

# Conservation of Northern Long-eared Bat Habitat at an Aggregate Mine in Westmoreland County, Pennsylvania

Presented By  
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Drainage Taskforce, ASMR, and ARRI

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# Project Background

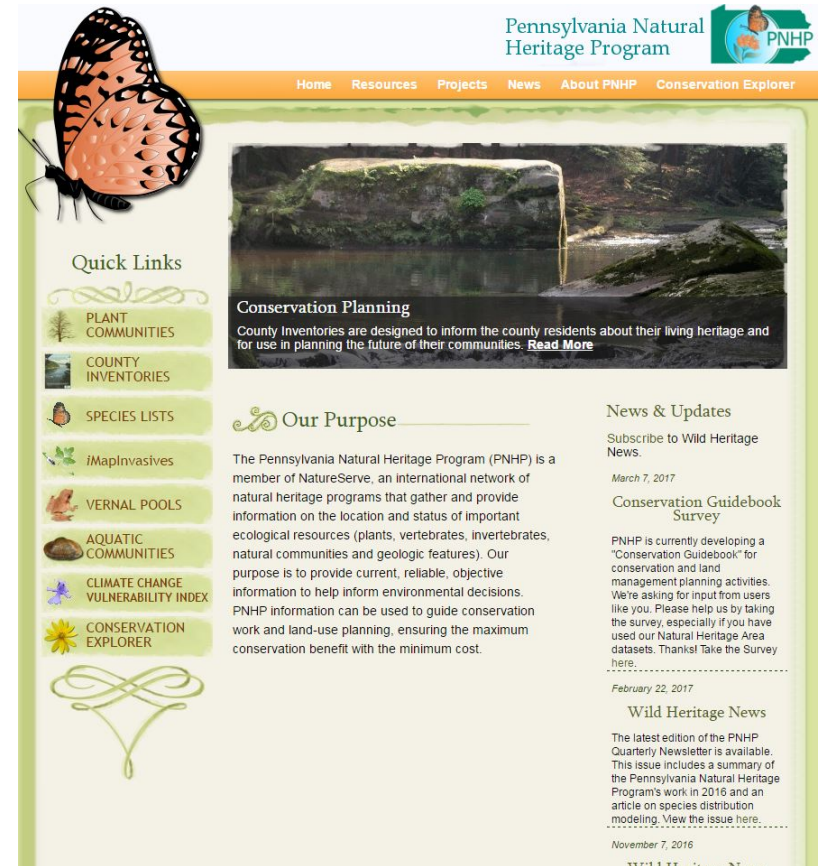
- ▶ **Hanson Aggregate's Wagner Quarry**
  - Expansion of existing limestone mine
    - Portal
    - Ventilation
  - Originally permitted in 2013
  - 20 acres of surface disturbance



# Project Background

## ▶ Activation in 2016

- New Environmental Review (i.e., PNDI) required by PA DEP
  - Triggered agency involvement



The screenshot shows the Pennsylvania Natural Heritage Program (PNHP) website. At the top right is the PNHP logo. Below it is a navigation bar with links: Home, Resources, Projects, News, About PNHP, and Conservation Explorer. The main content area is divided into several sections:

- Quick Links:** A vertical list of links with icons: PLANT COMMUNITIES, COUNTY INVENTORIES, SPECIES LISTS, iMapInvasives, VERNAL POOLS, AQUATIC COMMUNITIES, CLIMATE CHANGE VULNERABILITY INDEX, and CONSERVATION EXPLORER.
- Conservation Planning:** A featured article with a photo of a waterfall. The text reads: "County Inventories are designed to inform the county residents about their living heritage and for use in planning the future of their communities. [Read More](#)".
- Our Purpose:** A section with a decorative flourish. The text states: "The Pennsylvania Natural Heritage Program (PNHP) is a member of NatureServe, an international network of natural heritage programs that gather and provide information on the location and status of important ecological resources (plants, vertebrates, invertebrates, natural communities and geologic features). Our purpose is to provide current, reliable, objective information to help inform environmental decisions. PNHP information can be used to guide conservation work and land-use planning, ensuring the maximum conservation benefit with the minimum cost."
- News & Updates:** A section with a decorative flourish. It includes a "Subscribe to Wild Heritage News" link and two news items:
  - March 7, 2017:** "Conservation Guidebook Survey". The text says: "PNHP is currently developing a 'Conservation Guidebook' for conservation and land management planning activities. We're asking for input from users like you. Please help us by taking the survey, especially if you have used our Natural Heritage Area datasets. Thanksl Take the Survey [here](#)."
  - February 22, 2017:** "Wild Heritage News". The text says: "The latest edition of the PNHP Quarterly Newsletter is available. This issue includes a summary of the Pennsylvania Natural Heritage Program's work in 2016 and an article on species distribution modeling. [View the issue here](#)."
  - November 7, 2016:** "Wild Heritage News".

