2,000,000 SF
- » JOBS: 2,100 - 2,600



Under Negotiation with  
Large National Companies

# Significant Benefits

- Reclamation of 55 acres of AML, of the overall 220-acre Bliss Bank project, which allows the site to be developed
- Nationwide companies potentially coming to the area
- Creation of over 1,000 permanent full-time positions
- Provides reclamation for a section of Espy Creek.

# Project Partners

- Earth Conservancy (Land owner, Non-profit)
- NorthPoint Development Real Estate
- Office of Surface Mining Reclamation and Enforcement
- Pennsylvania Department of Environmental Protection

# ▶ Earth Conservancy Bliss Bank 3 Business Park



# ▶ Earth Conservancy Bliss Bank 3 Business Park



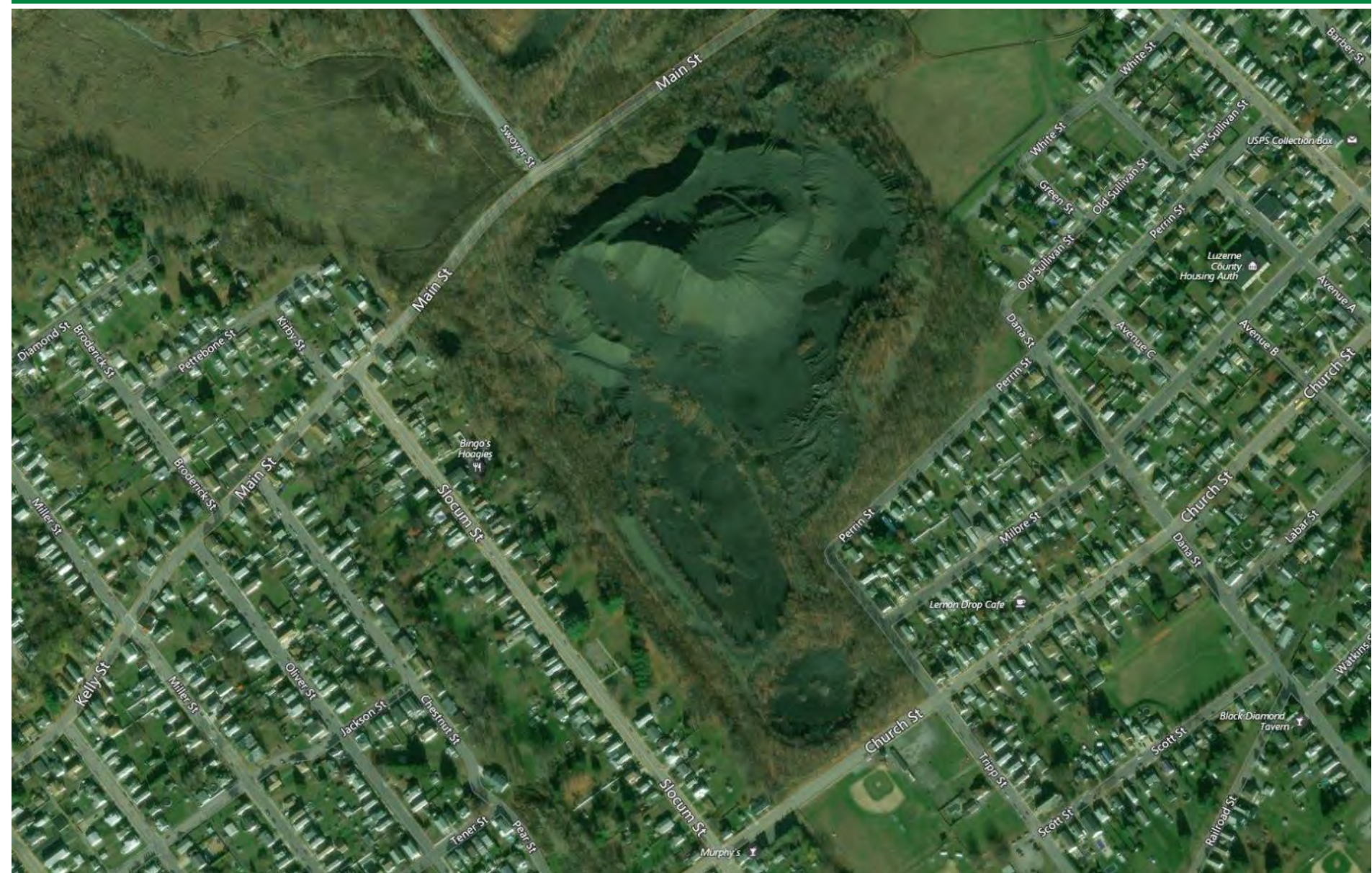
Highwall to be backfilled as part of the Bliss Bank 3 Project

# Earth Conservancy Bliss Bank 3 Business Park



One of the spoil areas to be used to reclaim the dangerous highwall

# Swoyersville Refuse Pile – Community Athletic Area



## ▶ Swoyersville Refuse Pile – Community Athletic Area

The Swoyersville coal refuse pile is an abandoned coal refuse pile and associated coal silt basins from the long-abandoned Harry E colliery and coal breaker. The entire Swoyersville refuse site encompasses approximately 55 acres containing approximately 4 million +/- cubic yards of coal refuse and waste rock material. Approximately 2.8 million +/- cubic yards of the refuse material is anticipated to be usable as fuel for electric cogeneration facilities that utilize waste coal. The project proposed for funding with AML Pilot Program funding will result in the complete reclamation of 7.5 acres of AML at the Swoyersville refuse pile site. 7.5 acres will be transferred to Swoyersville Borough for the development of community recreational facilities.



