



Vulcan Construction Materials Orangeburg Limestone Quarry

Public Meeting/Hearing Mine Operating Permit Application & Air Construction Permit

February 8, 2024





Why We Are Here

- Share information on the proposed Orangeburg Limestone Quarry, DHEC's role, and the environmental permitting processes.
- Answer your questions.
- Record your oral comments during a formal public hearing.

www.scdhec.gov/OrangeburgLimestoneQuarry

Public Meeting

- Presentations & information sharing
- Informal questions & facilitated discussion

Public Hearing

- Formal proceeding
- Comments recorded
- Not interactive
- Time-limited

Written Comments Accepted through February 23, 2024

How to Provide Comments



Oral comments recorded during
tonight's public hearing



Email



U.S. Mail



DHEC ePermitting Portal
Vulcan Construction Materials, LLC / Orangeburg Limestone Quarry

Agenda

- Opening Remarks
- DHEC Presentations
- Questions & Discussion
- Closing Remarks
- Meeting Adjourned
- Public Hearing Begins

Mining Topics

- Mine Permitting Process
- General Information
- Proposed Permitted Area
- Reclamation
- Addressing Common Concerns
- Next Steps

Sep. 25, 2023

- DHEC-Mining and Reclamation Program (**DHEC-MR**) Receives Application
- Begins Administrative Review

Jan. 3, 2024

- DHEC-MR Publishes Initial Public Notice & Hearing Notice
- Begins Technical Review

Feb. 8, 2024

- DHEC holds a Public Hearing/Meeting
- **Comment Period Ends February 23, 2024**
- Technical Review Continues

TBD

- DHEC to Make Mine Permitting Decision
- Summary Response to Comments
- **15 Day Appeal Period**

Proposed Site

TMS#s:

0363-00-02-013.000,
0363-00-02-003.000,
0363-00-02-004.000,
0363-00-02-011.000,
0363-00-02-005.000,
0363-00-02-017.000

Total Area: 693.20 acres

Current Land Use:
Timber/Undeveloped

Owner: Vulcan Lands, Inc.
(Under Lease Agreement)