# Northern Long-eared Bat (*Myotis septentrionalis*)

- ▶ **Small**
- ▶ **Insectivorous**
- ▶ **Migratory**
- ▶ **Slow reproduction, but long-lived**
- ▶ **Overlap with Indiana bat and little brown bat**



# Northern Long-eared Bat

## ► Winter

- Hibernate in caves and mines
  - Mid-October to mid-April
- Return to same area, if not same cave each year (philopatry *or* fidelity)



# Northern Long-eared Bat

## ▶ Summer

- Migrate in late April and early May
  - Female bias
- Males form small bachelor colonies
- Females raise pups in roost trees (i.e., maternity colonies)



# Northern Long-eared Bat

- ▶ **Proposed for listing in August 2014**
- ▶ **White-nose Syndrome**
  - Primary
- ▶ **Habitat Loss**
  - Secondary



# Northern Long-eared Bat

## ► Threatened with 4(d) rule – January 2016

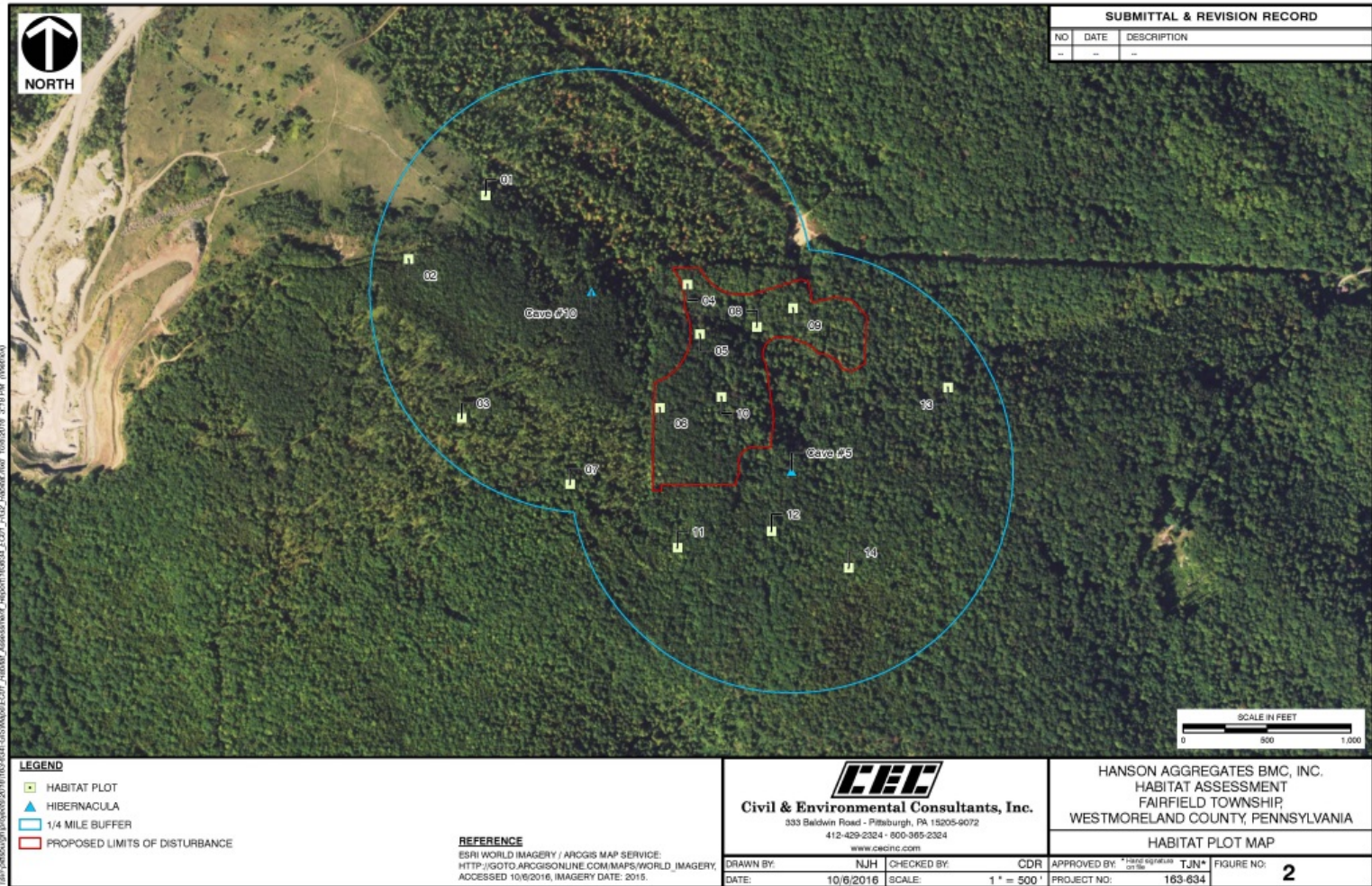
- Incidental Take\* prohibited:
  - Within a hibernaculum
  - For tree clearing, within:
    - .25 miles of hibernaculum
    - 150 feet of maternity roost