# ▶ Swoyersville Refuse Pile – Community Athletic Area



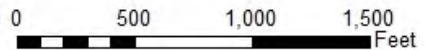
## ➤ Swoyersville Refuse Pile – Community Athletic Area

Keystone Reclamation Fuel Management LLC has long range plans to reclaim the entire Swoyersville coal refuse pile which would ultimately restore 55 acres of AML which could all be used for industrial/commercial/recreational development within Swoyersville Borough. The coal material will be removed from the site using a Government Financed Construction Contract (GFCC). The overall project will also help to improve water quality in the Abrahams Creek Watershed and reduce flooding by restoring/improving areas of floodplain along Abrahams Creek. The community recreational facilities will provide for recreational opportunities for all residents of Swoyersville and the surrounding area.

# Swoyersville Refuse Pile – Community Athletic Area



OSM40( 2233 )103.1(GA)  
Swoyersville Refuse Pile - Community Athletic Area 0  
Kingston Quad, Luzerne County



# Swoyersville Refuse Pile – Community Athletic Area



# Swoyersville Refuse Pile – Community Athletic Area



# Swoyersville Refuse Pile – Community Athletic Area



# Swoyersville Refuse Pile – Future Reclamation and Development Area



# Significant Benefits

- 7.5 acres of developable recreation property for Swoyersville Borough
- Reclamation of high priority AML features
- Removal of the coal material may decrease Acid Mine Water Drainage from onsite
- Development of the sports complex will draw more people to the Borough and surrounding area to positively impact the community
- Ability for the Borough to host multiple sports activities for different organizations at the same time



# Project Partners

- Keystone Reclamation Fuel Management LLC (Olympus Power/Northampton Fuel)
- Swoyersville Borough
- Pagnotti Enterprises Inc.
- Foundation for PA Watersheds
- Office of Surface Mining Reclamation and Enforcement
- PA. Department of Environmental Protection

# Porter Floodplain Restoration Project



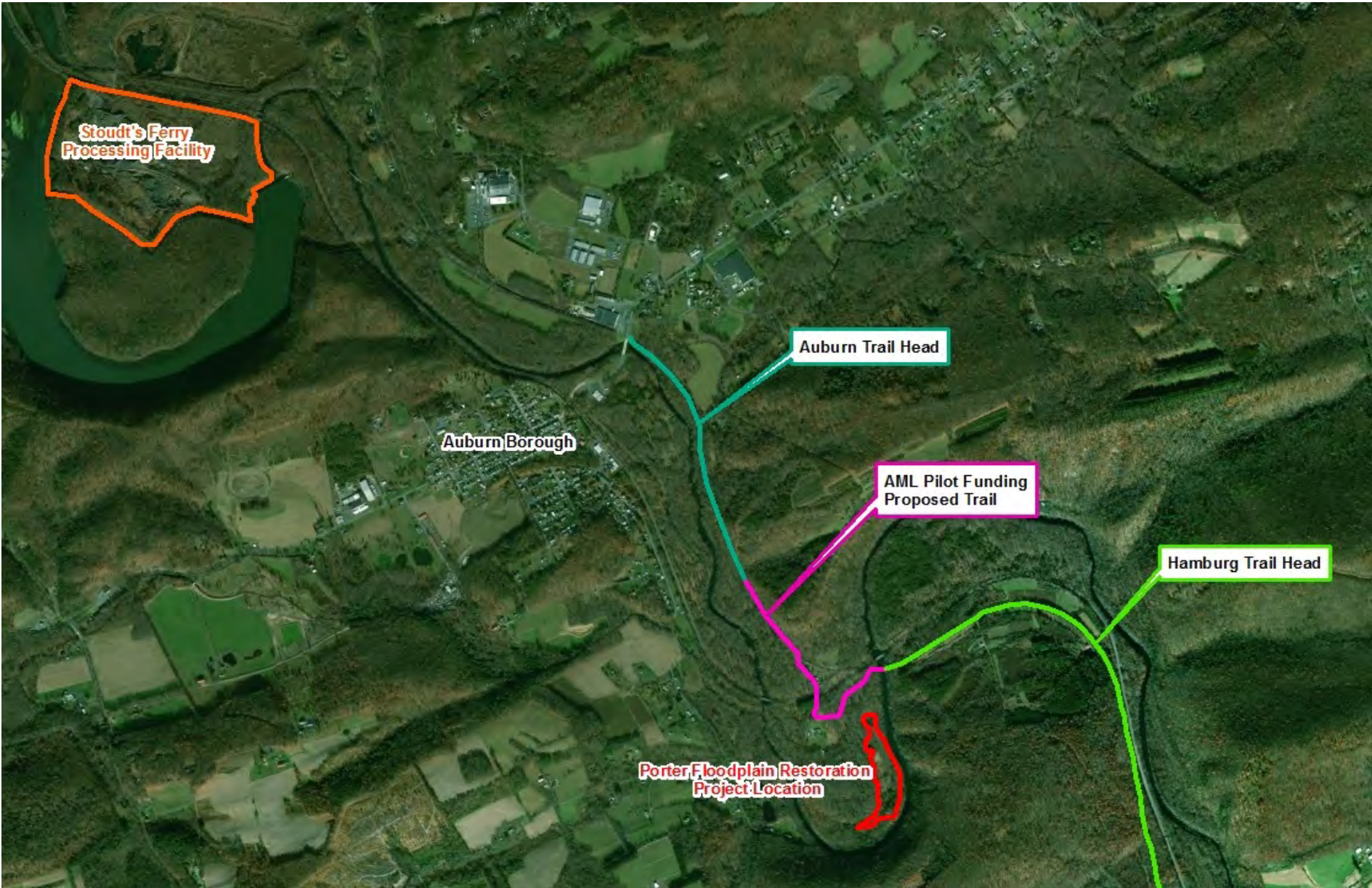
# Porter Floodplain Restoration Project

The AML Pilot funding, in combination with other funding, will be used to remove 90,000 cubic yards of coal silt on approximately 10 acres clogged stream land. The coal silt material will be transported to Stoudt's Ferry Preparation Company's Auburn facility where it will be processed and sold. Funding will also be used to create a missing portion of trail within the Schuylkill River Trail Network involving the reconditioning of an abandoned railroad bridge and the conversion of access roads into trails.

