

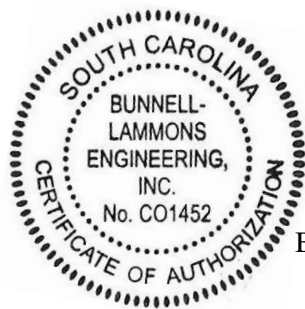
GROUNDWATER MONITORING PLAN: LUCK SALUDA

NEAR INTERSECTION OF DOUBLE BRIDGES ROAD
AND HEATHER LANE
SALUDA COUNTY, SOUTH CAROLINA

LUCK STONE

Prepared For:

Luck Stone Corporation
P.O. Box 29682
Richmond, Virginia 23242



BLE Project Number J23-18886-01

August 17, 2023



BLE

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**BUNNELL
LAMMONS
ENGINEERING**

August 17, 2023

Luck Stone Corporation
P.O. Box 29682
Richmond, Virginia 23242

Attention: Mr. Bruce Smith
Greenfield Development Manager

Subject: **Groundwater Monitoring Plan: Luck Saluda
Parcel Identification Number #174-00-00-006
Saluda County, South Carolina
BLE Project Number J23-18886-01**

Dear Mr. Smith:

As authorized, Bunnell Lammons Engineering, Inc. (BLE) has prepared this Groundwater Monitoring Plan (GWMP) in association with the proposed Luck Stone Corporation aggregate quarry west of the intersection of Double Bridges Road and Heather Lane in Saluda, Saluda County, South Carolina. The GWMP herein provides details regarding the monitoring of groundwater elevation prior to and during operation of the proposed aggregate quarry in accordance with South Carolina Department of Health and Environmental Control (SCDHEC) Form MR-400. A hydrogeologic assessment report including estimated drawdown of the water table surrounding the facility will be submitted under separate cover at a later date.

If you have any questions concerning this report, please contact Timothy J. Daniel at (864) 288-1265.

Sincerely,
BUNNELL LAMMONS ENGINEERING INC.

Timothy J. Daniel, P.G.
Project Geologist
Registered, South Carolina #2385



David R. Loftis, P.E.
Senior Engineer
Registered, South Carolina #27867



cc: Sarah Harris - South Carolina DHEC, Mining Reclamation
Mark Williams – Luck Stone Corporation
Clint Courson, CHMM – Hodges, Harbin, Newberry & Tribble
Brant Lane, P.E. – Hodges, Harbin, Newberry & Tribble



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FIGURES

- Figure 1 Site Vicinity Map
- Figure 2 Monitoring Well Network

1.0 INTRODUCTION

1.1 Background Information and Objective

BLE has prepared this GWMP on behalf of Luck Companies in association with the proposed aggregate quarry located off of Double Bridges Road approximately 5 miles northwest of Batesburg-Leesville in Saluda County, South Carolina (see **Figure 1**). The proposed aggregate quarry is herein referred to as “Luck Saluda”. This GWMP was prepared for submittal to the Mining Reclamation Section of the South Carolina Department of Health and Environmental Control (SCDHEC) as required by SCDHEC Form MR-400 (Application For A Mine Operating Permit). The GWMP provides detail regarding the collection of background groundwater elevations prior to site development and to document changes in water table elevations during mining activities.

2.0 GROUNDWATER MONITORING

2.1 Groundwater Monitoring Well Locations

The GWMP for Luck Saluda includes the installation of three (3) groundwater monitoring wells (MW-1, MW-2, and MW-3) at the facility (see **Figure 2**). Groundwater monitoring wells MW-1, MW-2, and MW-3 will be installed to intercept water bearing fractures within the bedrock aquifer. No groundwater monitoring wells installed in the shallow residuum above bedrock are planned at this time. Additionally, no groundwater monitoring wells are planned to be installed on the northern property boundary due to the absence of nearby private drinking water wells and the presence of perennial Clouds Creek to the north of the facility.

2.2 SCDHEC Well Permit Application

Prior to monitoring well installation, a monitoring well installation permit application will be submitted to SCDHEC for approval. The application package will include the following:

- SCDHEC Form D-3736;
- Drilling procedures;
- Monitoring well construction procedures;
- A typical monitoring well construction diagram;
- A site location map; and
- A site plan showing the proposed well locations.

