



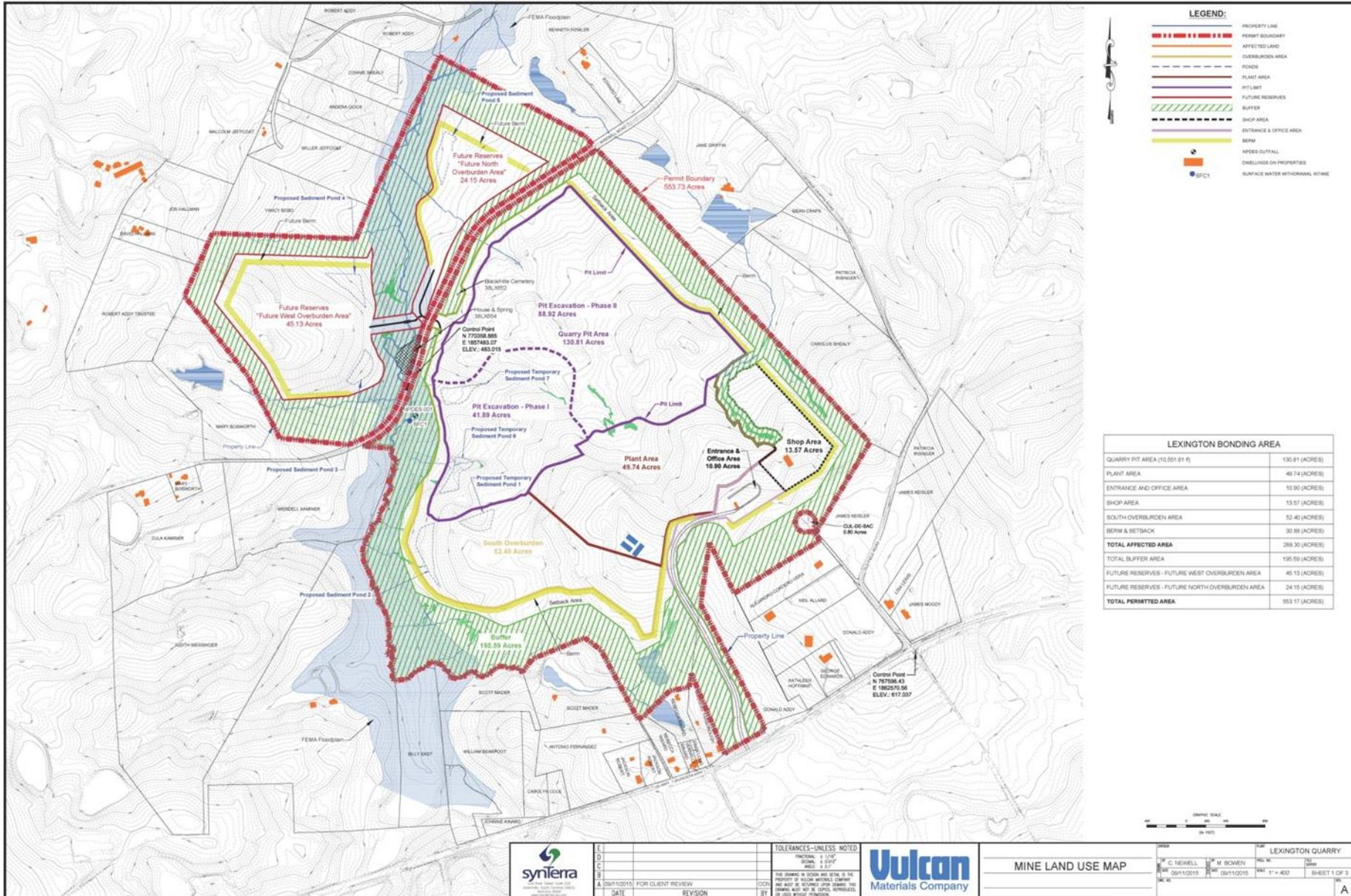
South Carolina Department of Health and Environmental Control

Vulcan Construction Materials, LLC– Lexington Quarry

Synthetic Minor Draft Air Construction Permit

Project Overview

- **Stone Processing Plant**
 - **Maximum Permitted Production Rate of 1700 tons per hour**
 - **Primary Equipment**
 - **Crushers**
 - **Screens**
 - **Conveyors**
 - **Storage Bins**



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A	2011/02/15	FOR CLIENT REVIEW			
	DATE	REVISION			



MINE LAND USE MAP

DATE		DRAWN		SCALE		SHEET	
01/11/2015	01/11/2015	C. NEWELL	M. BOWEN	1" = 400'		T = 402	SHEET 1 OF 3
				LEXINGTON QUARRY			

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Draft Air Construction Permit

- **Primary Pollutant is Particulate Matter**
- **Applicable State and Federal Regulations**
- **Compliance Demonstration with Air Standards**
- **Minimization and Control of Fugitive Dust**

Dust Control Methods Onsite

- **Water Sprays**
- **Water Trucks**
- **Sprinklers**
- **Paving Plant Roads**
- **Fugitive Dust Control Plan**