# Porter Floodplain Restoration Project Location

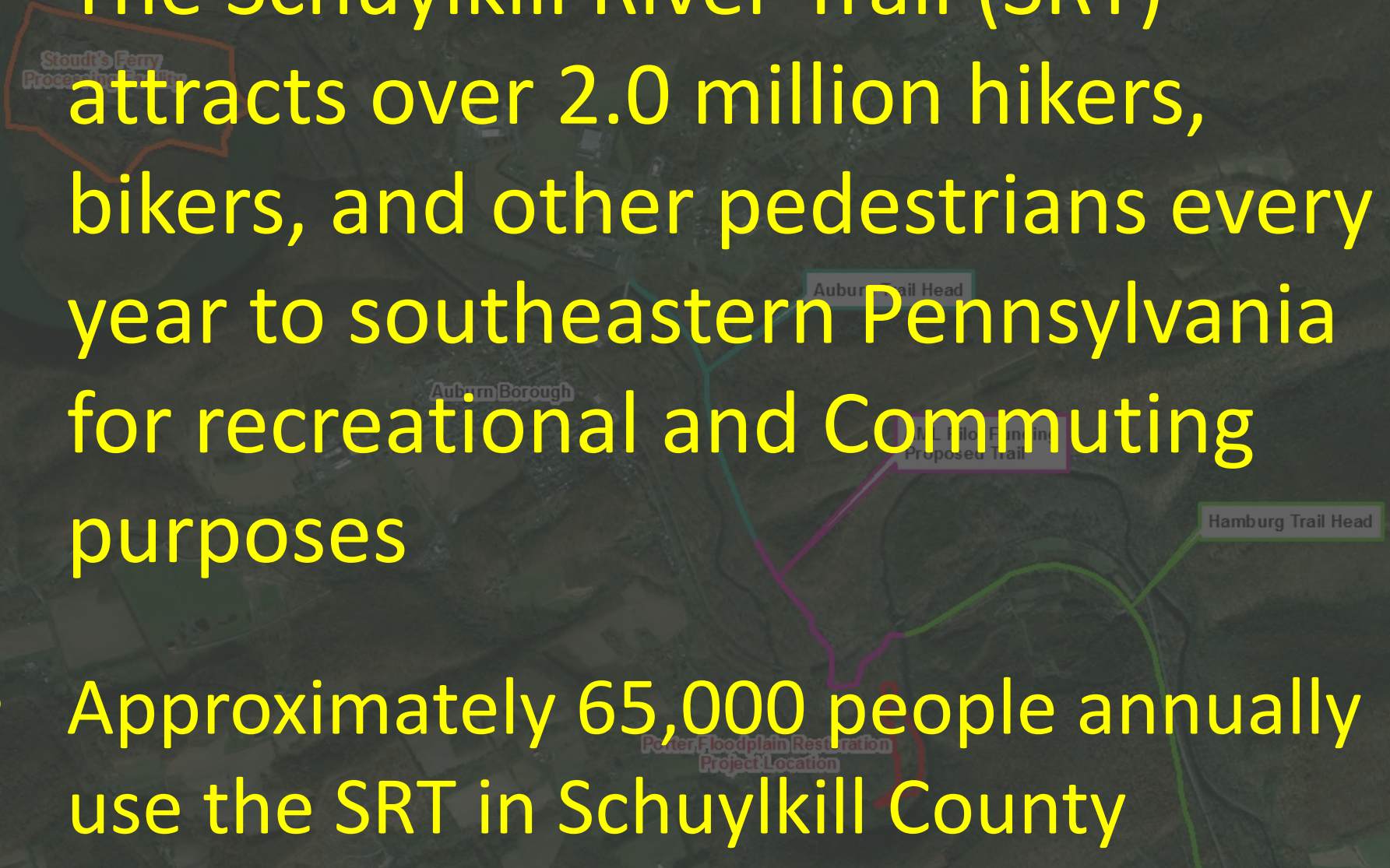


# Porter Floodplain Restoration Project



# Porter Floodplain Restoration Project

- The Schuylkill River Trail (SRT) attracts over 2.0 million hikers, bikers, and other pedestrians every year to southeastern Pennsylvania for recreational and commuting purposes
- Approximately 65,000 people annually use the SRT in Schuylkill County



# Abandoned Railroad Bridge to be Restored



# ▶ Abandoned Railroad Bridge to be Restored





# Significant Benefits

The Porter Floodplain Project will have significant benefits, including:

- Reclamation of 10 acres of AML facilitating the extension of the Schuylkill River Trail Network by creating the missing section of trail between the Auburn and Hamburg Trail heads
- Improved/restored water quality in the Schuylkill River
- Improved opportunities for fishing, hiking, and sightseeing
- Increased tourism to the area

# Economic Benefits

- According to an independent study, the Schuylkill River Greenway generates \$589.9 million in economic impact, supports 6,154 jobs, and generates \$37.7 million in tax revenue, mostly through tourism.
- The 2009 annual economic benefit of the entire Schuylkill River Trail was \$7,313,000 million, the year following the Great Recession's beginning.
- SRT expansion will continue to increase this economic benefit.

# Economic Benefits

- Economic studies show that properties values adjacent to and in the vicinity of trails significantly increase once a trail is installed, and especially when that trail is connected to a greater trail system.
- Trail users spend an average \$273 per year on hard goods (bikes, shoes, clothes) plus an additional \$16.30 on food and drinks per visit.