Once a SCDHEC Permit has been issued, the monitoring wells will be scheduled for installation.

2.3 Groundwater Monitoring Well Construction

A South Carolina licensed well driller will perform the well installation, and a geologist registered in the state of South Carolina will observe the drilling activities. The monitoring wells will be constructed in accordance with South Carolina Well Construction Standards – *SCDHEC Regulation No. 61-71.H*.

The groundwater monitoring wells will be constructed out of 6-inch outside diameter Schedule 80 PVC pipe (or similar) from the ground surface to the top of competent bedrock. The remainder of the well construction from the top of competent bedrock to the total depth will be completed “open hole” with no screen unless site specific conditions require it. A lockable PVC cap and a protective stickup-mounted steel cover will be

placed over each well. Each well will be constructed with a vent hole in the top of the PVC casing and a weep hole near the base of the outer protective cover. A 4-foot (ft) by 4-ft concrete pad will be constructed at the ground-surface for each well. Permanent well identification labels will be affixed to the protective surface casing.

The locations, top of casing elevation, and groundwater surface elevation at each well will be measured by a South Carolina licensed surveyor.

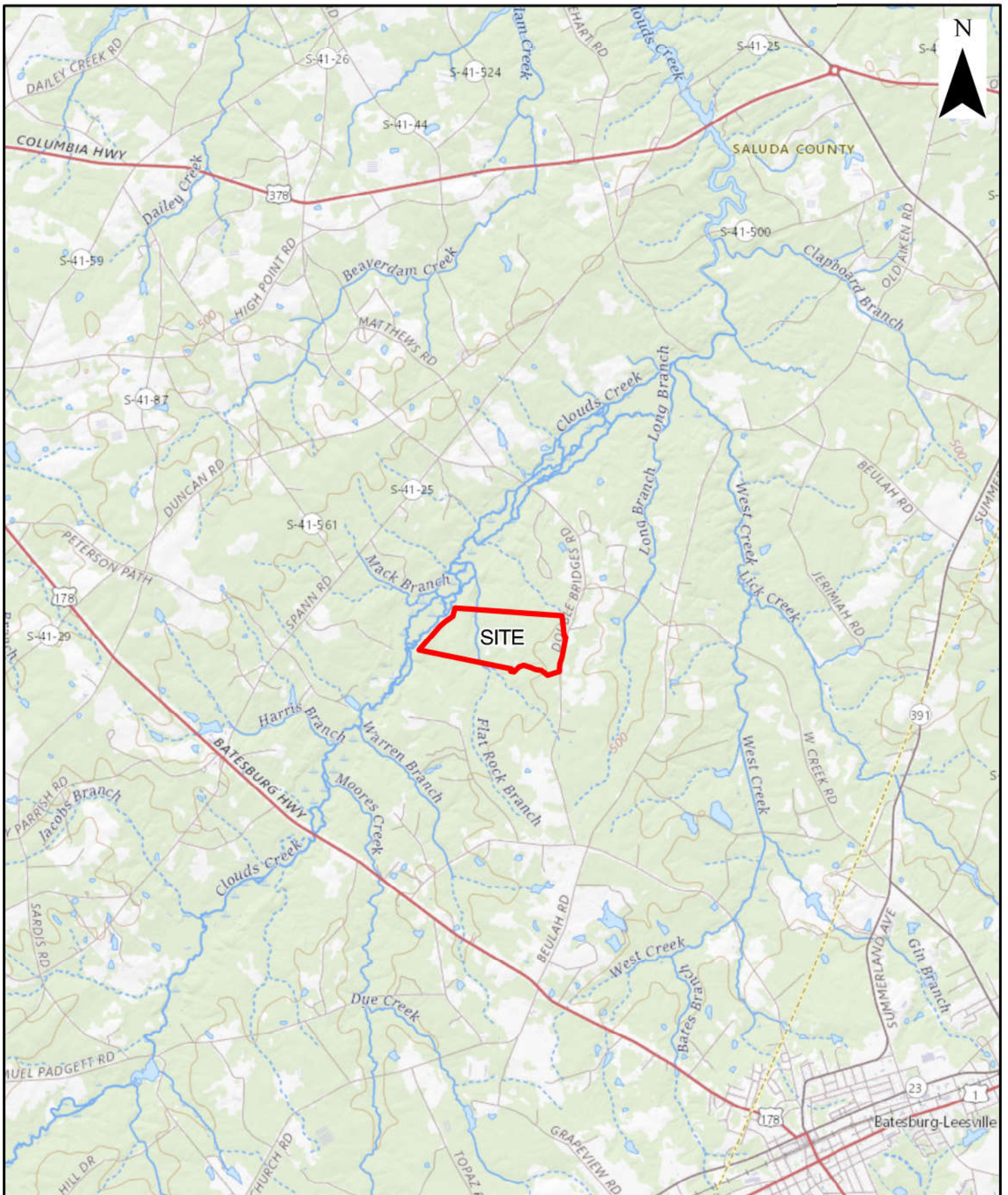
2.4 Monitoring Intervals, Data Collection, and Reporting

