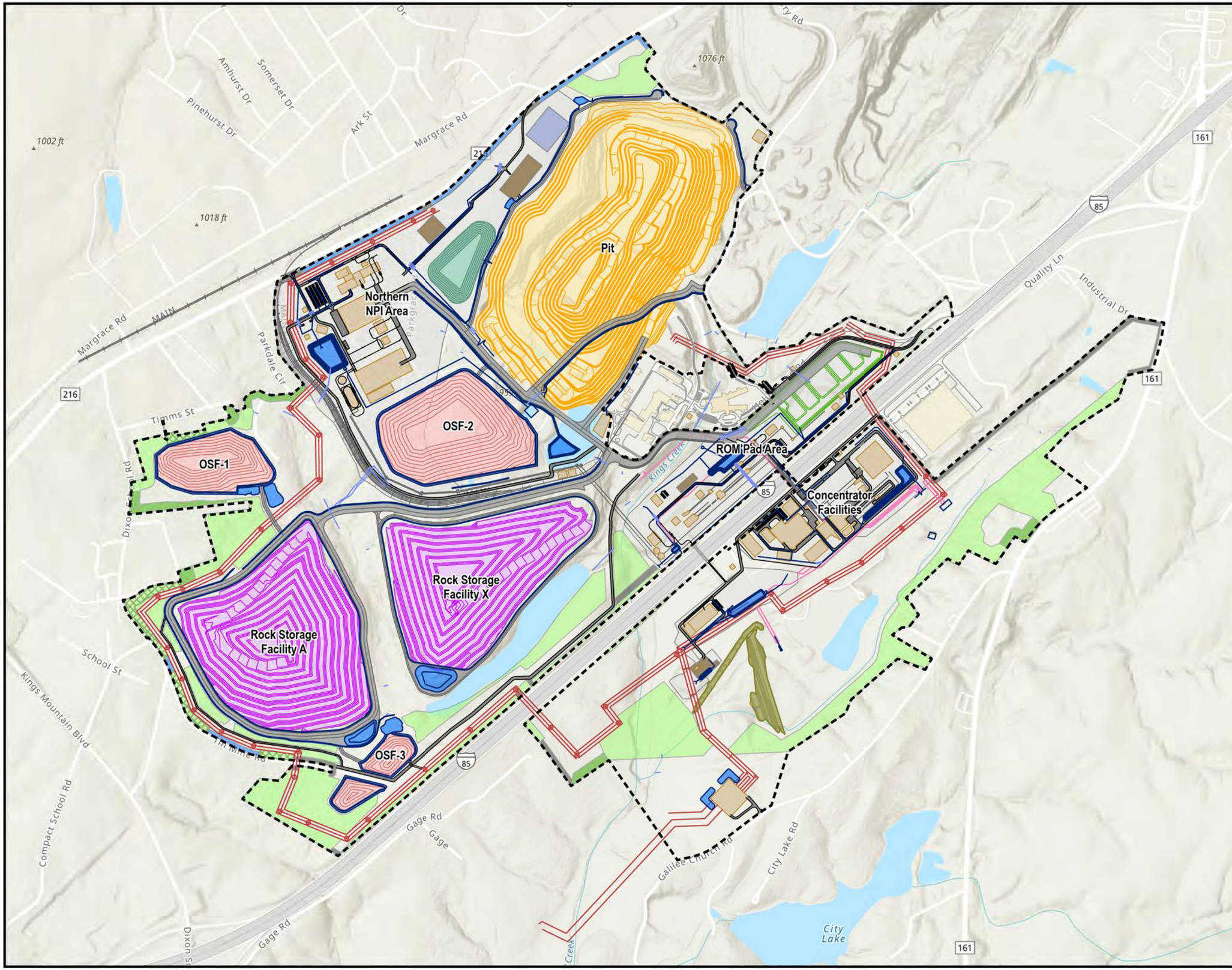


Property Boundary (ERM - 6/14/2024)

MINE DESIGN FEATURES
- Open Pit Contour
- Overburden Storage Facility Contour
- Rock Storage Facility Contour
- Open Pit
- Overburden Storage Facility
- Rock Storage Facility

MINE STOCKPILE AREAS
- Growth Media Storage Contour
- Run-of-Mine Pad
- Dewatering Storage
- Growth Media Storage
- Laydown Area

INFRASTRUCTURE
- Conveyor
- Electric/Pipe Utility
- Processing Features and Infrastructure
- Proposed 44kV Route
- Proposed Dam Contour
- Existing Building
- Proposed Building
- Proposed Dam

DRAFT SITE LAYOUT REV K (HATCH - 7/18/2024)
- Ground Disturbance Area and Pads

TRANSPORATION
- Railroad
- Haul Road
- Site Road
- Existing Road
- Haul Road
- Site Road

HYDROLOGY
- Conduit and Culvert
- Drainage
- Pond

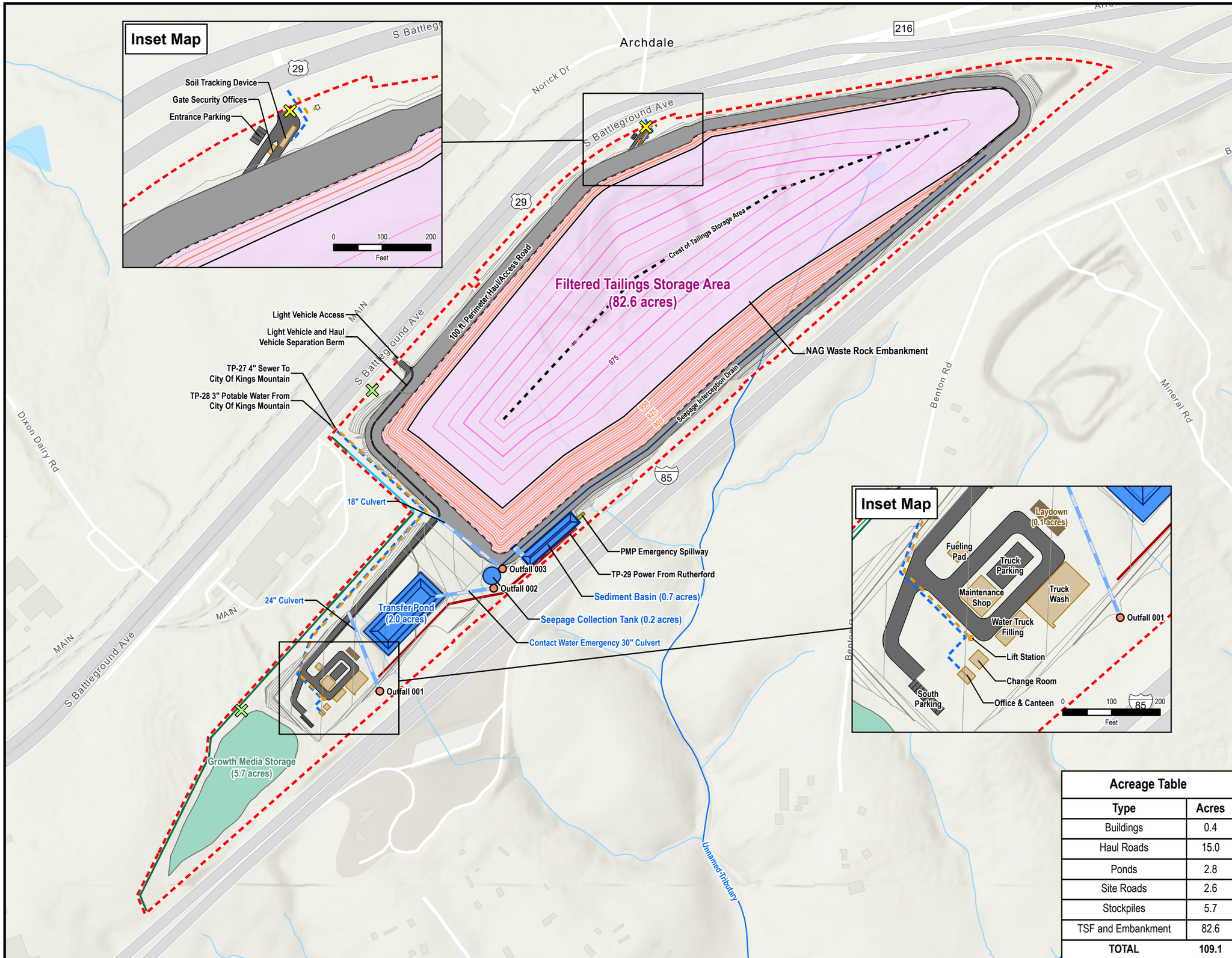
PROJECT BUFFERS
- Proposed Enhanced Evergreen Buffer Area
- Proposed Vegetated Berm
- Proposed Vegetated Buffer
- Naturally Vegetated Property Buffer
- No Buffer (due to easements or ingress/egress)