Proposed Permitted Area

Total Area: 693.2ac

Affected Area: 451.9ac

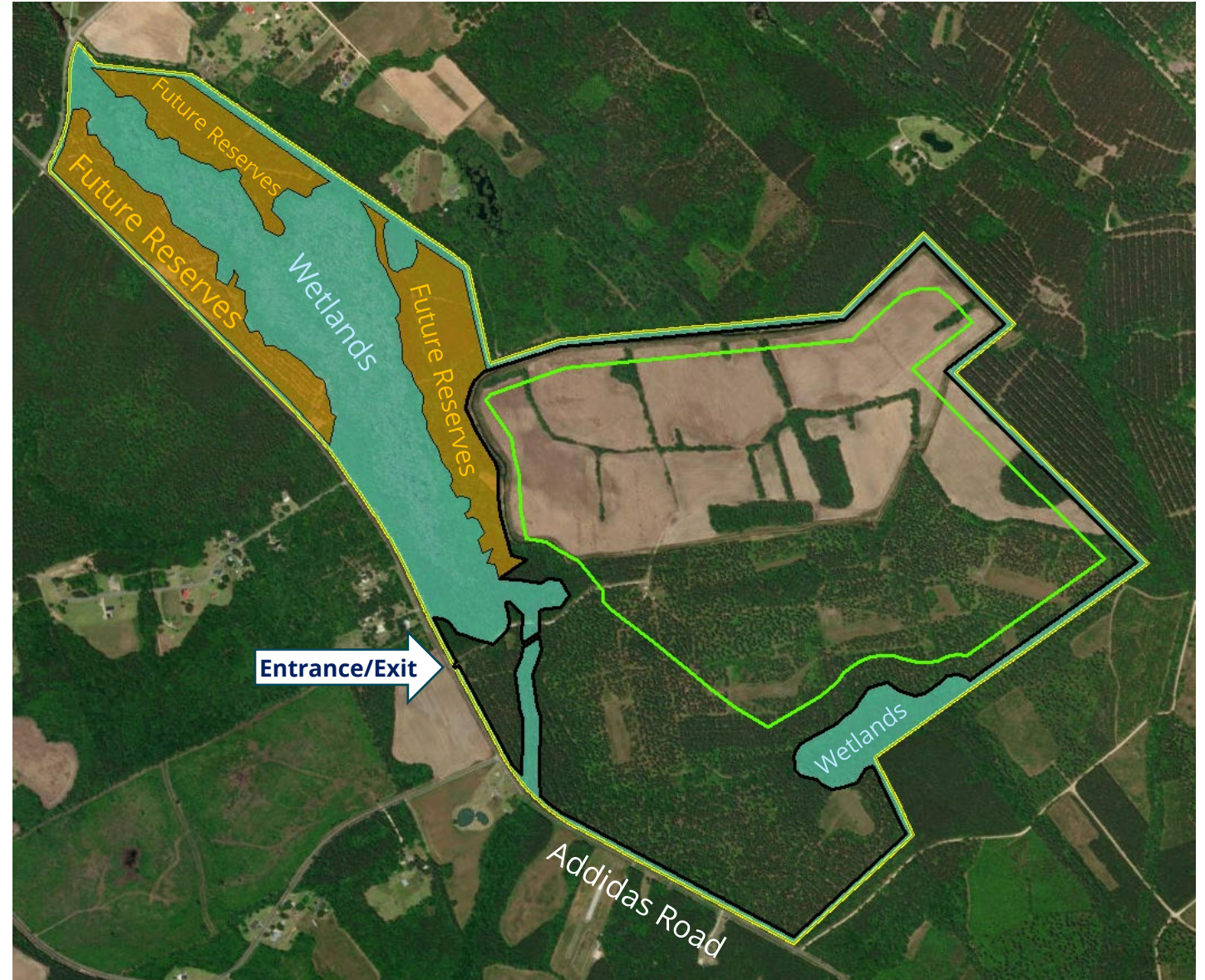
Future Reserves: 79.7ac

Buffer: 161.6ac

Buffer Area is defined as areas that will not be disturbed beyond the pre-mine natural state.

Prior to the initiation of activity in future reserves, the operator shall:

- submit detailed mine and reclamation plans to DHEC for approval
- Adjust reclamation costs to cover proposed activities