\*Take is defined “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect”



# Consultation with US Fish and Wildlife Service



# Consultation with US Fish and Wildlife Service

## ► Meeting with USFWS

- Clarified impacts
- Explored Options
  - Reduce Impacts
  - Incidental Take Permit (HCP)
- No additional capture surveys



# Consultation with US Fish and Wildlife Service

## ▶ Habitat Assessment

- Quantitative
  - Habitat Plots
  - Potential Roost Trees
- Qualitative
  - Roosting
  - Foraging



# Improvement of Habitat – Artificial Roost Structures



# Improvement of Habitat – Selective Clearing and Planting



# Cave Gating

## ▶ Dual-purpose Habitat Improvement

- Northern long-eared bat
- Alleghany Woodrat

## ▶ Purpose

- Prevent disturbance by humans
- Maintain microclimate



# Cave Gating

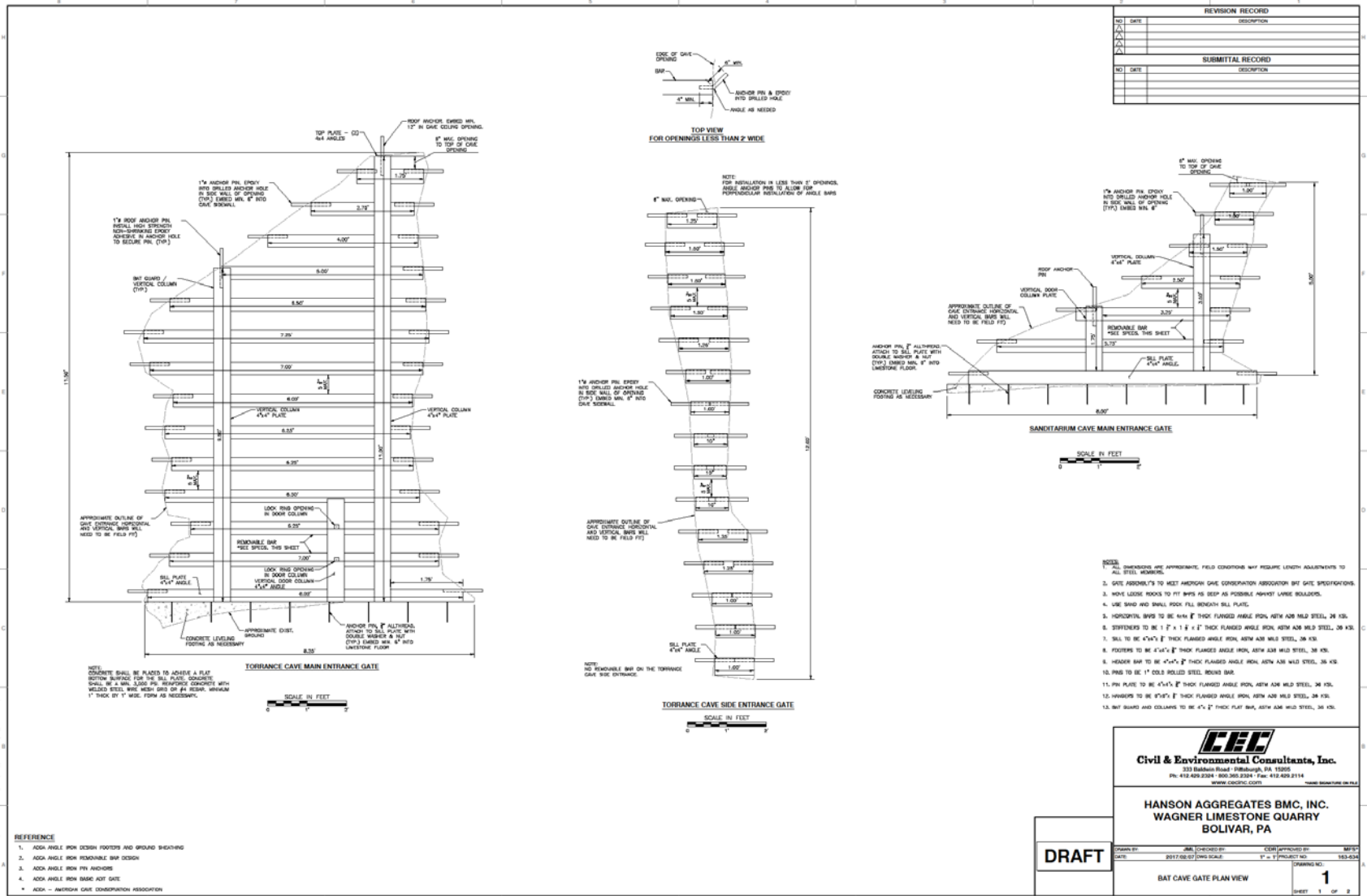


# Cave Gating – 3D Lidar Scanning





# Cave Gating - Design in AutoCAD



**DRAFT**

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**BOLIVAR, PA**

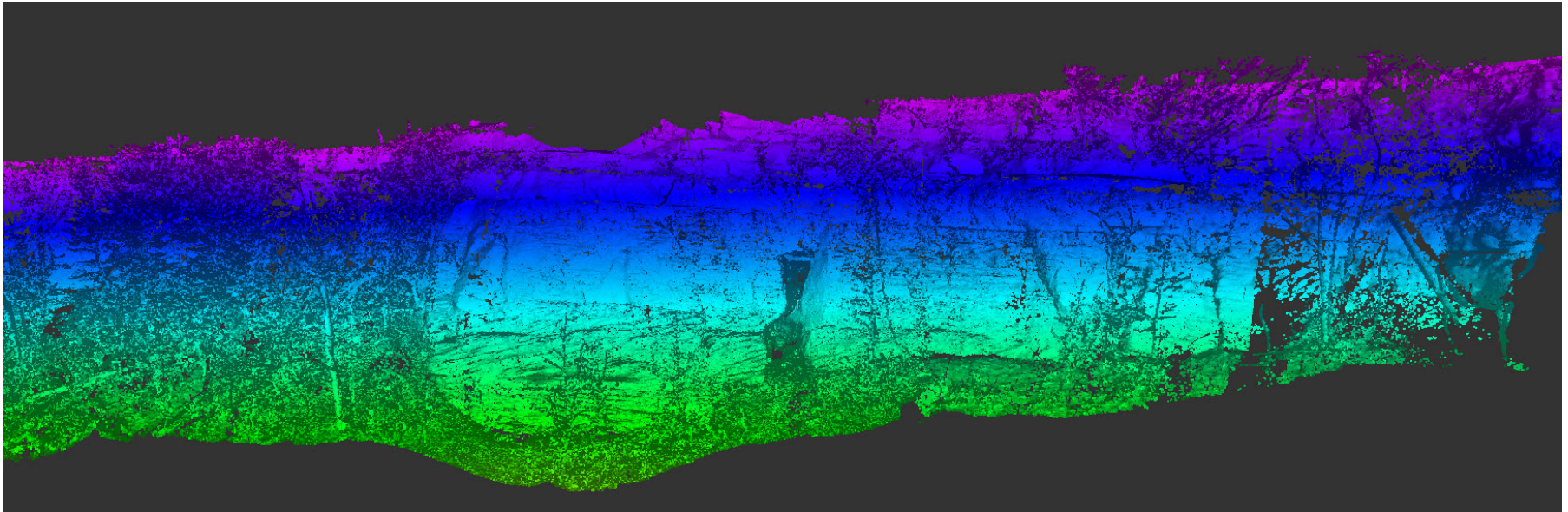
DESIGNED BY: JMS CHECKED BY: CEB APPROVED BY: MJP  
 DATE: 09/15/05 DWG SCALE: 1" = 1' PROJECT NO: 163-034

**BAT CAVE GATE PLAN VIEW**

ISSUING NO. **1**  
 SHEET 1 OF 2



# Cave Gating – 3D Lidar Scanning



# Questions/Answers

*Thank You*

**Lehigh Hanson**  
HEIDELBERGCEMENT Group