N

0 0.2 0.4
Miles

1 inch = 0.2 mi when printed 11x17

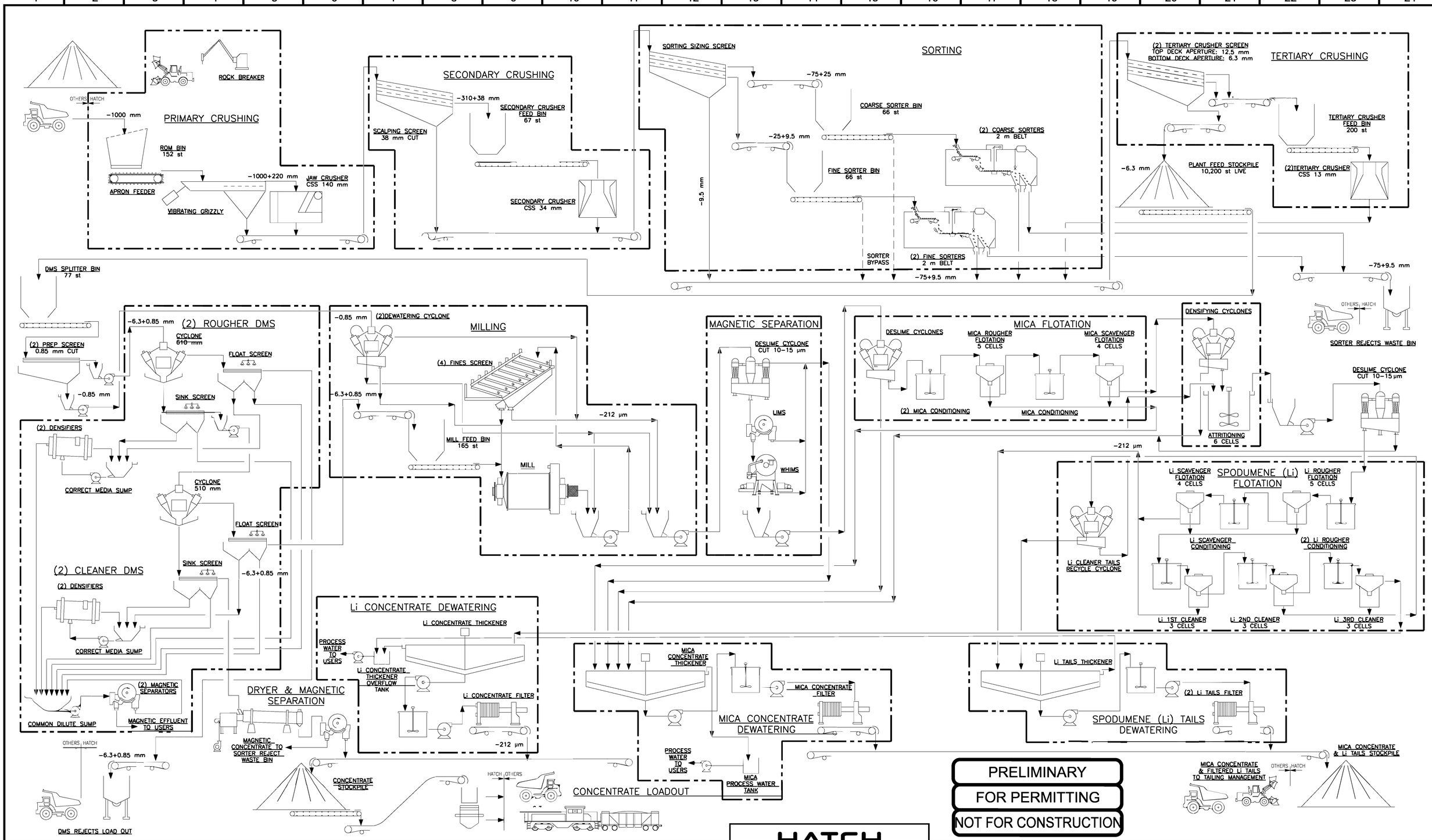
Figure 19:
Kings Mountain Mine Site Map (Rev K 7/18/24)
Albemarle
Kings Mountain
Cleveland County,
North Carolina



Acreage Table

Type	Acres
Buildings	0.4
Haul Roads	15.0
Ponds	2.8
Site Roads	2.6
Stockpiles	5.7
TSF and Embankment	82.6
TOTAL	**109.1**

Figure 20:
Archdale TSF Site Map
Kings Mountain Lithium Mine
Albemarle
Kings Mountain
Cleveland County,
North Carolina



PRELIMINARY

FOR PERMITTING

NOT FOR CONSTRUCTION

HATCH

DRAFTSPERSON	J. EYLER	NR	07/03/23
DESIGNER	F. AZGOMI	NR	07/03/23
CHECKER	K. PIOTROWSKI		
DESIGN COORD.	K. PIOTROWSKI		
RESP. ENG.	F. AZGOMI		
LEAD DISC. ENG.	F. AZGOMI		
ENG. MANAGER	C. CLARKE		
PROJ. MANAGER	K. YOUNG		
ROLE	NAME	SIGNATURE	DATE

HATCH DRAWING NUMBER: H371132-0000-210-252-0001

REV #	DESCRIPTION	CADD	CHK'D	APPR'D	DATE
C	FOR CLIENT APPROVAL	JE	KP	FA	08/14/23
B	FOR CLIENT REVIEW	JE	KP	FA	07/21/23
0	FOR USE	JE	KP	FA	08/14/23