Contact Information

Mareesa Singleton

Engineering Services, Bureau of Air Quality

Phone: 803-898-4113

Email: singlemj@dhec.sc.gov



South Carolina Department of Health and Environmental Control

Vulcan Construction Materials, LLC

Mine Operating Permit Application for the
Proposed Lexington Quarry



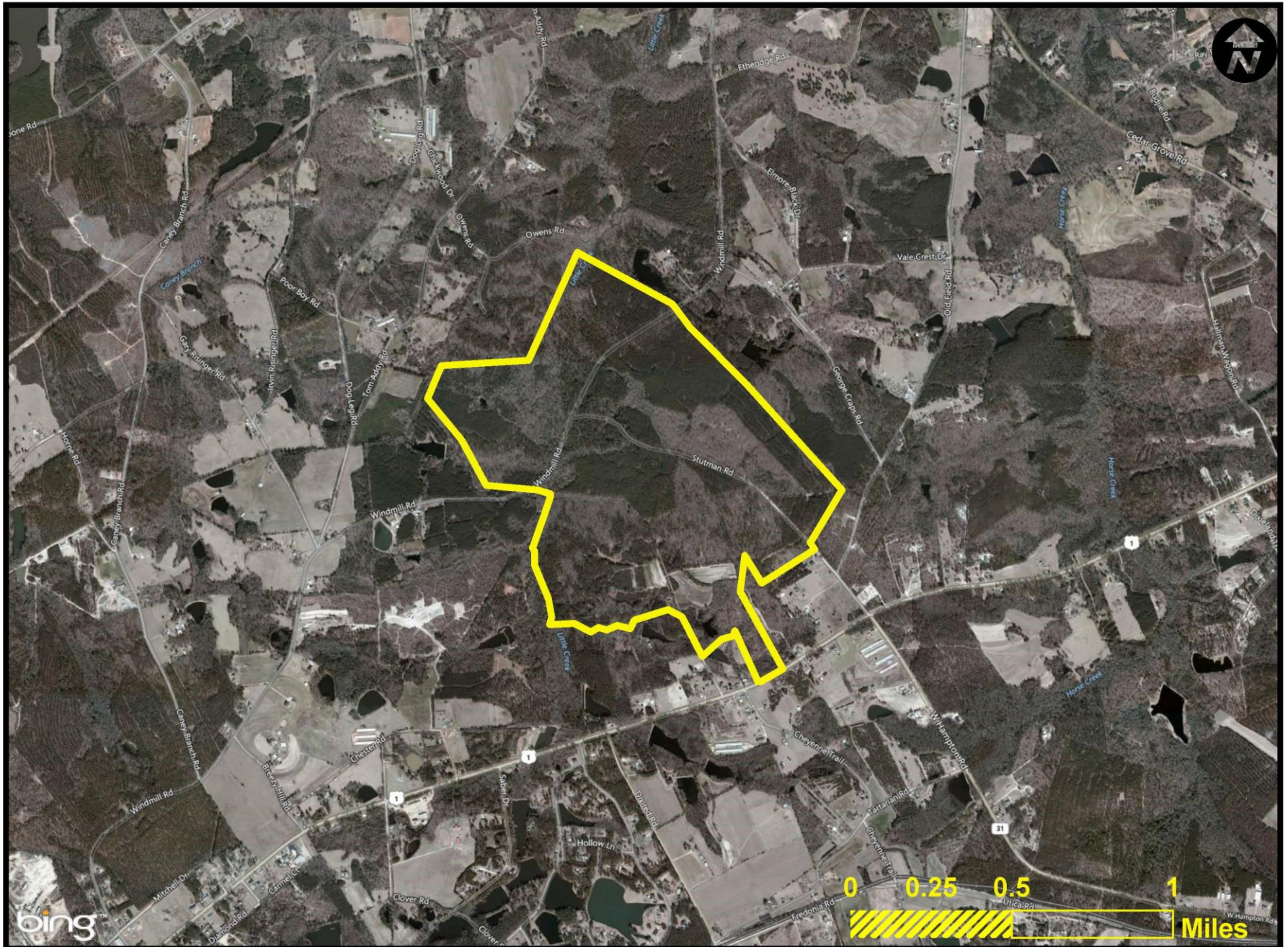
Contact Information

Joe Koon, Project Manager
Mining and Reclamation Section
Bureau of Land and Waste Management