Proposed Permitted Area

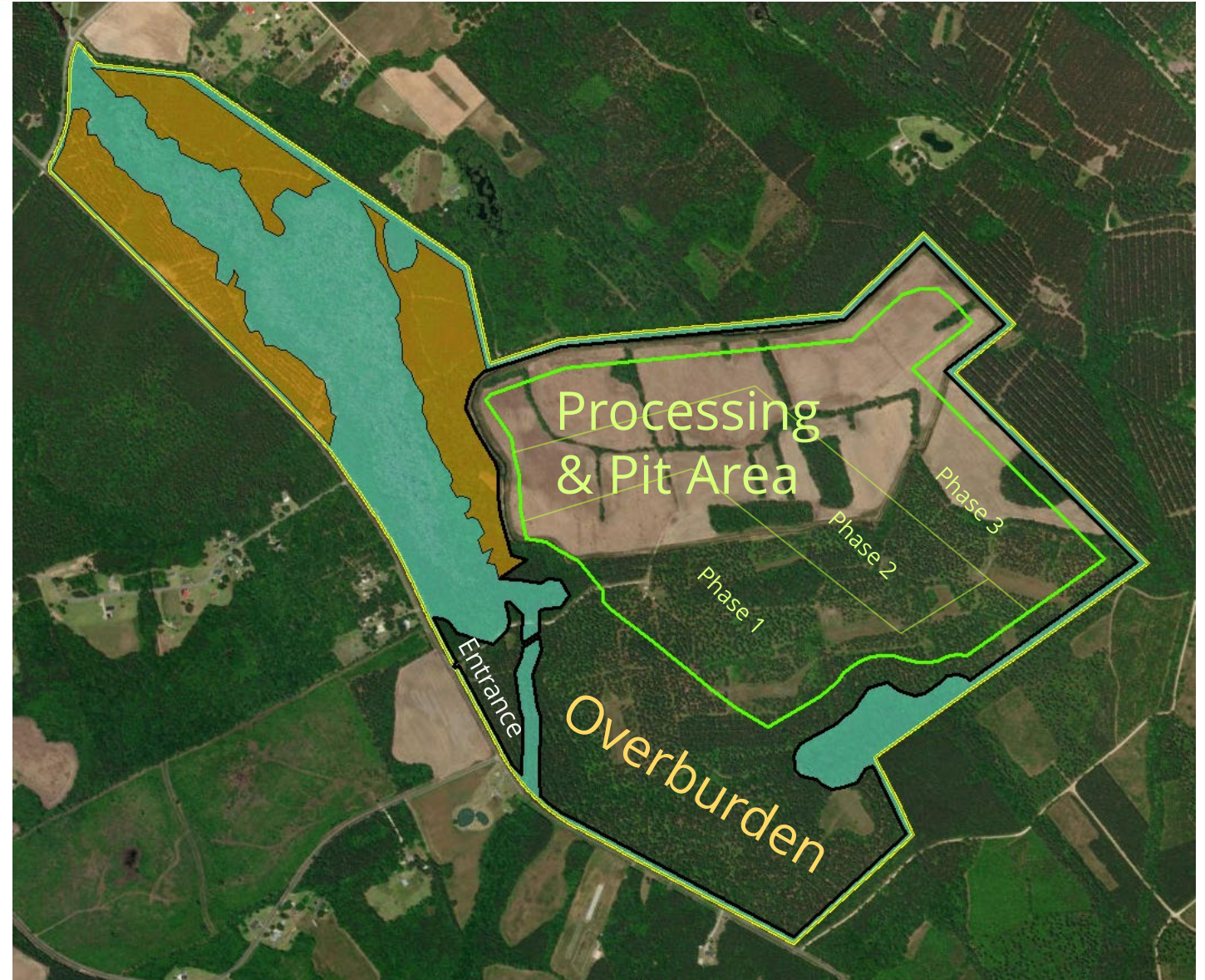
Total Area: 693.2ac

Affected Area: 451.9ac

Future Reserves: 79.7ac

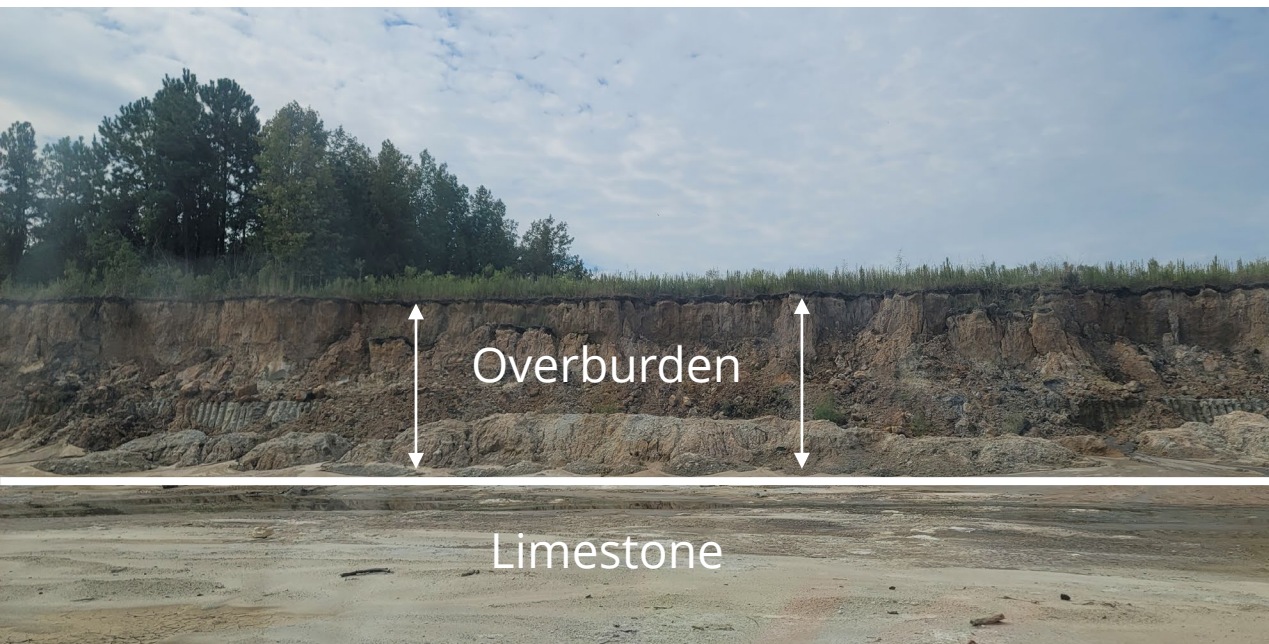
Buffer: 161.6ac

- Phase I – Year 1-15 (2024-2039)
- Phase II – Year 16-30 (2040-2054)
- Phase III – Year 30-45 (2055-2069)