# Economic Benefits

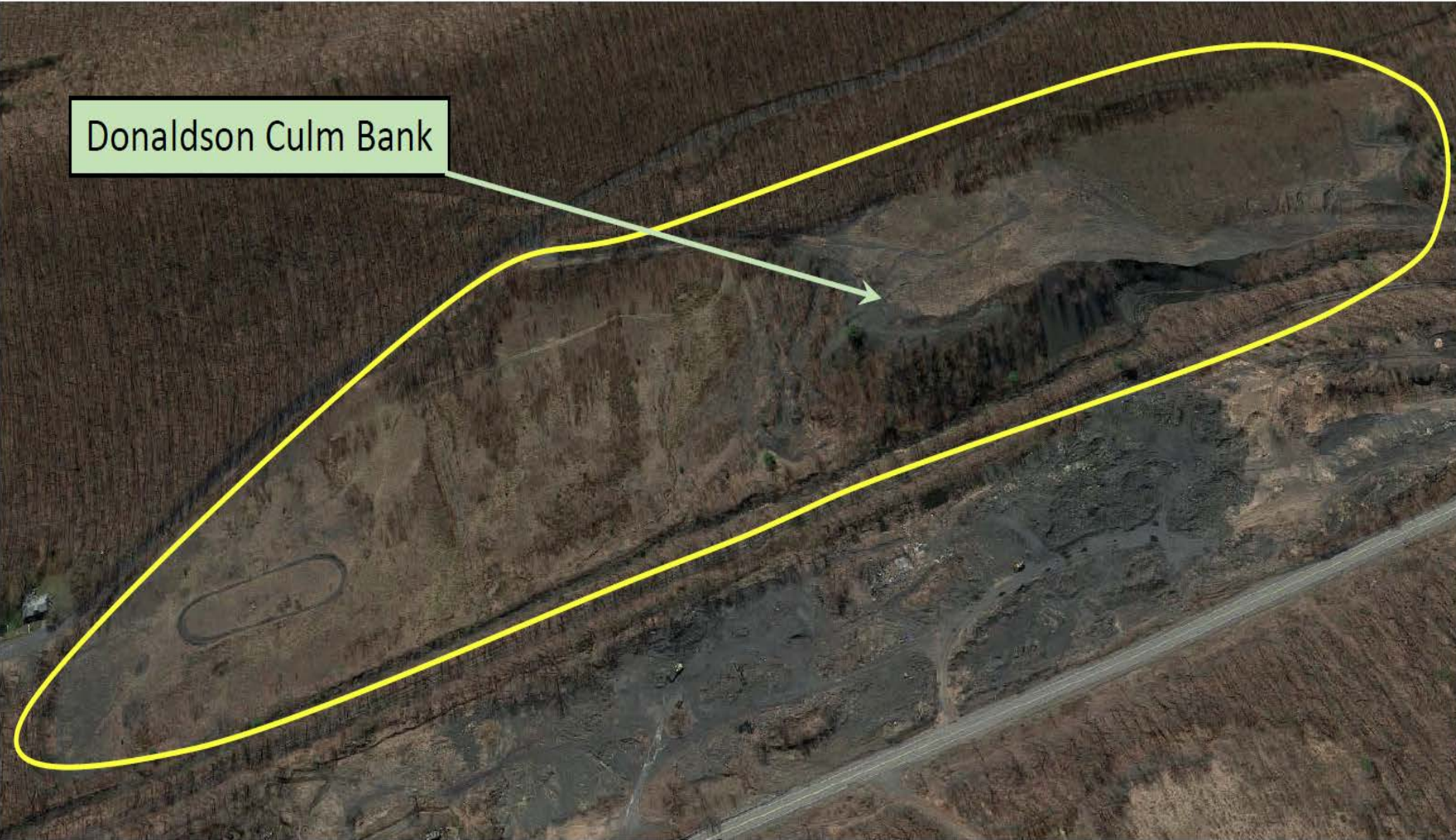
- Connecting the Schuylkill River Trail between Schuylkill County and Berks County will generate considerable revenue for the local economy, providing economic benefit to a region still trying to recover from the loss of its major manufacturers, a 24.3% unemployment rate for ages 20-24, and a decrease in the use of the County's native product, coal.

# Project Partners

- Kenneth & Jeanne Porter (Landowners)
- Schuylkill River Headwaters Association
- Schuylkill River Greenways National Heritage Area
- County of Schuylkill
- Foundation for PA Watersheds
- Stoudt's Ferry Preparation Company
- Reading Blue Mountain & Northern Railroad
- William Penn Foundation
- Exelon Corporation
- PA DCNR

# Donaldson Culm Bank Stream Restoration

Donaldson Culm Bank



# Donaldson Culm Bank Stream Restoration

The AML Pilot funding, in combination with other funding, will be used to remove coal waste along Good Spring Creek that is designated as a clogged stream land. This restoration project will create a more natural, sinuous 4,600 feet long stream channel and constructing nearly 18 acres of floodplain and wetlands. Usable coal material will be transported to a local power generation plant. Poor quality material will be placed into nearby AML mining pits. The restored site will be utilized as an environmental park by the local township.