Phone: (803) 898-1371

Email: koonjm@dhec.sc.gov

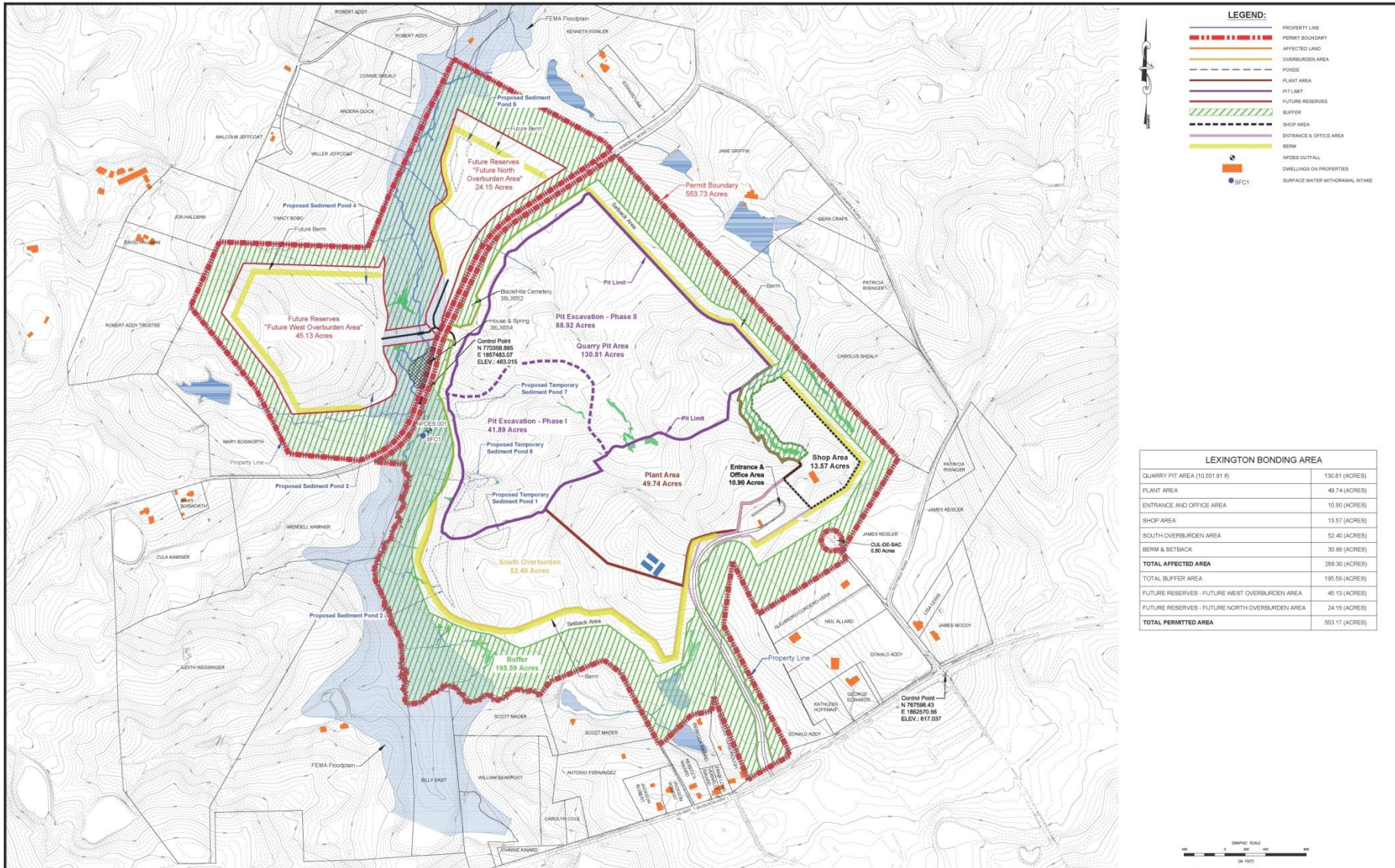
I-002106 - Proposed Lexington Quarry Location



The permit boundary outline indicated on this map is approximate

Permitted Area Details

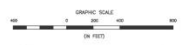
- **288.3 acres of affected area to include:**
 - 130.8 acres of quarry pit area
 - 49.7 acres of plant area
 - 10.9 acres of entrance and office area
 - 13.6 acres of shop area
 - 52.4 acres of overburden storage area
 - 30.9 acres of berm and setback area
- **195.6 acres of buffer**
- **69.3 acres of future reserves**
- **553.2 acres of total permitted area**



LEGEND:

- PROPERTY LINE
- PERMIT BOUNDARY
- AFFECTED LAND
- OVERBURDEN AREA
- PONDS
- PLANT AREA
- PIT LIMIT
- FUTURE RESERVES
- BUFFER
- SHOP AREA
- ENTRANCE & OFFICE AREA
- BERM
- SPICES OUTFALL
- DWELLINGS ON PROPERTIES
- SURFACE WATER WITHDRAWAL INTAKE

LEXINGTON BONDING AREA	
QUARRY PIT AREA (13,561.81 #)	130.81 (ACRES)
PLANT AREA	49.74 (ACRES)
ENTRANCE AND OFFICE AREA	10.90 (ACRES)
SHOP AREA	13.57 (ACRES)
SOUTH OVERBURDEN AREA	52.40 (ACRES)
BERM & SETBACK	30.88 (ACRES)
TOTAL AFFECTED AREA	288.30 (ACRES)
TOTAL BUFFER AREA	195.59 (ACRES)
FUTURE RESERVES - FUTURE WEST OVERBURDEN AREA	45.13 (ACRES)
FUTURE RESERVES - FUTURE NORTH OVERBURDEN AREA	24.15 (ACRES)
TOTAL PERMITTED AREA	553.17 (ACRES)