Proposed Mining Process

- Installation of BMPs
- Clearing of trees and vegetation
- Topsoil removed and stockpiled for future reclamation
- Overburden stockpiled and reclaimed as soon as feasible
- Pit developed and dewatered, as needed
- Limestone processed and stockpiled



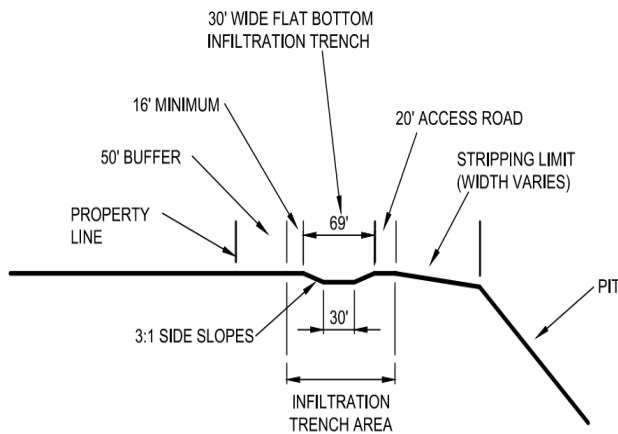
- Installation of Best Management Practices (BMPs)
- Clearing of trees and vegetation
- Topsoil removed and stockpiled for future reclamation
- Overburden stockpiled and reclaimed as soon as feasible
- Pit developed and dewatered, as needed
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Silt fence