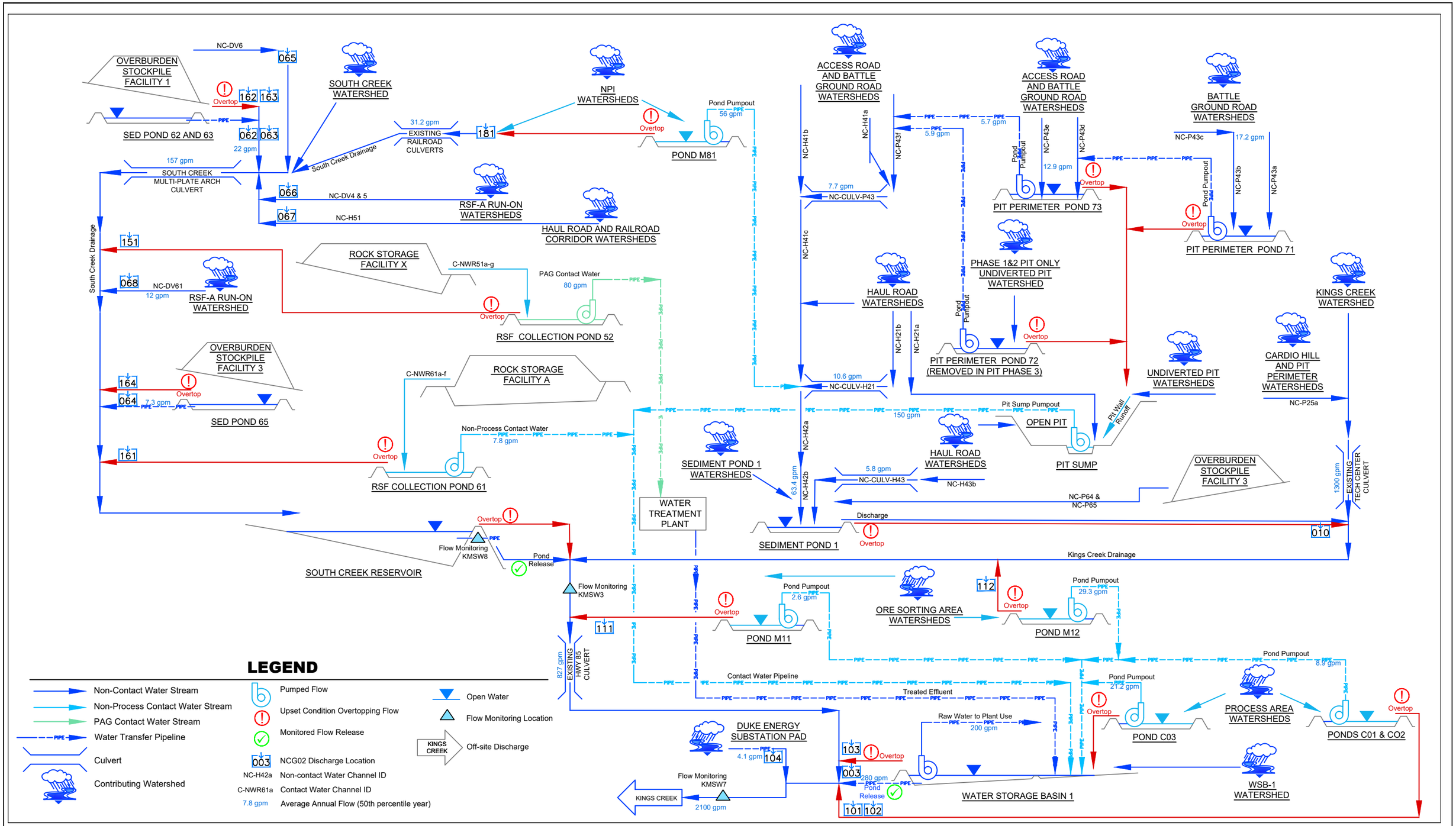
ALBEMARLE CORPORATION

KINGS MOUNTAIN
348 HOLIDAY INN DRIVE
KINGS MOUNTAIN, NC 28286

This drawing is the confidential property of Albemarle Corporation and issued with the express understanding and agreement that it is not to be copied or reproduced, or used in any way detrimental to the interest of Albemarle Corporation and is to be returned on request.

MINING AND CONCENTRATOR FACILITY
SITE WIDE
MINE SELECT PHASE
PROCESS BLOCK FLOW DIAGRAM

JOB NO.	DRAFTER:	DRAWING NO.	SHT. 1 of 1	REVISION
KM22040	J. EYLER	Figure 21		C
SCALE: NTS	DATE 07/03/23			



REVISIONS		
REV.	DESCRIPTION	DATE
A	ISSUED FOR CLIENT REVIEW	06/25/2024
0	ISSUED FOR PERMIT	07/03/2024

FILE NAME: SRK Surface Water Flowsheet 03JUL2024.dwg

DESIGN: DPH | REVIEWED: JO
DRAWN: DPH | APPROVED: JO
COORDINATE SYSTEM: N/A

IF THE ABOVE BAR DOES NOT MEASURE 1 INCH, THE DRAWING SCALE IS ALTERED

PREPARED BY: srk consulting

PREPARED FOR: ALBEMARLE

KINGS MOUNTAIN MINING PROJECT
Operated by:
Albemarle-Lithium

DRAWING TITLE:
KINGS MOUNTAIN MINING PROJECT
KINGS MOUNTAIN STORM WATER MANAGEMENT FLOWSHEET

DATE: 07/03/2024
REVISION: 0
SRK PROJECT NO.: USPR000576.1800
DRAWING NO.: FIGURE 22

C:\Users\dhoekstra\SRK Consulting\NA USPR000576 Albemarle Corporation Kings Mountain 2022 Pre Feasibility Study - Internal\0300_Hydrology\Wbal Flowsheet\SRK Surface Water Flowsheet 03JUL2024.dwg

Summary of Proposed Wetland Impacts

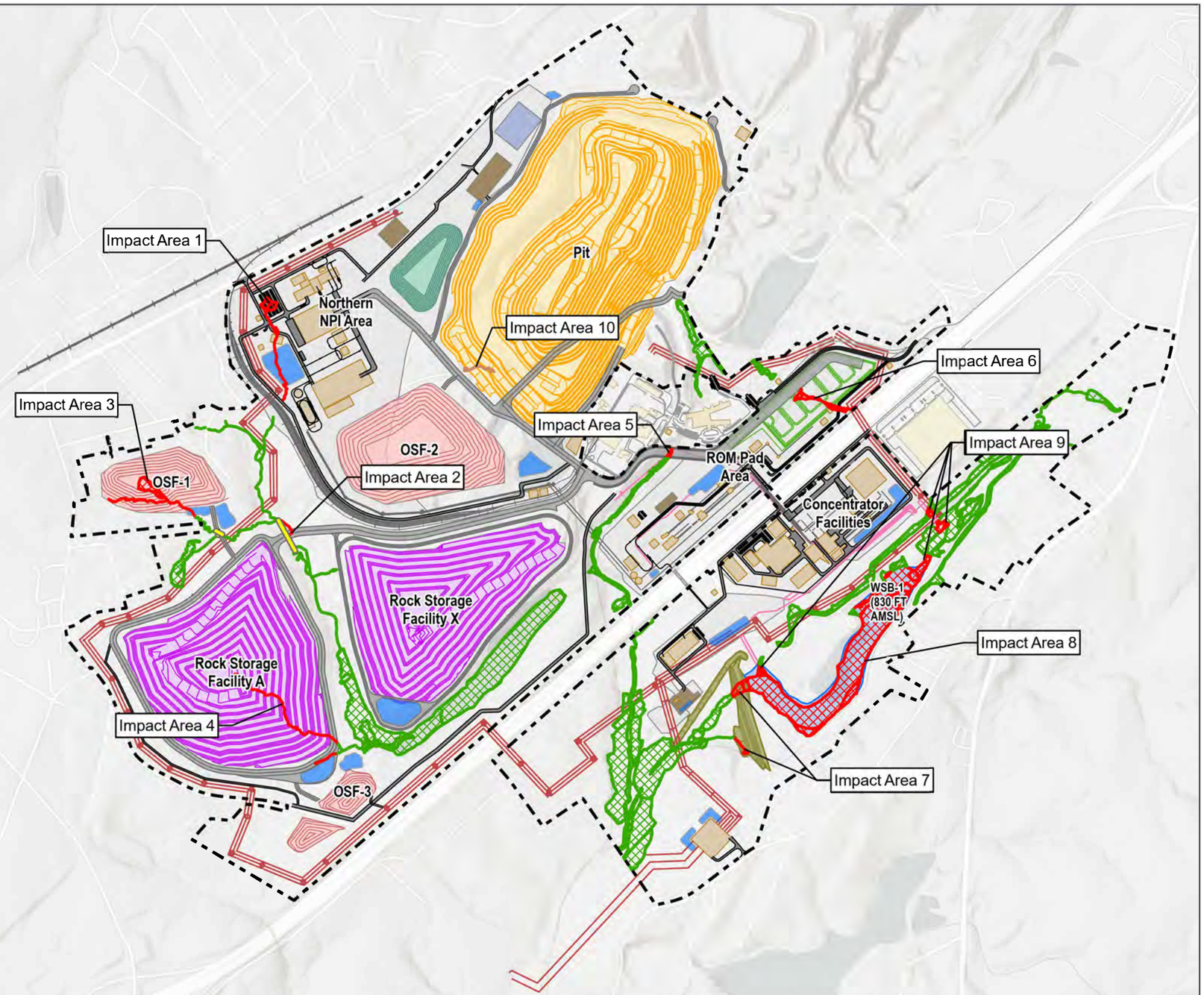
Wetland Impact Site #	Reason for Impact	Impact Type	Wetland Name	Wetland Type	Impact area (acres)
W1	Impact Area 1	Permanent	W-C01-PFO	PFO	0.3
W2	Impact Area 3	Permanent	W-07A-PSS	PSS	0.5
W3	Impact Area 4	Permanent	W-A01-PFO	PFO	0.02
W4	Impact Area 6	Permanent	W-B05-PEM	PEM	0.08
W5	Impact Area 6	Permanent	W-B05-PSS	PSS	0.1
W6	Impact Area 6	Permanent	W-B06-PFO	PFO	0.12
W7	Impact Area 7	Permanent	W-A39-PEM	PEM	0.03
W8	Impact Area 7	Permanent	W-B14-PFO	PFO	0.23
W9	Impact Area 8	Conversion	W-B14-PEM	PEM	0.83
W10	Impact Area 8	Conversion	W-B14-PEM	PEM	0.16
W11	Impact Area 8	Conversion	W-B14-PFO	PFO	0.32
W12	Impact Area 8	Conversion	W-B14-PFO	PFO	0.36
W13	Impact Area 8	Conversion	W-B14-PFO	PFO	0.2
W14	Impact Area 8	Conversion	W-B14-PFO	PFO	0.02
W15	Impact Area 8	Conversion	W-B14-PSS	PSS	1.69
W16	Impact Area 8	Conversion	W-B14-PSS	PSS	0.11
W17	Impact Area 9	Permanent	W-B14-PSS	PSS	0.06
W18	Impact Area 9	Permanent	W-B14-PSS	PSS	0.16
W19	Impact Area 9	Permanent	W-B14-PSS	PSS	0.06
W20	Impact Area 9	Permanent	W-A16-PEM	PEM	0.03
W21	Impact Area 9	Permanent	W-A16-PSS	PSS	0.05