# Donaldson Culm Bank





# Donaldson Culm Bank along Good Spring Creek

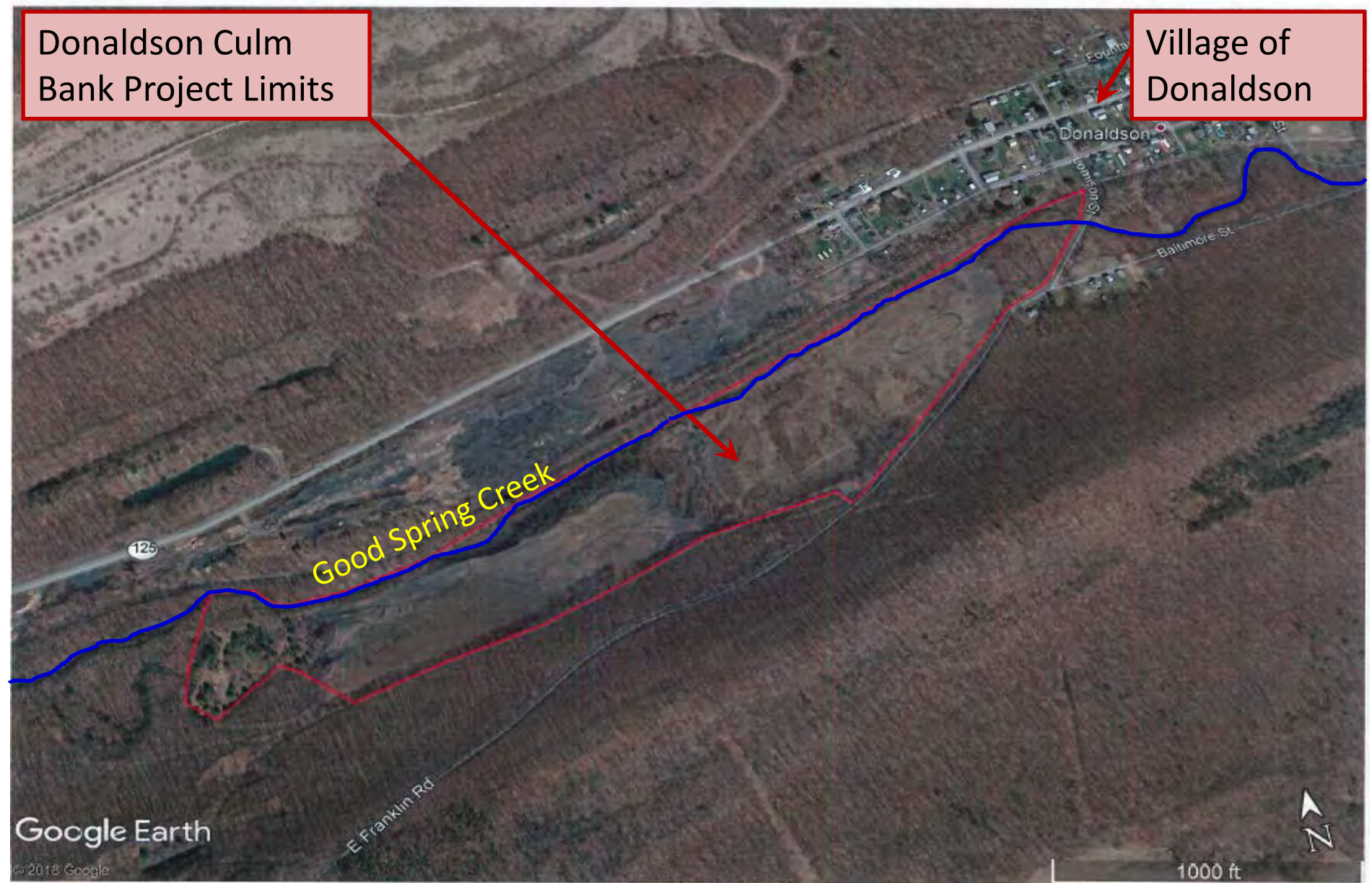


# Donaldson Culm Bank Stream Restoration

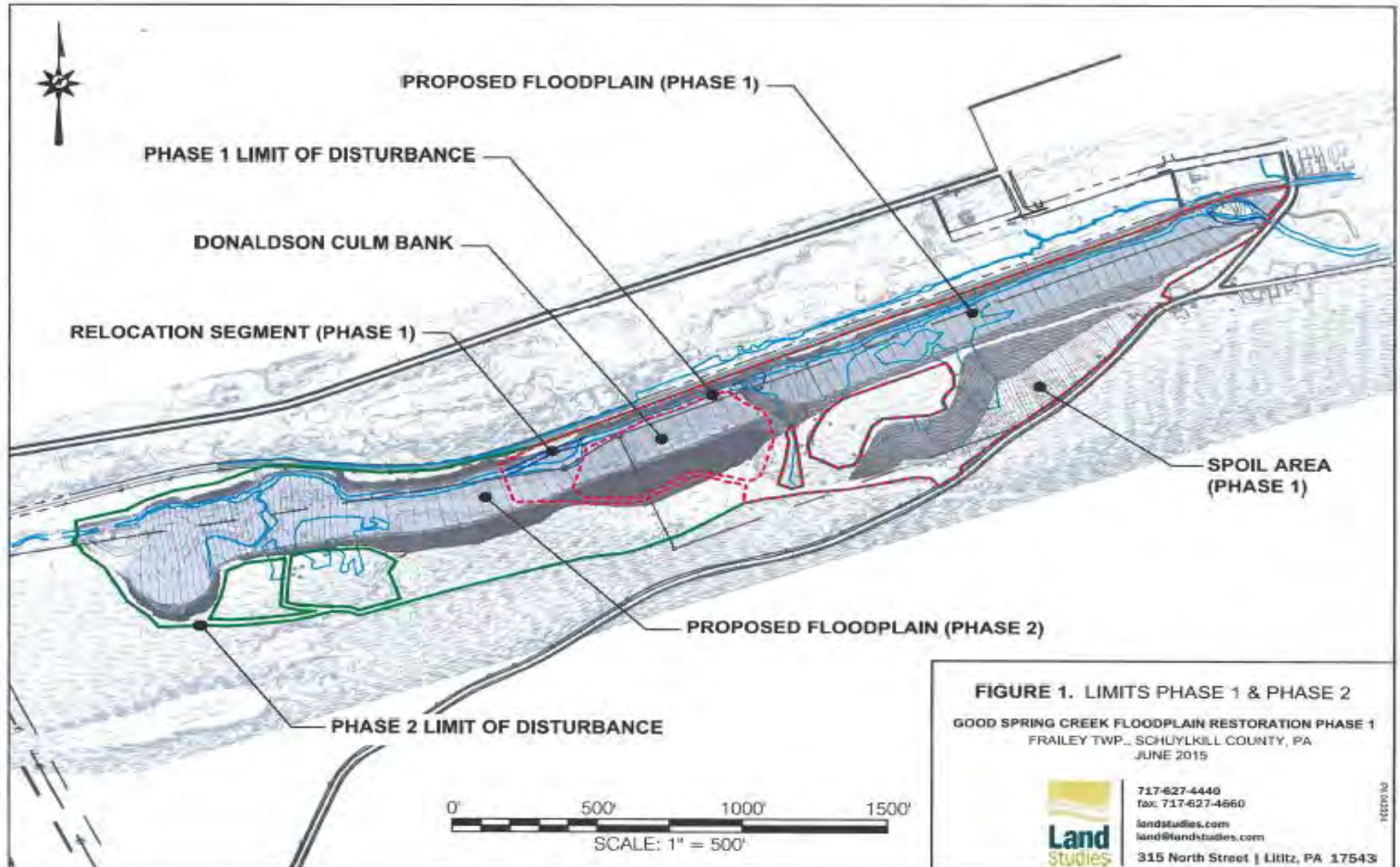
Donaldson Culm Bank Project Limits

Village of Donaldson

Good Spring Creek



# Donaldson Culm Bank Stream Restoration



**FIGURE 1. LIMITS PHASE 1 & PHASE 2**

GOOD SPRING CREEK FLOODPLAIN RESTORATION PHASE 1  
FRAILEY TWP., SCHUYLKILL COUNTY, PA  
JUNE 2015



717-627-4440  
fax: 717-627-4660

landstudies.com  
land@landstudies.com

315 North Street | Lititz, PA 17543

# Donaldson Culm Bank Stream Restoration

## Conceptual Plan



1 - Erosion along a coal culm pile approximately 51 feet high, immediately adjacent to Good Spring Creek



2 - Erosion along a coal culm pile approximately 51 feet high, immediately adjacent to Good Spring Creek



3 - Bank erosion along Good Spring Creek



4 - Top trench dug in existing floodplain. All material excavated from the trench was fine coal material; no native soils or historic floodplain soils were found in the trench



Meadow / Reforestation - Example



Floodplain Restoration - Example

Mowed Access Trail