Brush Barrier



Infiltration Trench



Stormwater Basin



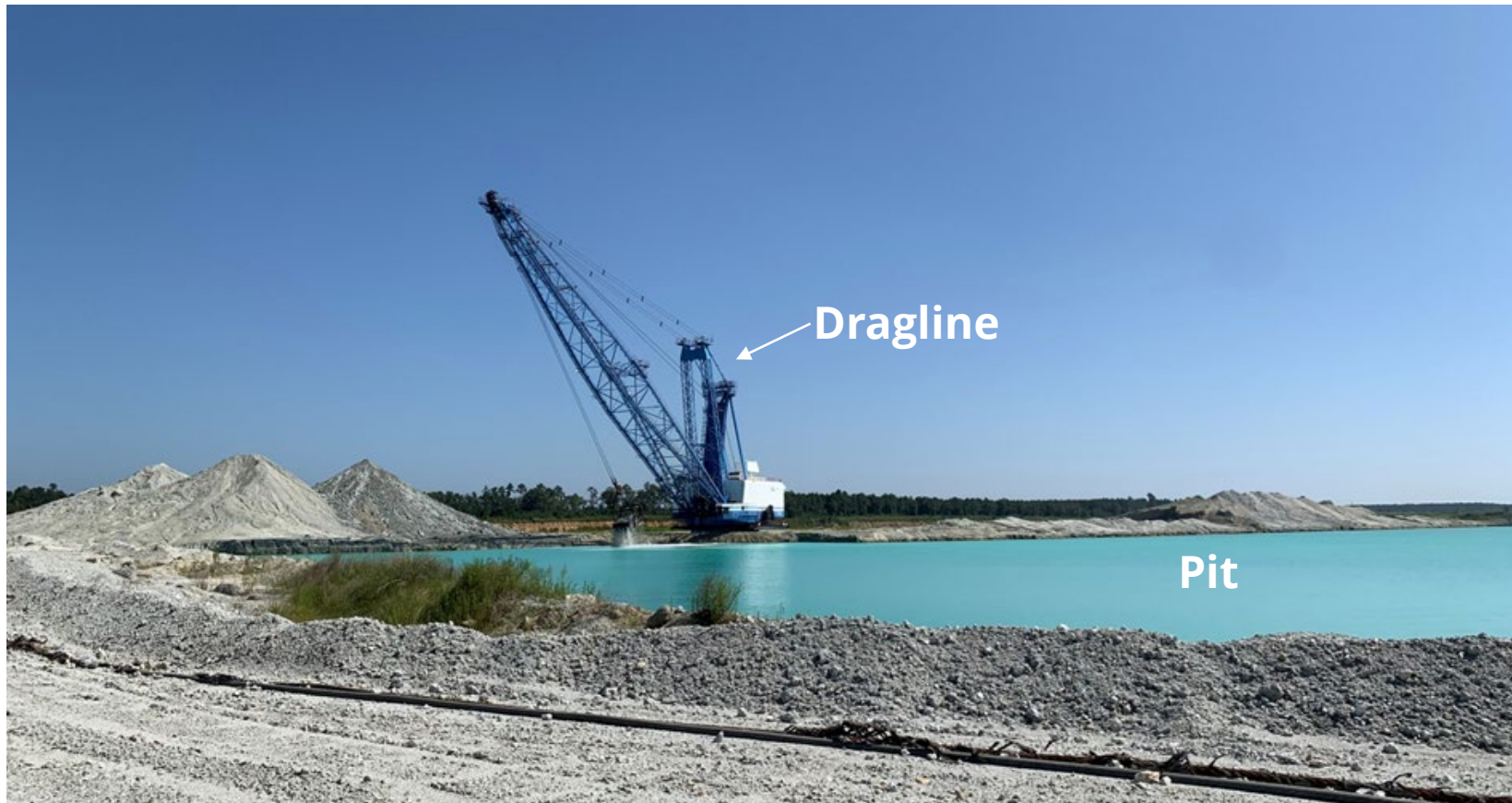
Water Truck



Check Dams

Current pit ↓

Dragline →



Example of a “wet” limestone quarry excavating ore

Proposed Mining Process (cont.)

- Maximum proposed depth: 110ft.
- Applicant requests permission to blast
 - Landowners with structures within a half mile of blasting will be offered a pre-blast survey

Reclamation

Reclamation is the planned process for restoring the affected land to a useful purpose while protecting natural resources of the surrounding area.

- Reclamation plan included in application
 - Reclaimed to ponds and grasslands
 - Land is sloped and graded during the mining process
 - Stockpiled topsoil used to enhance vegetation
- If approved, reclamation bond is required prior to permit issuance to ensure that reclamation is completed

Example of a reclaimed Limestone Quarry



Berkeley Quarry
Cross, SC

Other DHEC Requirements

- Bureau of Air Quality
 - Air Minor Source Construction Permit
- Bureau of Water
 - National Pollution Discharge Elimination System (NPDES) General Permit
 - Stormwater Pollution Prevention Plan (SWPPP)

Agency Notifications

- MSHA- Mine Safety and Health Administration
- USFW- US Fish and Wildlife
- DNR – SC Department of Natural Resources
- SHPO-State Historic Preservation Office
- SCDOT – SC Department of Transportation
- Orangeburg County Administrator

Common Concerns

- General blasting concerns
- Dewatering
- Dust
- Noise
- Public Safety
- Concerns DHEC cannot consider during permitting