Summary of Proposed Stream Impacts

Stream Impact Site #	Reason for Impact	Impact Type	Stream Name	Stream Type	Impact area (ft)
S1	Impact Area 1	Permanent	S-A05-PER	Perennial	861
S2	Impact Area 1	Permanent	S-C02-PER	Perennial	346
S3	Impact Area 1	Permanent	S-C03-INT	Intermittent	96
S4	Impact Area 2	Permanent	S-A05-PER	Perennial	384
S5	Impact Area 3	Permanent	S-A07A1-INT	Intermittent	80
S6	Impact Area 3	Permanent	S-A07A-PER	Perennial	272
S7	Impact Area 3	Permanent	S-A07-INT	Intermittent	33
S8	Impact Area 3	Permanent	S-A07-PER	Perennial	1054
S9	Impact Area 3	Permanent	S-A07-PER	Perennial	159
S10	Impact Area 4	Permanent	S-A02-INT	Intermittent	259
S11	Impact Area 4	Permanent	S-A04-INT	Intermittent	1,037
S12	Impact Area 4	Permanent	S-A04-PER	Perennial	440
S13	Impact Area 5	Permanent	A-B08-PER	Perennial	116
S14	Impact Area 6	Permanent	S-B07-PER	Perennial	561
S15	Impact Area 7	Permanent	S-A17-INT	Intermittent	226
S16	Impact Area 10	Permanent	S-A13-INT	Intermittent	446

Summary of Proposed Open Water Impacts

Open Water Impact Site #	Reason for Impact	Impact Type	Name of Waterbody	Waterbody Type	Impact area (acres)
P1	Impact Area 7	Permanent	WB-B02	Pond	0.14
P2	Impact Area 8	Temporary	WB-B02-PUB	Pond	10.93
P3	Impact Area 9	Permanent	WB-B02-PUB	Pond	0.04



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

Figure 23. WOTUS Impact Map Overview

Project Boundary
Arch Culvert

USACE/NCDEQ Jurisdictional Stream Lines
Impacted
Not Impacted
NCDEQ Only

USACE/NCDEQ Jurisdictional Waterbodies
Not Impacted

USACE/NCDEQ Jurisdictional Wetlands
Impacted
Not Impacted

HYDROLOGY
Pond
Water Storage Basin

TRANSPORATION
Railroad
Haul Road
Site Road
Existing Road
Haul Road
Site Road

MINE DESIGN FEATURES
Open Pit Contour
Overburden Storage Facility Contour
Rock Storage Facility Contour
Open Pit
Overburden Storage Facility
Rock Storage Facility

INFRASTRUCTURE
Conveyor
Electric/Pipe Utility
Proposed 44kV Route
Proposed Dam Contour
Existing Building
Proposed Building
Proposed Dam

MINE STOCKPILE AREAS
Growth Media Storage Contour
Run-of-Mine Pad
Dewatering Storage
Growth Media Storage
Laydown Area
Ground Disturbance Area and Pads

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2139°N 81.3655°W

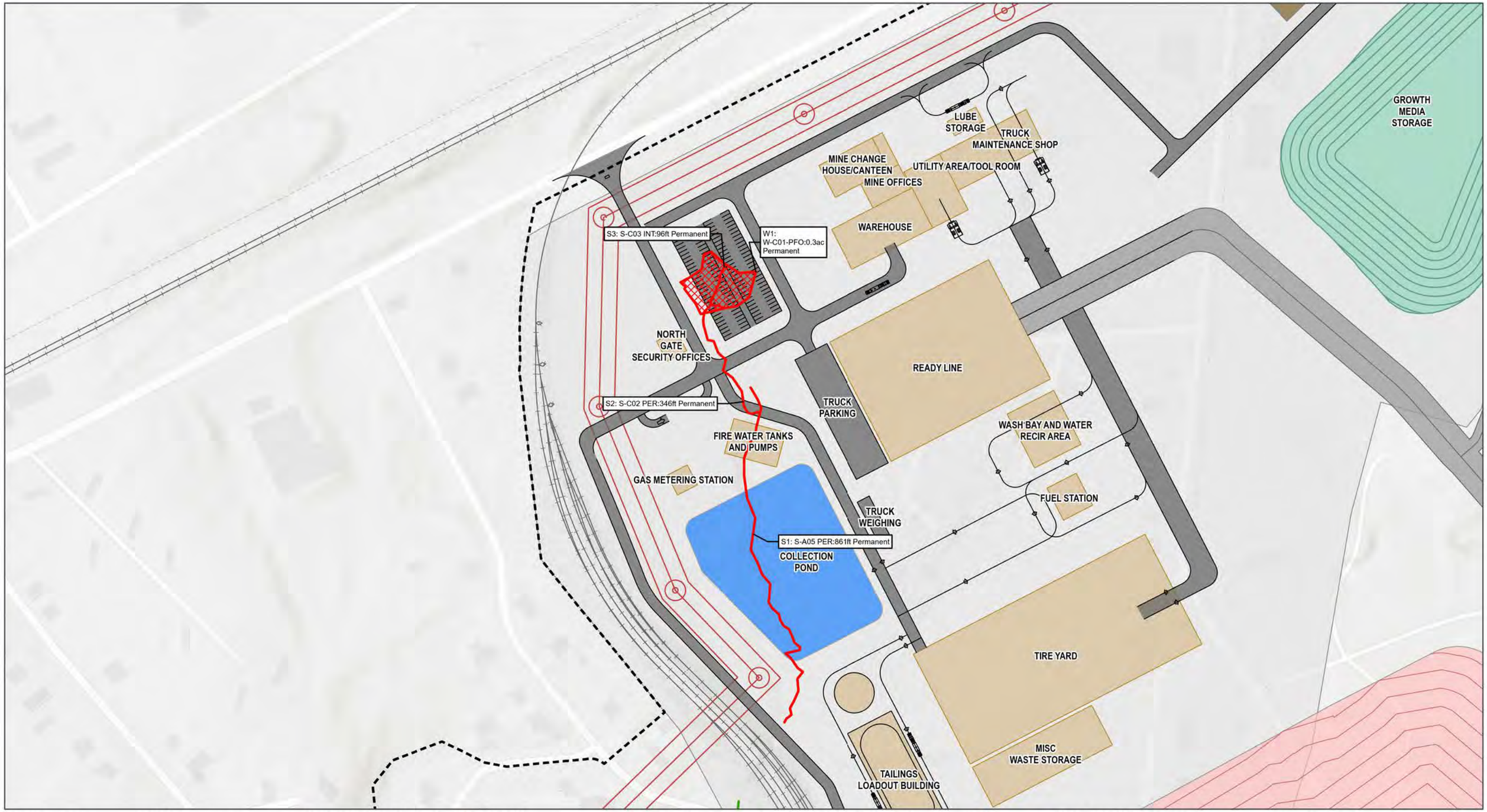
0 650 1,300 Feet
0 130 260 Meters

N

1:14,000

Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/6/2024
Project No. 70316
Layout: Impacts_20240724
Aprx: 70316_WD2024

SWCA ENVIRONMENTAL CONSULTANTS



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

WOTUS Impacts Detail Map

Impact Area 1
Figure 24

Project Boundary

USACE/NCDEQ Jurisdictional Stream Lines
- Impacted
- Not Impacted

NC Jurisdictional Wetlands
- Impacted

HYDROLOGY
- Pond

TRANSPORATION
- Railroad
- Haul Road
- Site Road
- Haul Road
- Site Road

MINE DESIGN FEATURES
- Overburden Storage Facility Contour
- Overburden Storage Facility