### Approach

- Maximize flood reduction, sediment capture and water quality benefits by creating contiguous wetland / floodplain with braided stream channel.
- Use on-site woody material in restored floodplain for habitat creation, stormwater velocity reduction, and as a carbon source for nitrogen sequestration.
- Restore uplands to forest for additional habitat and stormwater benefits.

Restored Floodplain / Wetland Acres	145	
Restored Forested Upland Acres	22.6	
Pollutant Load Reduction	Culm Pile	-
	Streambanks	-
Sediment Load Reduction	Coarse	High
	Medium	High
	Fine	Pending
Nutrient Reduction	N	Pending
	P	Pending

### Pros

- Maximizes flood flow storage
- Capture of upstream sediment and achieve some nutrient sequestration in floodplain.
- Removal of pollutant and sediment load sources from culm pile and eroding streambed and banks.
- Potential to improve ecological value of site.
- Reduce infrastructure / erosion impacts on railroad.
- Addresses primary areas of stream instability within 4,000 linear feet upstream of E. Linnison St. bridge.

### Cons

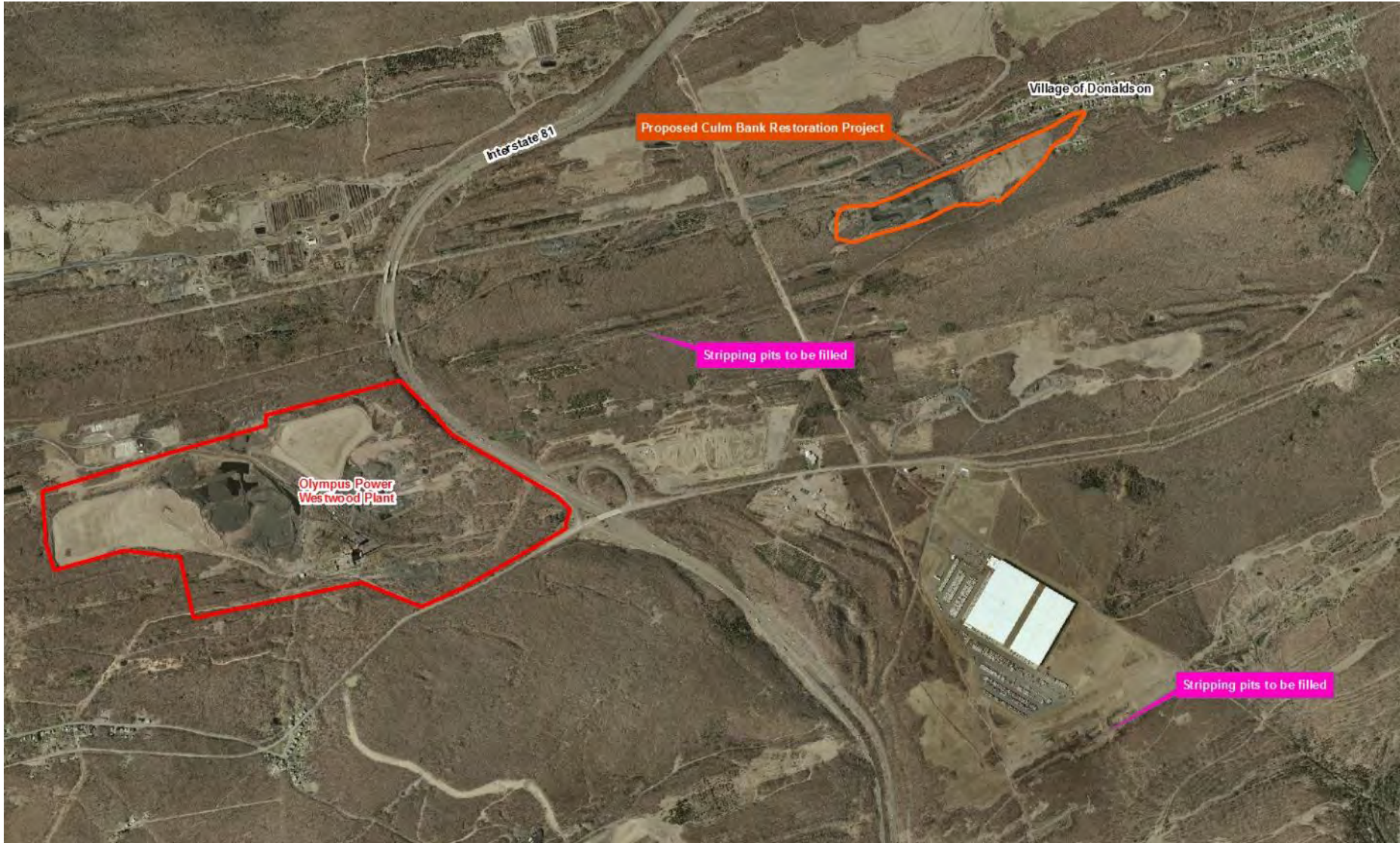
- Restoration not achievable without removal of existing culm pile on western half of restoration area.