Blasting

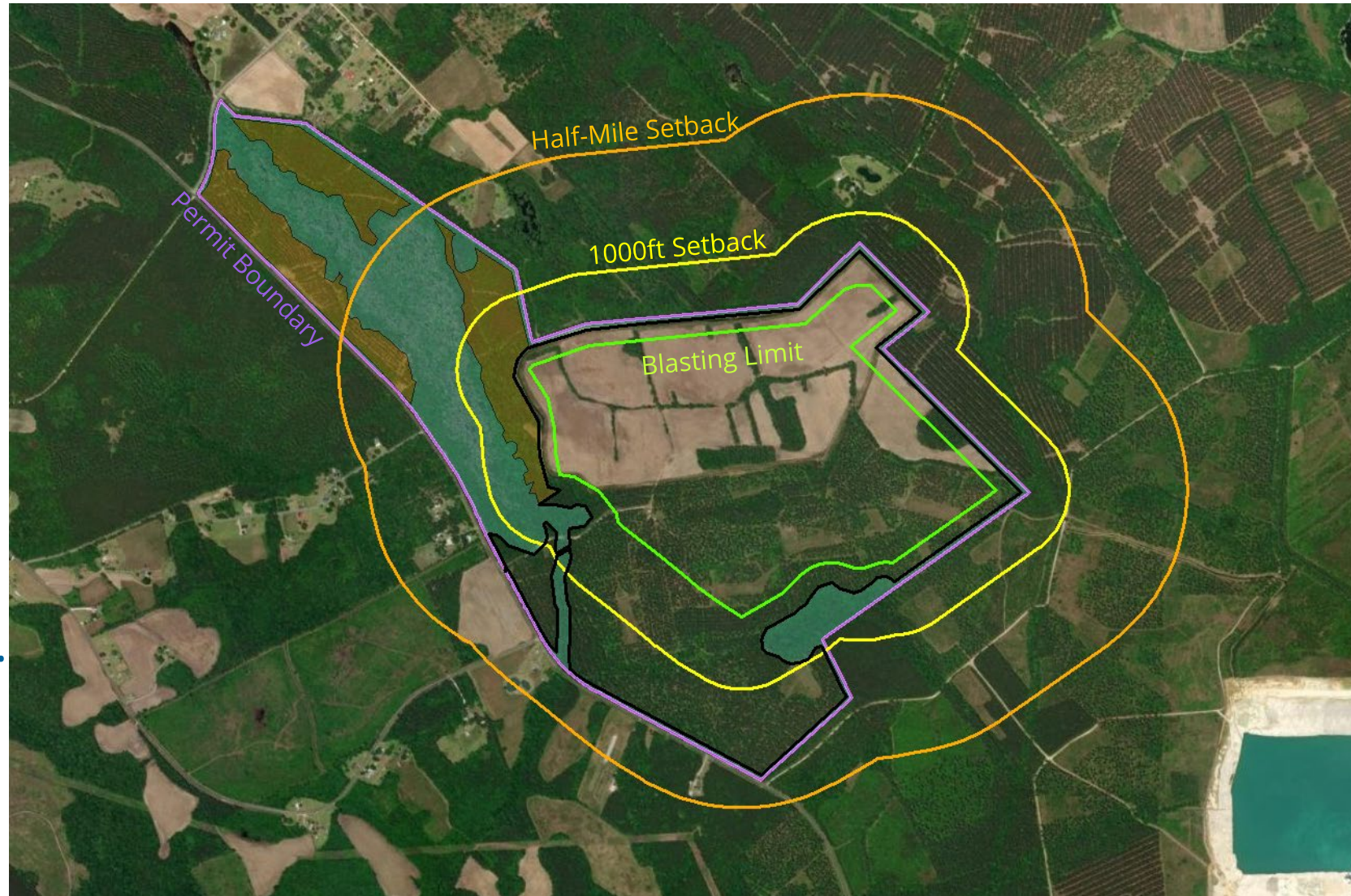
Typically, 2-4 times a month

“...a safe particle velocity maximum of 2.0in/sec is recommended for all houses.”

--U.S. Bureau of Mines

DHEC limits maximum particle velocity to 1.0in/sec.

All residences >1,000ft from blasting

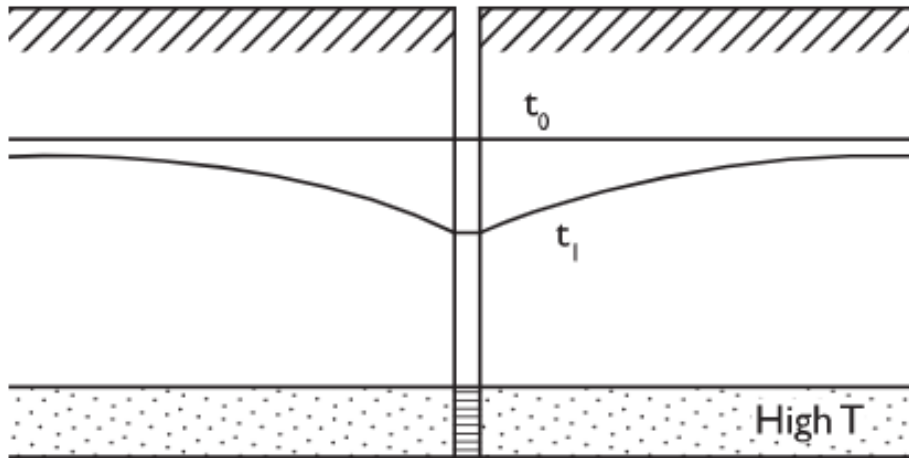


Dewatering

Maximum Depth: 110ft.

Primary Dewatering Layer:

Overburden



(b)



Dust

- Water trucks
- Dust suppressants/crusting agents
- Vegetative cover
- Speed limits on haul roads

Noise

- Equipment
- Topography
- Buffers/berms
- Noise standards for worker safety

Public Safety

- Controlled Access
- Gated Entry/Warning Signs
- Natural & Constructed Barriers

Other Concerns

- Truck traffic - S.C. Mining Act does not grant DHEC authority to regulate truck traffic outside the permit boundary. DHEC can only evaluate physical effects of mining, such as blasting or undermining.
 - SC DOT District 7: (803) 531-6870
 - SC Public Service Commission: Rob Bockman (803) 896-5142
 - Orangeburg County Commission of Public Works: Henry Summers (803) 533-6164
- Property Value/Zoning – Land use previously determined by local government.