INFRASTRUCTURE
- Proposed 44kV Route
- Proposed Building

MINE STOCKPILE AREAS
- Growth Media Storage Contour
- Growth Media Storage
- Laydown Area
- Ground Disturbance Area and Pads

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2191°N 81.3654°W

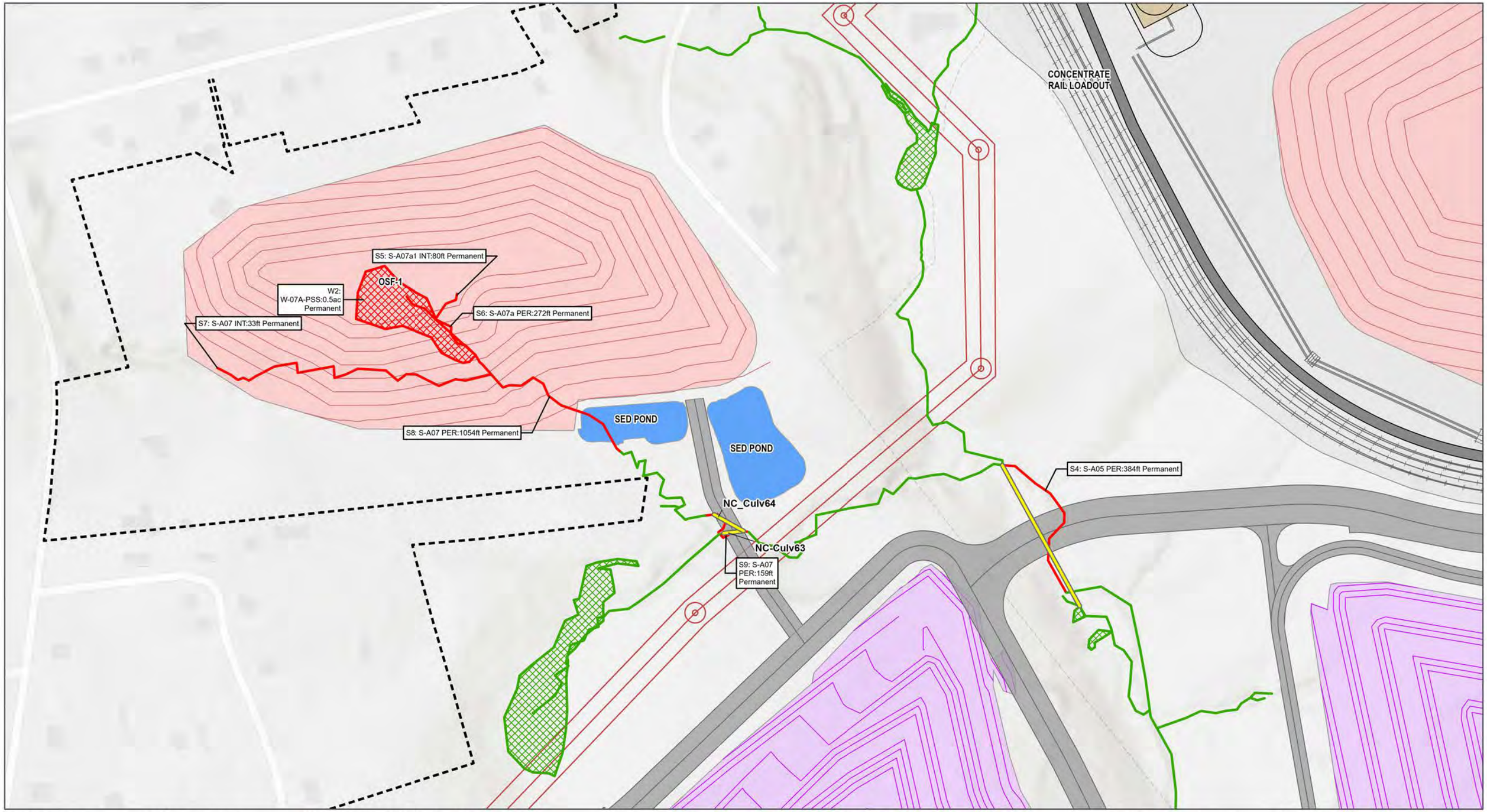
1 inch equals 200 feet

0 110 220 Feet
0 20 40 Meters

N

Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/6/2024
Project No. 70316
Layout: Impacts_Series
Aprx: 70316_WD2024

SWCA ENVIRONMENTAL CONSULTANTS



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

WOTUS Impacts Detail Map

Impact Area 2 & 3
Figure 25

Project Boundary
Arch Culvert

USACE/NCDEQ Jurisdictional Stream Lines
Impacted
Not Impacted

NC Jurisdictional Wetlands
Impacted
Not Impacted

HYDROLOGY
Pond

TRANSPORATION
Railroad
Haul Road
Site Road
Haul Road
Site Road

MINE DESIGN FEATURES
Overburden Storage Facility Contour
Rock Storage Facility Contour
Overburden Storage Facility
Rock Storage Facility

INFRASTRUCTURE
Conveyor
Proposed 44kV Route
Proposed Building

Ground Disturbance Area and Pads

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2141°N 81.367°W

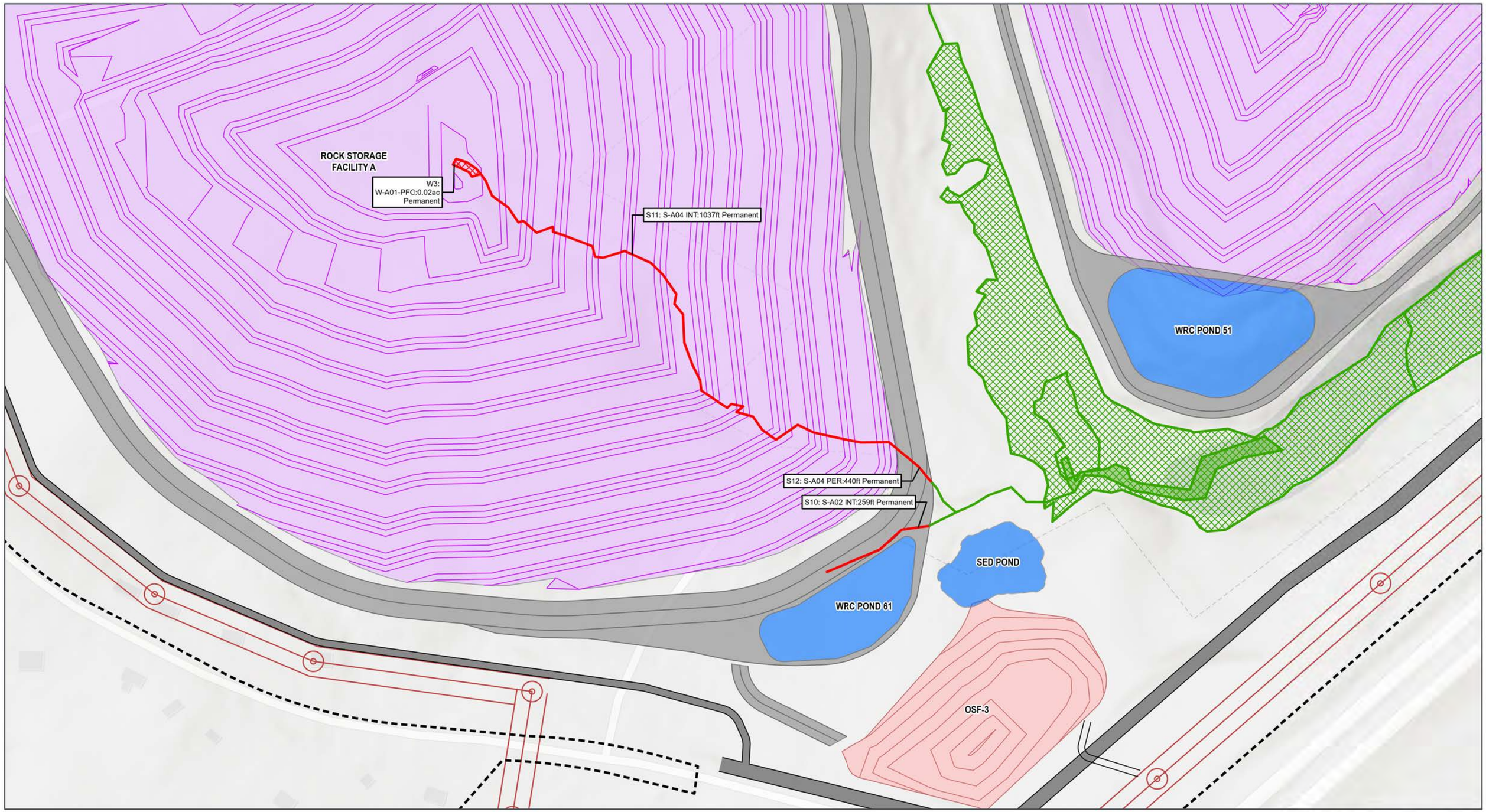
1 inch equals 200 feet

0 110 220 Feet
0 20 40 Meters

N

Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/6/2024
Project No. 70316
Layout: Impacts_Series
Aprx: 70316_WD2024