	E				TOLERANCES—UNLESS NOTED FRACTIONAL & 1/16" DIMENSIONS & 0.005" AREA & 0.1' THIS DRAWING IS VALID AND CORRECT AS THE PROPERTY OF VULCAN MATERIALS COMPANY AND MUST BE RETURNED UPON DEMAND. THIS DRAWING MUST NOT BE COPIED, REPRODUCED, OR USED WITHOUT PERMISSION.	
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A	09/11/2015	FOR CLIENT REVIEW	CCN	BY		
	DATE	REVISION				

MINE LAND USE MAP		DRAWN BY: C. NEWMELL DATE: 09/11/2015 CHECKED BY: M. BOWEN DATE: 09/11/2015 SCALE: 1" = 400' SHEET: 1 OF 3	
		PROJECT: LEXINGTON QUARRY SHEET: A	

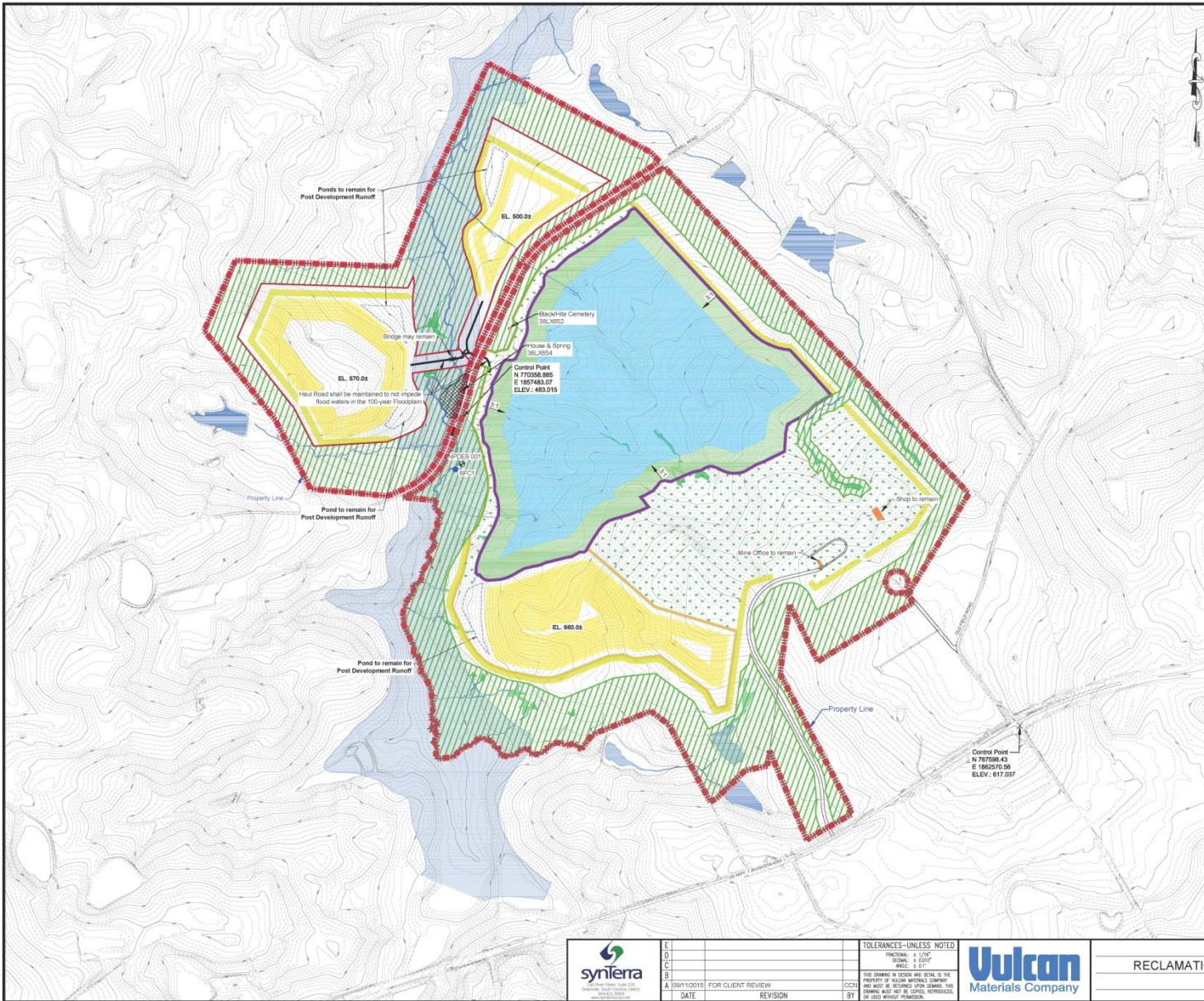
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Mining Process

- Process consists of clearing, stripping, and placing overburden in storage piles and berms
- Exposed granite will be dewatered, drilled, blasted, and loaded for crushing and further processing
- Processing plant consists of primary and secondary rock crushers, screens, conveyors, and stockpiles
- Proposed quarry depth is 350 ft below ground surface or 150 ft above mean sea level
- Approximate duration of operation is 75 yrs