The locations of monitoring wells MW-1, MW-2, and MW-3 have been strategically placed in order to monitor changes in the water table elevation in the vicinity of private drinking water wells located to the northeast, southeast, and southwest of the facility (**Figure 2**).

The depth to groundwater relative to the top of casing in monitoring wells at the facility is to be measured monthly and submitted to SCDHEC in a memo or report on a quarterly basis. Each quarterly report will be submitted to SCDHEC within 30 days after the end of each quarter and will summarize the current and historical groundwater elevation dataset. If upon review of the quarterly report SCDHEC notices any trends in groundwater elevation that may result in potential significant adverse impacts to neighboring wells then a South Carolina licensed professional geologist or engineer will be contracted, within 5 days of notification, to provide further investigation of the potential impacts.

No groundwater sampling activities for laboratory analysis are planned.

FIGURES



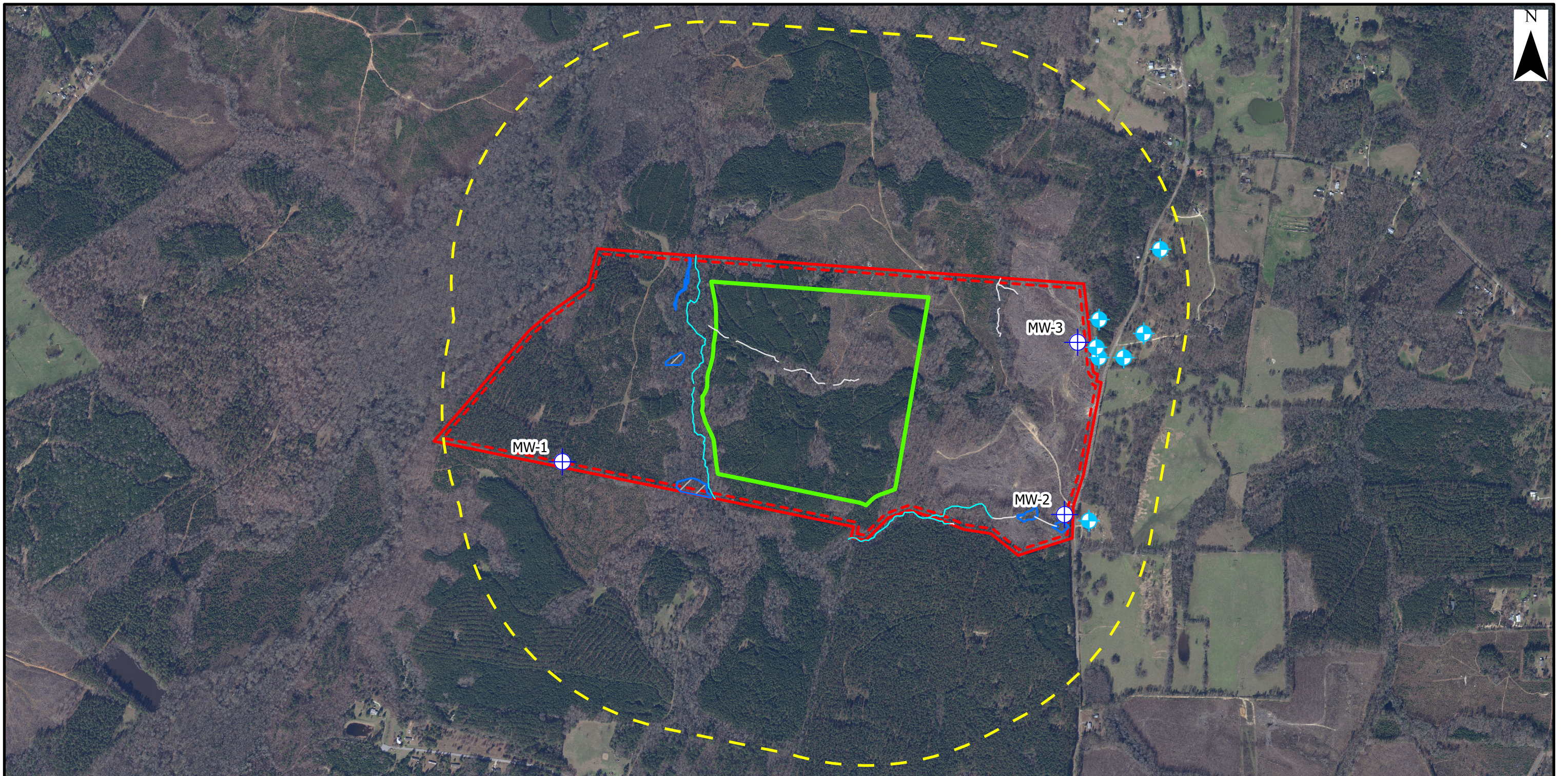
Service Layer Credits: USGSTopo: USGS The National Map: National Boundaries Dataset, 3DEP