SWCA
ENVIRONMENTAL CONSULTANTS



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

WOTUS Impacts Detail Map

Impact Area 4
Figure 26

Project Boundary

USACE/NCDEQ Jurisdictional Stream Lines
- Impacted
- Not Impacted

NC Jurisdictional Waterbodies
- Not Impacted

NC Jurisdictional Wetlands
- Impacted
- Not Impacted

HYDROLOGY
- Pond

TRANSPORATION
- Haul Road
- Site Road
- Haul Road
- Site Road

MINE DESIGN FEATURES
- Overburden Storage Facility Contour
- Rock Storage Facility Contour
- Overburden Storage Facility
- Rock Storage Facility

INFRASTRUCTURE
- Proposed 44kV Route

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2079°N 81.3643°W

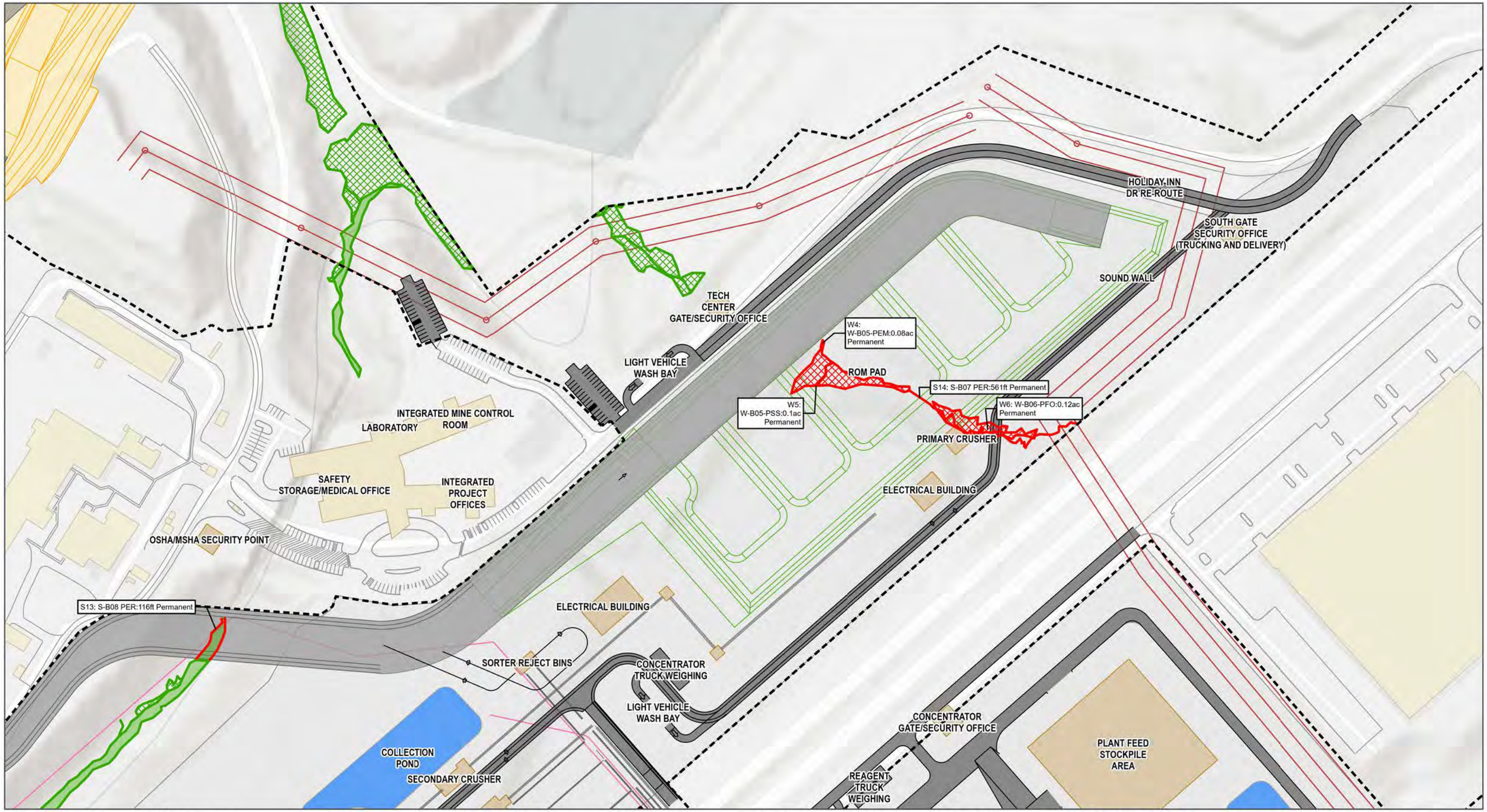
1 inch equals 200 feet

0 110 220 Feet
0 20 40 Meters

N

Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/6/2024
Project No. 70316
Layout: Impacts_Series
Aprx: 70316_WD2024

SWCA ENVIRONMENTAL CONSULTANTS



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

WOTUS Impacts Detail Map

Impact Area 5 & 6
Figure 27

Project Boundary

USACE/NCDEQ Jurisdictional Stream Lines
- Impacted
- Not Impacted

NC Jurisdictional Waterbodies
- Not Impacted

NC Jurisdictional Wetlands
- Impacted
- Not Impacted

HYDROLOGY
- Pond

TRANSPORATION
- Haul Road
- Site Road
- Existing Road
- Haul Road
- Site Road

MINE DESIGN FEATURES
- Open Pit Contour
- Open Pit

INFRASTRUCTURE
- Conveyor
- Electric/Pipe Utility
- Proposed 44kV Route
- Existing Building
- Proposed Building