Reclamation

- Mine site reclaimed to a lake, ponds, grasslands, and woodlands
- All overburden storage piles will be stabilized and vegetated
- All mobile and stationary equipment and scrap materials will be removed and those areas will be stabilized and vegetated
- Final slopes will be 3:1 horizontal to vertical



LEGEND:

- PROPERTY LINE
- FRONT BOUNDARY
- AFFECTED LAND
- OVERBURDEN AREA
- PONDS
- RT LIMIT
- FUTURE RESERVES
- BUFFER
- BERM
- FUTURE POND AREA
- 3:1 FINAL CUT OVERBURDEN SLOPE
- AREAS WILL BE VEGETATED WITH GRASS
- FENCE
- SPODES OUTFALL
- SFC1
- SURFACE WATER WITHDRAWAL INTAKE

NOTE:
 1. WETLANDS AND STREAMS WILL BE IMPACTED SUBJECT TO AIA PERMIT APPROVALS.



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	DATE	REVISION	BY

TOLERANCES—UNLESS NOTED:
 FRACTIONAL ± 1/32"
 ANGLES ± 30"
 ANGLE ± 0.1°

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RECLAMATION MAP

PROJECT	LEXINGTON QUARRY		
DATE	08/11/2015	DRAWN BY	M. BOWEN
SCALE	1" = 400'	CHECKED BY	08/11/2015
SHEET	3 OF 3		

Permitting Process

- Technical review phase of permitting process
- Public hearing on August 23, 2016
- Comment period ends August 26, 2016
- All comments considered and if necessary, additional information requested from applicant
- Draft permit will be sent to interested public for comment and those comments will be considered prior to a final decision
- Final permit decision will be sent to all interested public with a summary response to comments



South Carolina Department of Health and Environmental Control

www.scdhec.gov
(803) 898-DHEC (3432)

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Model Results: PM₁₀ 24-hr

**Maximum Modeled
Concentration: 51.4 $\mu\text{g}/\text{m}^3$**
+
**Ambient Background
Concentration: 38 $\mu\text{g}/\text{m}^3$**
=
**Total Predicted
Concentration: 89 $\mu\text{g}/\text{m}^3$**
<
**Ambient Air Quality
Standard: 150 $\mu\text{g}/\text{m}^3$**