Next Steps

- DHEC will review all comments received and conclude the technical review.
- DHEC will make a final permitting decision and provide notification and a written summary response to all comments to everyone on mailing list.
- Final decision date.
- 15-day appeal period begins.



South Carolina Department of Health and Environmental Control

Vulcan Construction Materials, LLC Orangeburg Quarry

Draft Minor Source Air Construction Permit Bureau of Air Quality (BAQ)

Project Overview

- Stone Processing Plant
 - Crushers
 - Screens
 - Conveyors
- Additional sources of dust generated onsite
 - Plant and Customer Haul Roads
 - Storage Piles

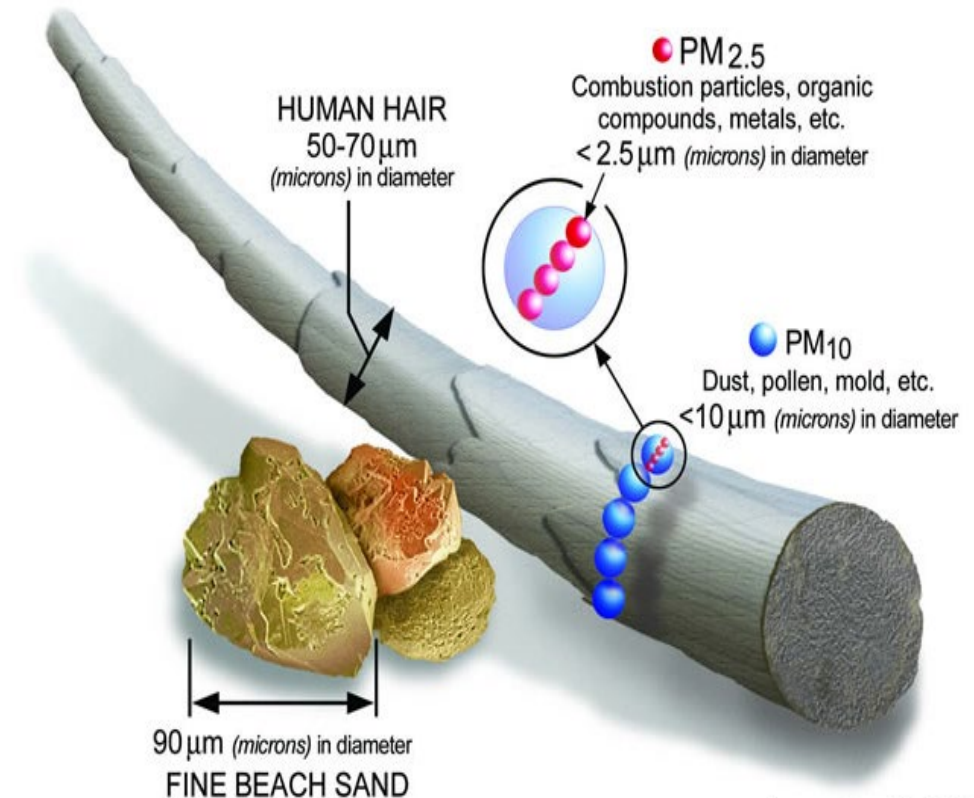
Draft Air Construction Permit

- Primary Pollutant: particulate matter (PM)