MINE STOCKPILE AREAS
- Run-of-Mine Pad
- Ground Disturbance Area and Pads

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2174°N 81.3477°W

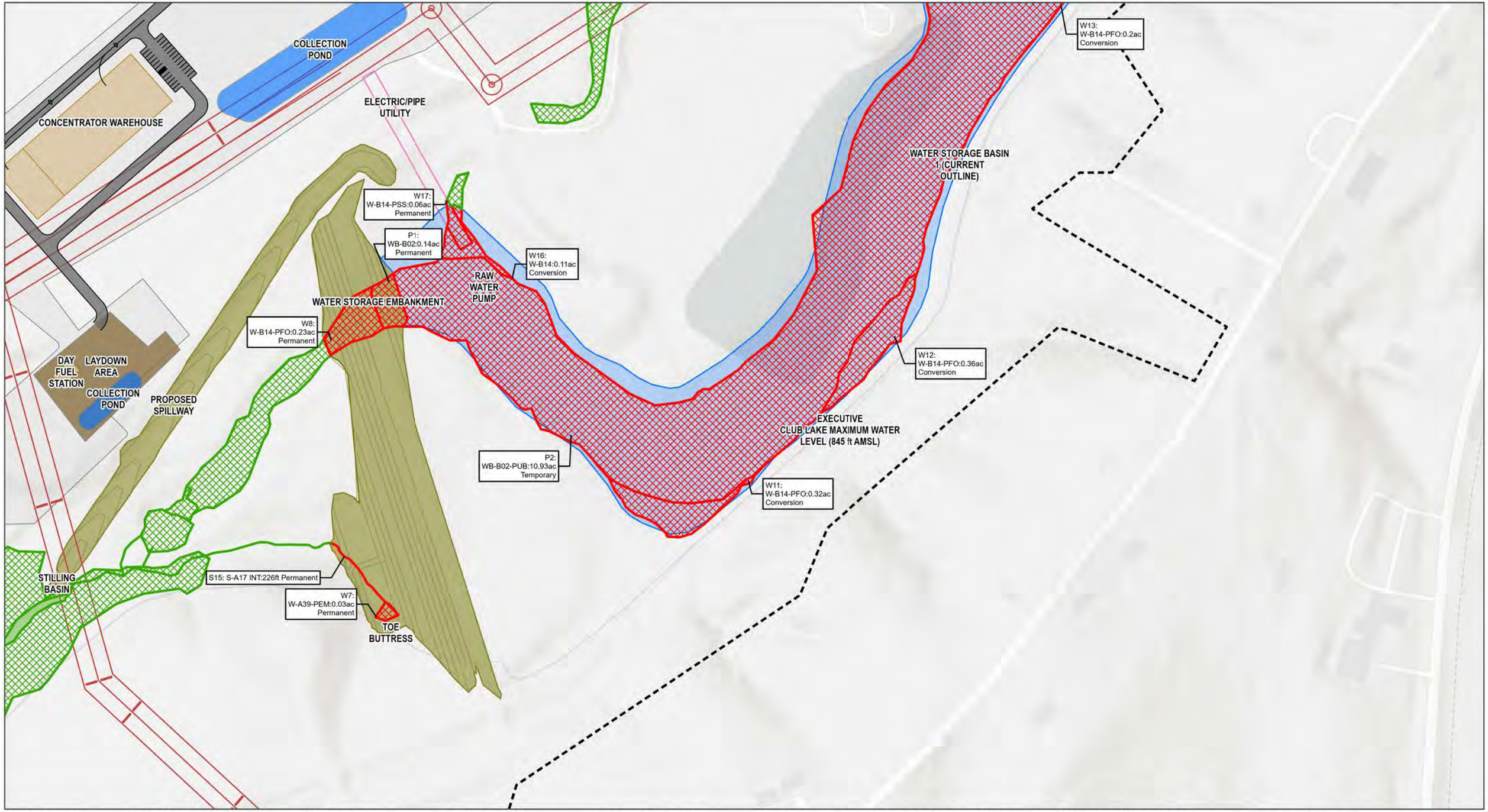
1 inch equals 200 feet

0 110 220 Feet
0 20 40 Meters

N

Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/6/2024
Project No. 70316
Layout: Impacts_Series
Aprx: 70316_WD2024

SWCA ENVIRONMENTAL CONSULTANTS



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

WOTUS Impacts Detail Map

Impact Area 7 & 8 & 9
Figure 28

Project Boundary

USACE/NCDEQ Jurisdictional Stream Lines
- Impacted
- Not Impacted

NC Jurisdictional Waterbodies
- Not Impacted

NC Jurisdictional Wetlands
- Impacted
- Not Impacted

HYDROLOGY
- Pond
- Water Storage Basin

TRANSPORATION
- Site Road
- Site Road

MINE DESIGN FEATURES
- Open Pit Contour

INFRASTRUCTURE
- Electric/Pipe Utility
- Proposed 44kV Route
- Proposed Dam Contour
- Proposed Building
- Proposed Dam

MINE STOCKPILE AREAS
- Laydown Area
- Ground Disturbance Area and Pads

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2088°N 81.3461°W

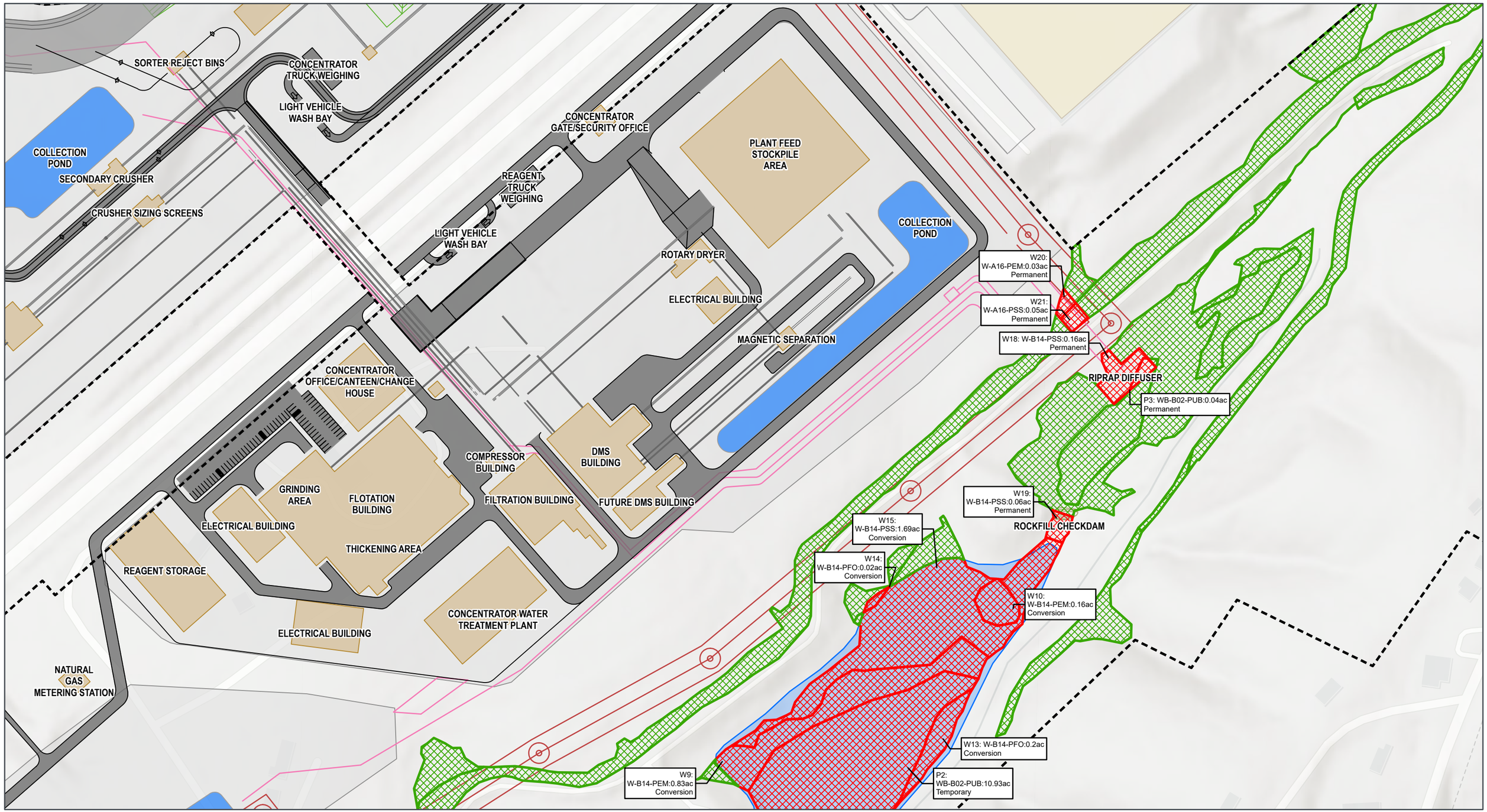
1 inch equals 200 feet

0 110 220 Feet
0 20 40 Meters

N

Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/6/2024
Project No. 70316
Layout: Impacts_Series
Aprx: 70316_WD2024

SWCA ENVIRONMENTAL CONSULTANTS



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

WOTUS Impacts Detail Map

Impact Area 8 & 9
Figure 29

Project Boundary

USACE/NCDEQ Jurisdictional Stream Lines
- Not Impacted

NC Jurisdictional Wetlands
- Impacted
- Not Impacted

HYDROLOGY
- Pond
- Water Storage Basin

TRANSPORATION
- Haul Road
- Site Road
- Existing Road
- Haul Road
- Site Road

INFRASTRUCTURE
- Conveyor
- Electric/Pipe Utility
- Proposed 44kV Route
- Proposed Dam Contour
- Existing Building
- Proposed Building