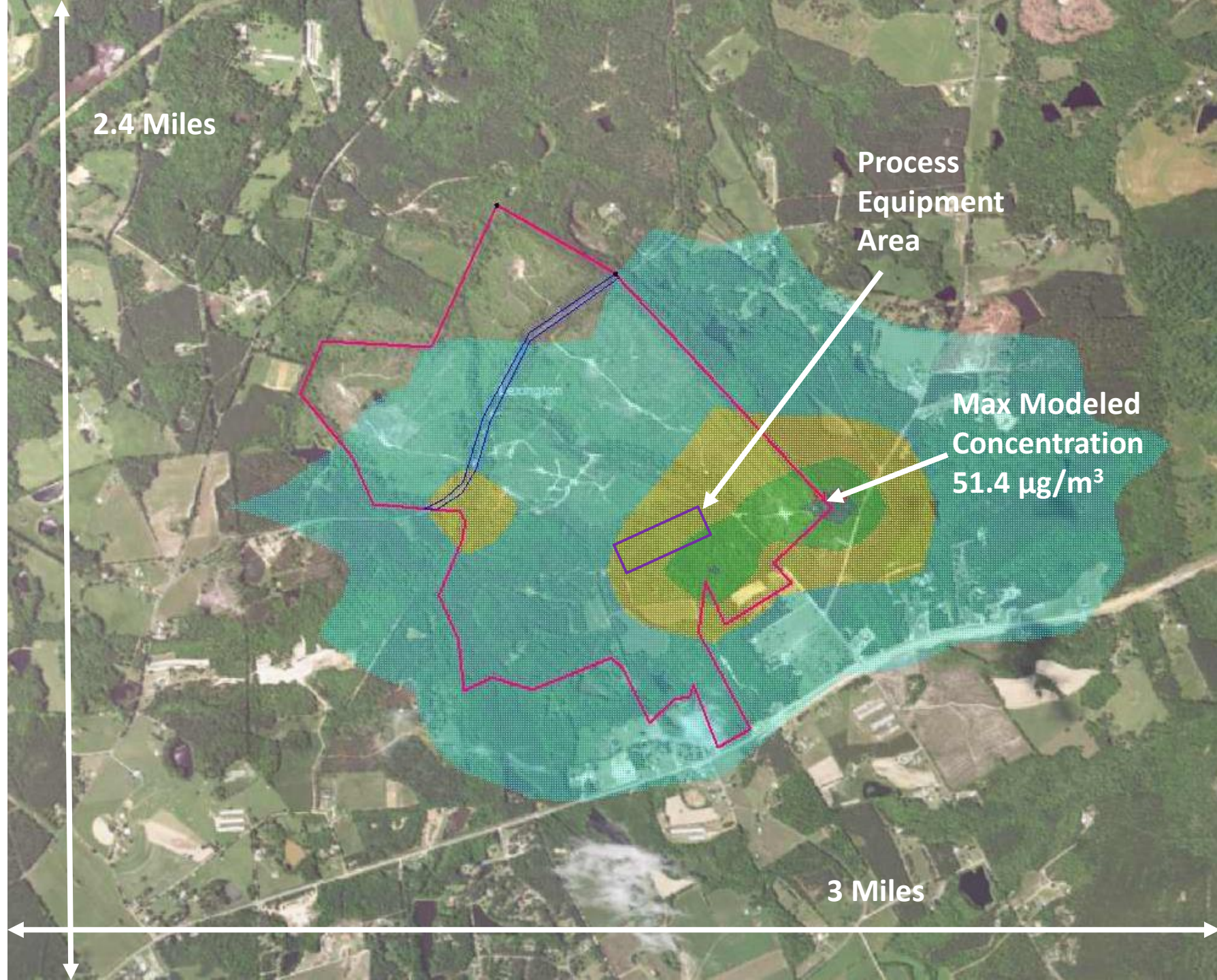
10 $\mu\text{g}/\text{m}^3$

20 $\mu\text{g}/\text{m}^3$

30 $\mu\text{g}/\text{m}^3$

40 $\mu\text{g}/\text{m}^3$

50 $\mu\text{g}/\text{m}^3$



Model Results: PM2.5 24-hr

**Maximum Modeled
Concentration: $8.4 \mu\text{g}/\text{m}^3$**

+

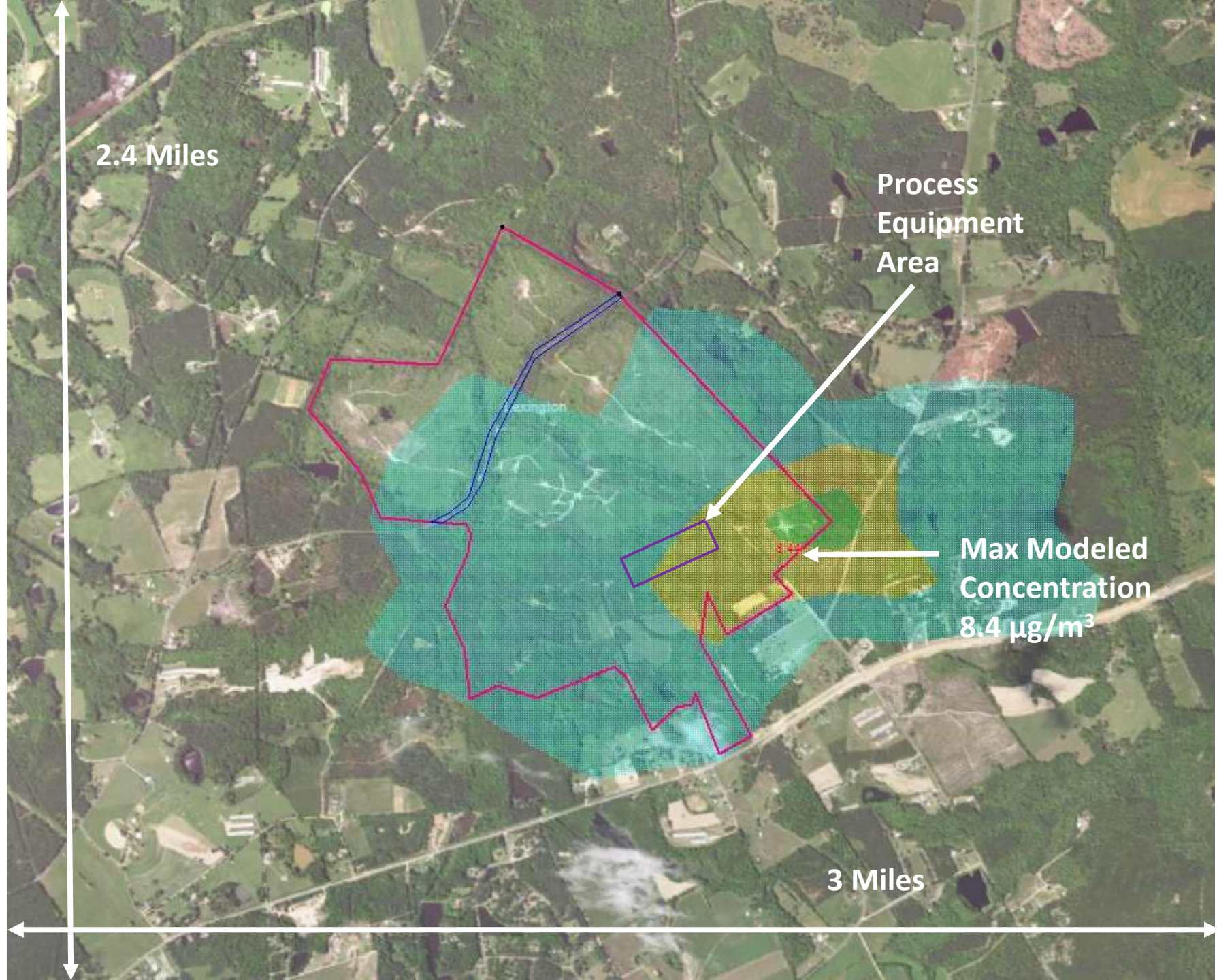
**Ambient Background
Concentration: $20 \mu\text{g}/\text{m}^3$**