- Minimal emissions from processing wet material

Particulate Matter

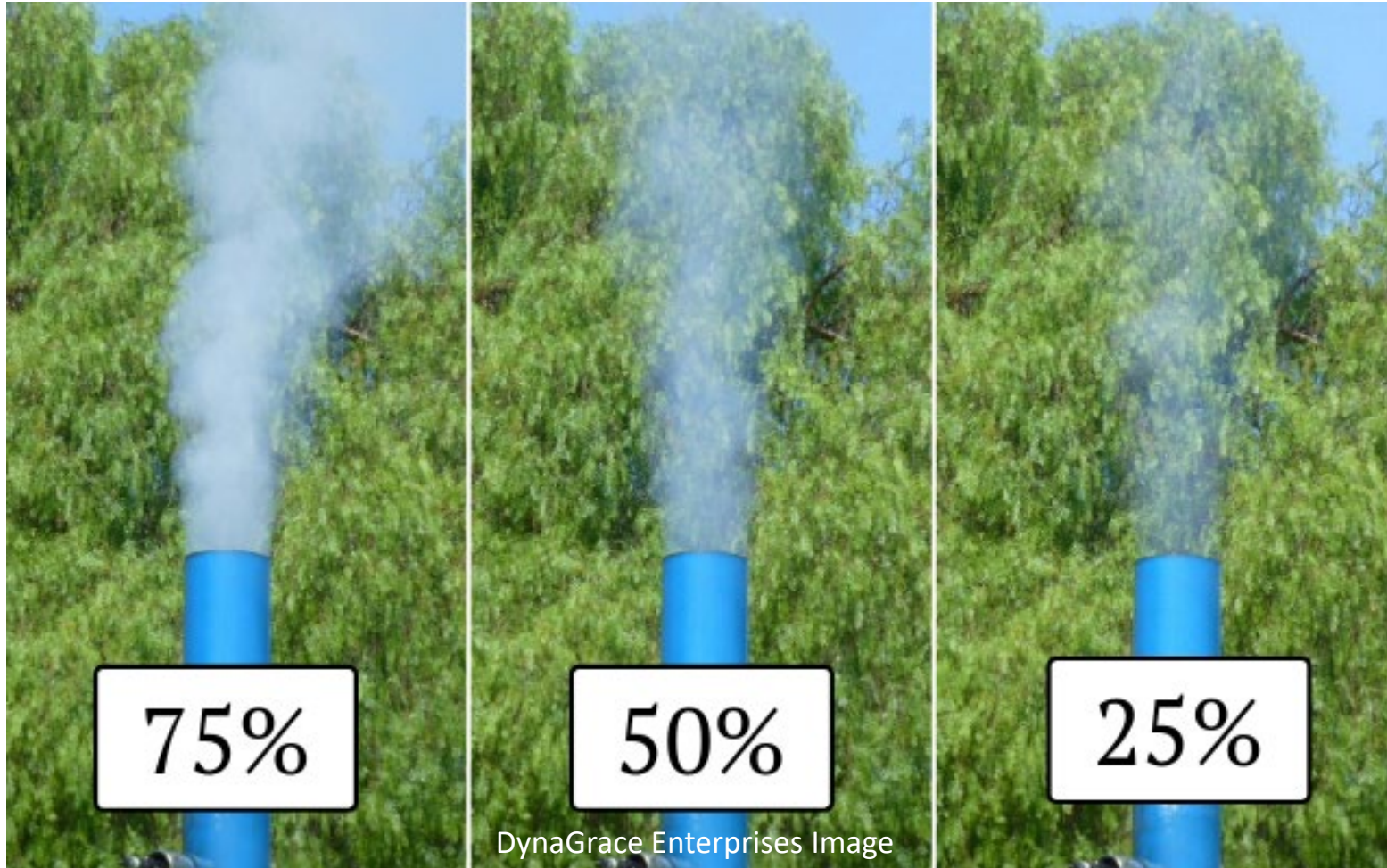
- Mixture of solid particles and liquid droplets
- PM₁₀: Inhalable particles, with diameters 10 microns (μm) and smaller
- PM_{2.5}: Fine inhalable particles, with diameters 2.5 μm and smaller



Opacity Limits

- Federal Regulation Opacity Limits
 - Required to test equipment for compliance with opacity limit
 - 7% opacity limit for screens and conveyors
 - 12% opacity limit for crushers
- State Opacity Limits
 - 20% facility-wide opacity limit (includes dust from process equipment, storage piles, and on-site truck traffic)

Example Simulated Opacities



Onsite Dust Control

Dust control plan to be submitted prior to operation

- Addresses onsite truck traffic, storage piles, and process equipment
 - Crusher, screens, and conveyors equipped with a water spray system
 - Onsite truck traffic dust is controlled by water trucks

Draft Minor Air Construction Permit

- Air Quality Analysis
- Potential Air Emissions Below Major Source Thresholds

Next Steps In BAQ Process

- Review all comments received during the public comment period
 - Ends February 23, 2024
- Make a final permitting decision, provide notification and a written response to all comments to everyone on mailing list
- Final decision date begins 15-day appeal period



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