Section View AA'

Scale: 1" = 20'

# Donaldson Culm Bank Stream Restoration



# Significant Benefits

The Donaldson Culm Bank Stream Restoration project will have significant benefits, including:

- Improved water quality in Good Spring Creek
- The filled strip pits can be utilized for future commercial businesses
- Higher quality coal will be used as a source of energy at a local power generation plant
- Nature trails will be implemented after construction is finished
- Significantly reduce the potential of downstream flooding during high water events

# Project Partners

- Schuylkill County Conservation District
- Frailey Township
- Natural Coal Company
- YZ-05, Inc.
- Schuylkill Economic Development Corporation
- Foundation for PA Watersheds
- Rausch Creek Lands LP
- Rausch Creek Generation
- Williams Companies, Inc.
- PA Department of Community and Economic Development
- PA DEP and OSMRE



# TASA Refuse Piles - South Sandy Creek Restoration





## TASA Refuse Piles - South Sandy Creek Restoration

The AML Pilot funding will be used for a pass-through grant to South Sandy Creek Watershed Association to excavate 200,000 tons of acid forming material consisting of coal refuse & coal fines. The excavated material will be transported to Scrubgrass Generating Plant, an 85-megawatt generating facility fueled by bituminous waste coal. A portion of the resulting alkaline flyash byproduct will be returned to the site, blended with existing on-site soil & used to remediate the site.