=

**Total Predicted
Concentration: $28 \mu\text{g}/\text{m}^3$**

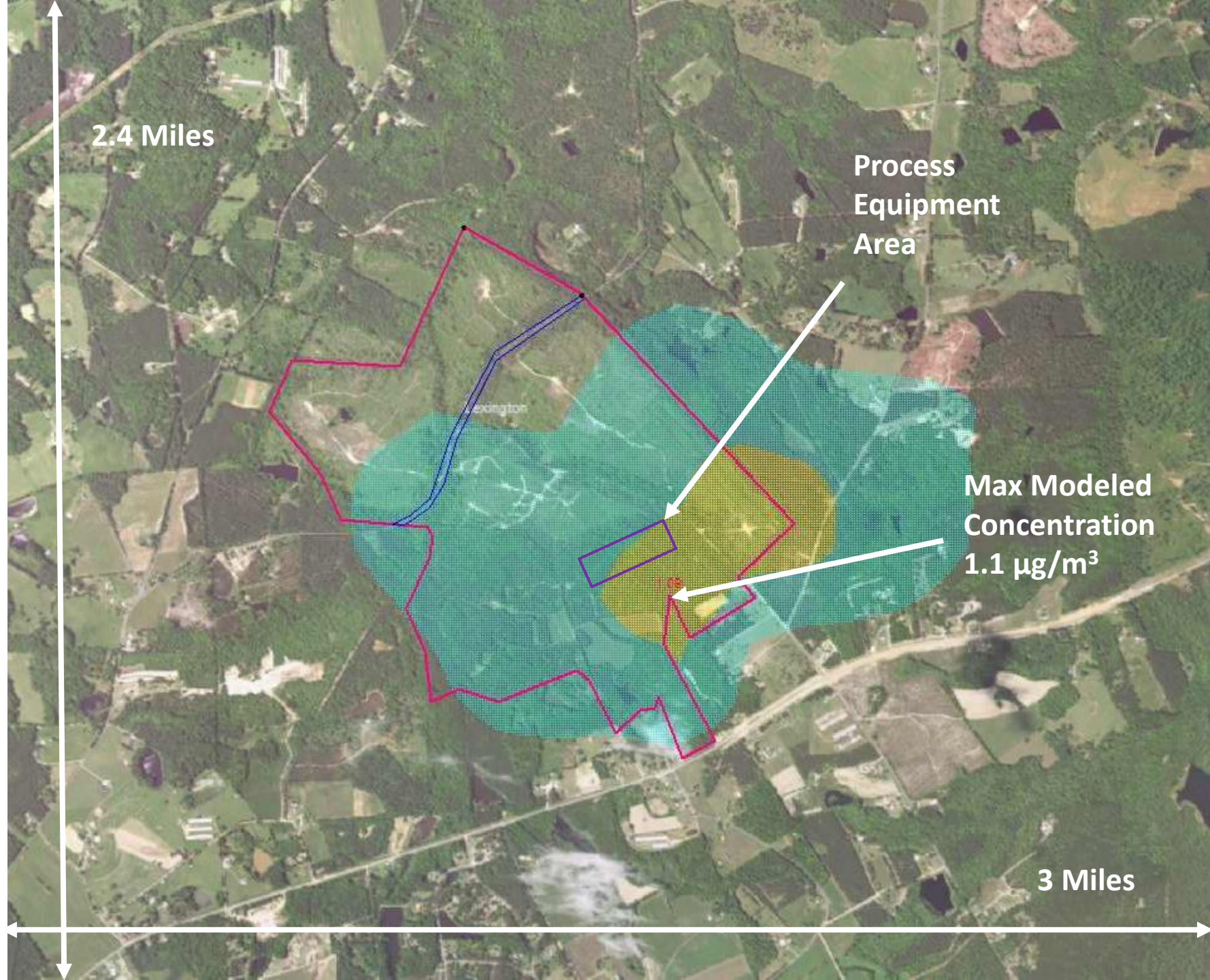
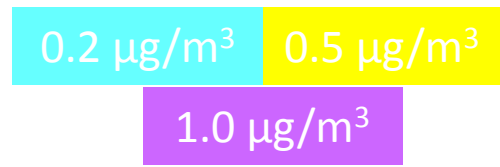
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**Ambient Air Quality
Standard: $35 \mu\text{g}/\text{m}^3$**



Model Results: PM2.5 Annual

**Maximum Modeled
Concentration: $1.1 \mu\text{g}/\text{m}^3$**
+
**Ambient Background
Concentration: $9.7 \mu\text{g}/\text{m}^3$**
=
**Total Predicted
Concentration: $11 \mu\text{g}/\text{m}^3$**
<
**Ambient Air Quality
Standard: $12 \mu\text{g}/\text{m}^3$**