DRAWN BY:	TJD	DATE:	06-05-2023
CHECKED BY:	TAO	FILE NAME:	SAL_LOC
APPROVED BY:	TWM	JOB NO:	J23-18886-01



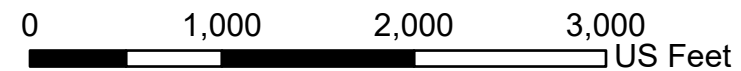
SITE VICINITY MAP
LUCK COMPANIES SALUDA QUARRY
SALUDA, SOUTH CAROLINA

FIGURE	1
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LEGEND

-  SUSPECTED PRIVATE DRINKING WATER WELL
-  PROPOSED GROUNDWATER MONITORING WELL
-  JURISDICTIONAL PERENNIAL STREAMS
-  NON-JURISDICTIONAL INTERMITTENT STREAMS
-  JURISDICTIONAL WETLANDS
-  50 FOOT UNDISTURBED PROPERTY BUFFER
-  PROPERTY BOUNDARY
-  PROPOSED MINING EXTRACTION AREA
-  0.5-MILE RADIUS AROUND PROPOSED MINING EXTRACTION AREA



NOTE: PROPOSED GROUNDWATER MONITORING WELL LOCATIONS ARE APPROXIMATE AND MAY BE MODIFIED DUE TO SITE SPECIFIC CONDITIONS ENCOUNTERED DURING DRILLING.

REFERENCES: AREAL IMAGERY CAPTURED BY WELLSTON ASSOCIATES ON MARCH 10, 2023.

WETLANDS AND STREAMS PROVIDED BY HODGES, HARBIN, NEWBERRY & TRIBBLE IN ASSOCIATION WITH THE MAY 23, 2023 "DELINEATION CONCURRENCE REQUEST" SUBMITTED TO THE US ARMY CORPS OF ENGINEERS.

DRAWN BY: TJD	DATE: 08-16-2023
CHECKED BY: TAO	FILE NAME: SAL_MW_LOC
APPROVED BY: DRL	JOB NO: J23-18886-01

REVISIONS		
No.	DESCRIPTION	BY



MONITORING WELL NETWORK
LUCK COMPANIES SALUDA QUARRY
SALUDA, SOUTH CAROLINA

FIGURE

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