# TASA Refuse Piles - South Sandy Creek Restoration



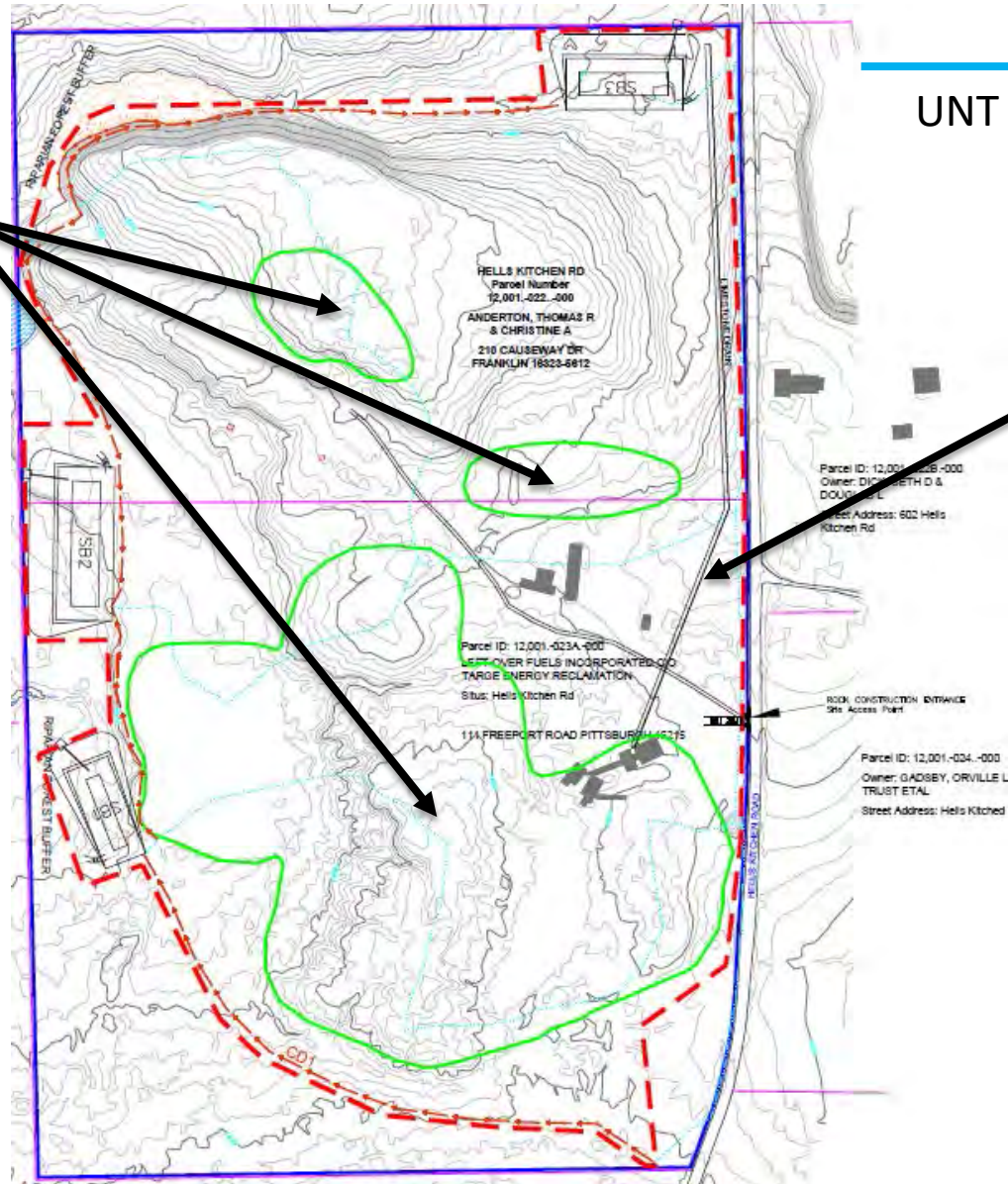
## Scrubgrass Generating Station

- 87 megawatt generating facility
- Fueled by bituminous waste coal
- Electricity sold to Pennsylvania Electric Co. (Penelec)
- Generating plant employs over 50 people
- Contributes more than \$6.5 million per year to the local economy through payroll and purchases of local goods and services
- Entered commercial service in June 1993

# TASA Refuse Piles (Venango #1) Reclamation Plan

Acid forming material to be removed

UNT South Sandy Creek



UNT Williams Run

Limestone drain

Parcel ID: 12,001-025-000  
Owner: DICKINETH D & DOUGLAS L  
Street Address: 602 Hells Kitchen Rd

ROCK CONSTRUCTION ENTRANCE  
Site Access Point

Parcel ID: 12,001-024-000  
Owner: GADSBY, ORVILLE L TRUST ETAL  
Street Address: Hells Kitched

# Significant Benefits

- A major source of AMD pollution to unnamed tributaries to South Sandy Creek & Williams Run will be eliminated, resulting in approximately 13 miles of stream improvement.
- Scrubgrass Generating Plant will receive an economic boost that will enable the company to employ over 100 individuals & continue to reclaim additional refuse piles in Pennsylvania.

# Significant Benefits

- Landowners will be able to lease reclaimed land for agricultural use.
- 5 hazardous abandoned mine structures will be removed from the site.
- Long-term improvement of the regional groundwater table will improve the water chemistry for two residential drinking water wells.

# Project Partners

- South Sandy Creek Watershed Association
- Scrubgrass Generating Plant
- Tom Anderton, landowner
- Leftover Fuels, Inc., landowner
- Pennsylvania Department of Environmental Protection
- Office of Surface Mining Reclamation and Enforcement

# Proposed AML Pilot Funding

<b>AML Pilot Project Name</b>	<b>Municipality</b>	<b>County</b>	<b>Total Estimated Project Cost</b>	<b>Proposed AML Pilot Funding Amount</b>
<b>Zelienople Municipal Airport Expansion - AML Reclamation</b>	<b>Franklin Township</b>	<b>Beaver</b>	<b>\$ 24,000,000</b>	<b>\$ 2,500,000</b>
<b>Stineman Refuse Pile - Path of the Flood Trail</b>	<b>South Fork Borough and Adams Township</b>	<b>Cambria</b>	<b>\$ 2,500,000</b>	<b>\$ 2,000,000</b>
<b>Quakake Tunnel AMD Treatment - Black Creek Trail</b>	<b>Packer Township and Weatherly Borough</b>	<b>Carbon</b>	<b>\$ 8,652,000</b>	<b>\$ 3,000,000</b>
<b>Potts Run Passive AMD Treatment System and AML Reclamation</b>	<b>Knox Township</b>	<b>Clearfield</b>	<b>\$ 2,400,000</b>	<b>\$ 1,400,000</b>
<b>Lackawanna College Subsidence Abatement</b>	<b>City of Scranton</b>	<b>Lackawanna</b>	<b>\$ 450,000</b>	<b>\$ 450,000</b>
<b>Can Do – North Park Drive Business Park</b>	<b>Hazle Township</b>	<b>Luzerne</b>	<b>\$ 2,657,900</b>	<b>\$ 2,000,000</b>

# Proposed AML Pilot Funding

<b>AML Pilot Project Name</b>	<b>Municipality</b>	<b>County</b>	<b>Total Estimated Project Cost</b>	<b>Proposed AML Pilot Funding Amount</b>
<b>Hollars Hill South AML - Cranberry Creek Gateway Project</b>	<b>Hazle Township</b>	<b>Luzerne</b>	<b>\$ 2,700,000</b>	<b>\$ 1,000,000</b>
<b>Earth Conservancy Bliss Bank 3 Business Area</b>	<b>Hanover Twp and Newport Twp</b>	<b>Luzerne</b>	<b>\$ 3,026,835</b>	<b>\$ 2,500,000</b>
<b>Swoyersville Refuse Pile - Community Athletic Area</b>	<b>Swoyersville Borough</b>	<b>Luzerne</b>	<b>\$ 4,000,000</b>	<b>\$ 2,350,377</b>
<b>The Porter Floodplain Restoration Project</b>	<b>West Brunswick Township</b>	<b>Schuylkill</b>	<b>\$ 2,853,000</b>	<b>\$ 2,000,000</b>
<b>Donaldson Culm Bank Stream Restoration Project</b>	<b>Frailey Township</b>	<b>Schuylkill</b>	<b>\$ 8,600,000</b>	<b>\$ 2,000,000</b>
<b>TASA Refuse Piles - South Sandy Creek Restoration</b>	<b>Irwin Township</b>	<b>Venango</b>	<b>\$ 3,156,000</b>	<b>\$ 3,000,000</b>





**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Active and Abandoned Mine Operations

# Questions?

## Contact Information:

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**814-472-1800**

**or**

**jstefanko@pa.gov**

**717-787-9958**

Tom Wolf, Governor

Patrick McDonnell, Secretary