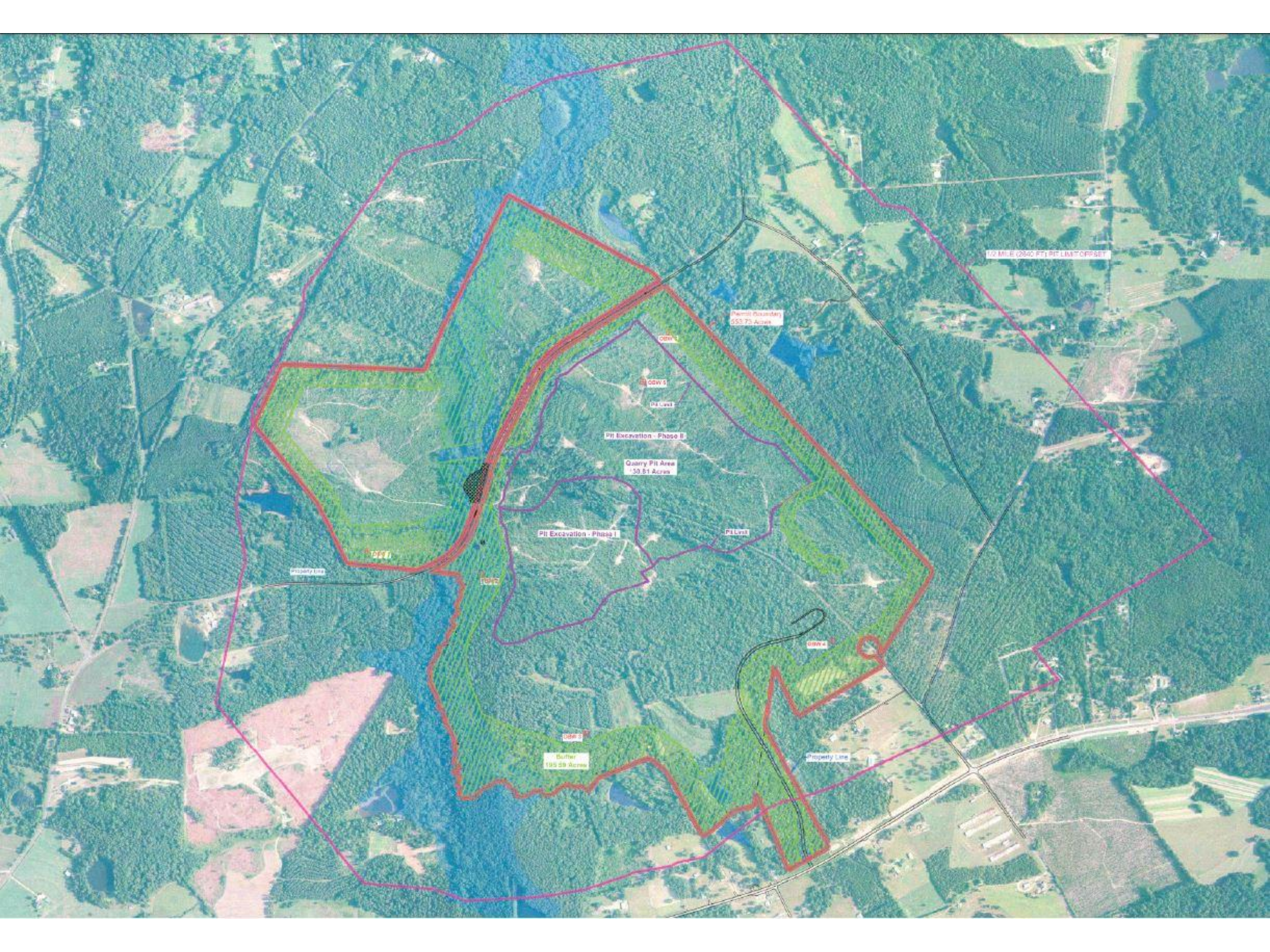


Well Inventory

- A survey to inventory wells within a ½ mile of the pit boundary will be offered
- Inventory information collected will be
 - Well location and property owner information
 - Use of well and use of property
 - Well completion details
 - Pump details
 - Water level and production details

Groundwater Observation Plan

- Six wells proposed within the permitted area approximately 400- 1,500 ft from pit edge
- One proposed observation well OBW-5 located within Phase II of the pit and eventually abandoned providing data ranging from 1,000 feet to hundreds of feet as mining advances
- Based on the information received in the well inventory final well locations and depths will be proposed by the operator for review by the Department



12 Mile 0.842 FT PI LIMIT OFFSET

Permit Boundary
553.73 Acres

ROW 1

ROW 2

ROW 3

ROW 4

PI Excavation - Phase II

Quarry PI Area
30.81 Acres

PI Excavation - Phase I

PI Limit

Property Line

Buffer
185.09 Acres

Property Line

ROW 5

ROW 6

ROW 7

ROW 8

ROW 9

ROW 10

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Groundwater Observation Plan

- Once locations and depths are finalized and prior to pit excavation, the observation wells will be drilled
- Based on data received the Department may request more wells or additional well inventory at a greater distance if needed
- Permit requirement to mitigate for any impacts to water supply wells

GRANITE QUARRY DEWATERING CONDITIONS