MINE STOCKPILE AREAS
- Run-of-Mine Pad
- Ground Disturbance Area and Pads

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2138°N 81.345°W

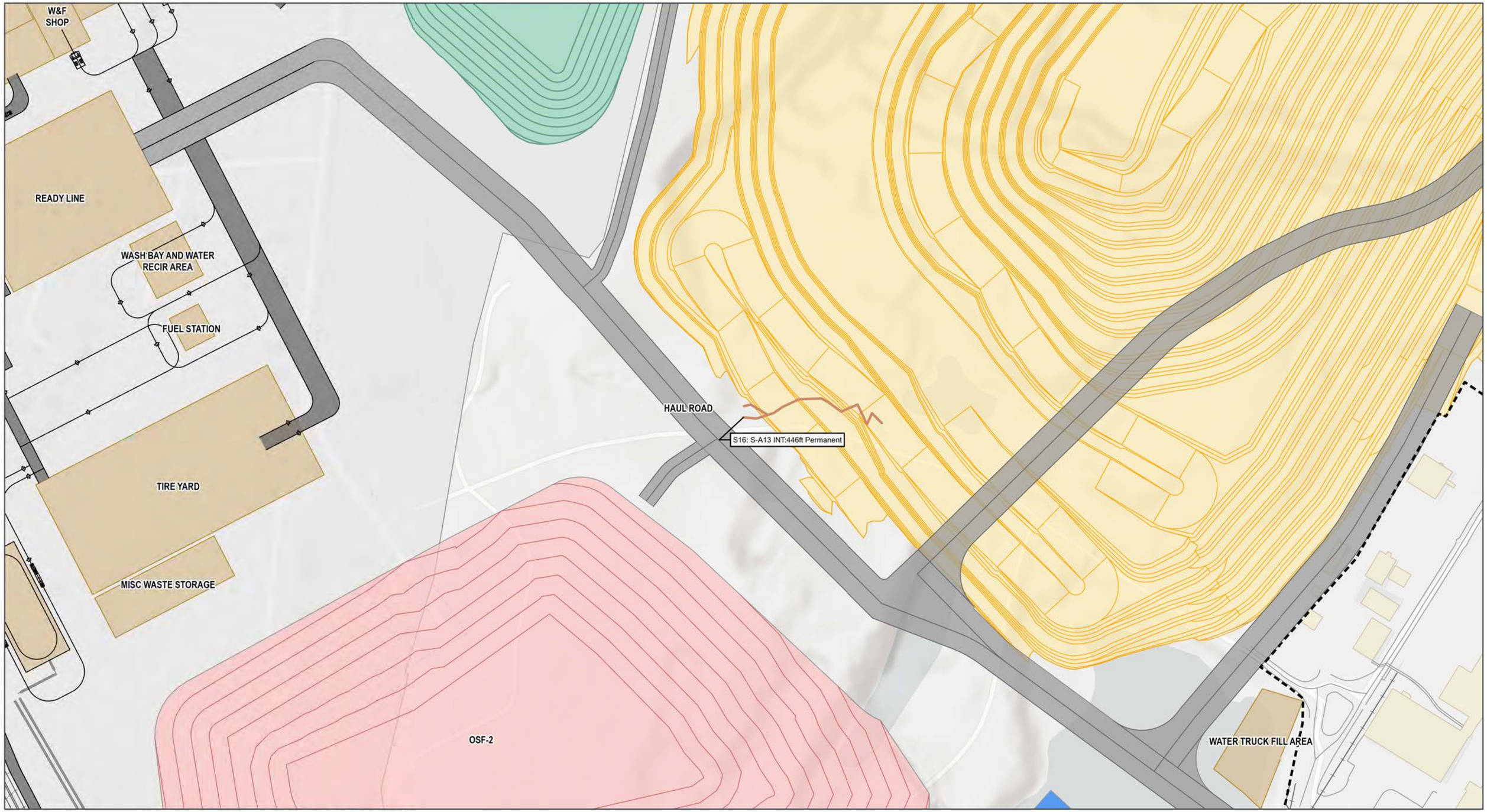
1 inch equals 200 feet

0 110 220 Feet
0 20 40 Meters

N

Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/11/2024
Project No. 70316
Layout: Impacts_Series
Aprx: 70316_WD2024

SWCA ENVIRONMENTAL CONSULTANTS



ALBEMARLE USA, INC
KINGS MOUNTAIN LITHIUM MINE

WOTUS Impacts Detail Map

Impact Area 10
Figure 30

Project Boundary

USACE/NCDEQ Jurisdictional Stream Lines

NCDEQ Only

HYDROLOGY

Pond

TRANSPORATION

Railroad
Haul Road
Site Road
Existing Road
Haul Road
Site Road

MINE DESIGN FEATURES

Open Pit Contour
Overburden Storage Facility Contour
Open Pit
Overburden Storage Facility

INFRASTRUCTURE

Conveyor
Existing Building
Proposed Building

MINE STOCKPILE AREAS

Growth Media Storage Contour
Growth Media Storage
Ground Disturbance Area and Pads

Cleveland County, NC
USGS 7.5' Quadrangle:
Kings Mountain, NC, 35081-B3
NAD 1983 StatePlane North Carolina FIPS 3200 Feet
35.2182°N 81.3588°W

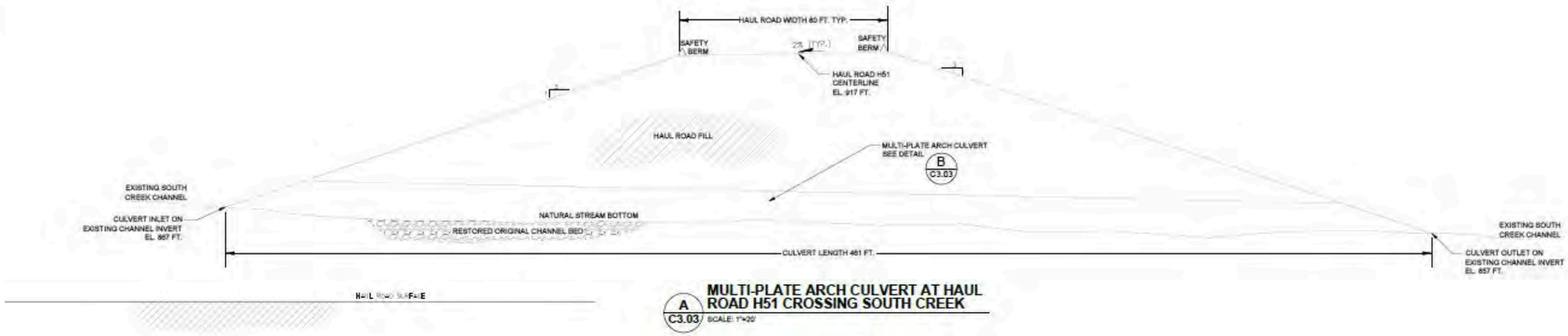
1 inch equals 200 feet

0 110 220 Feet
0 20 40 Meters

N

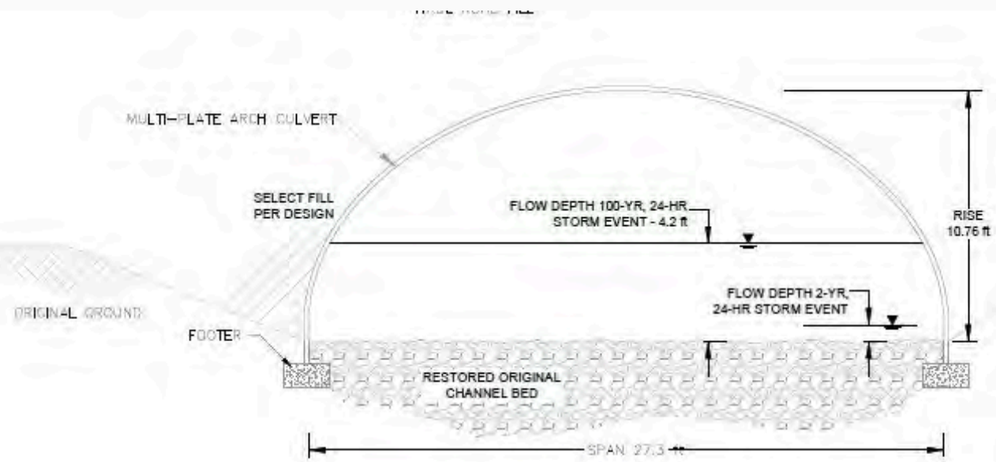
Base Map: Esri ArcGIS Online, accessed September 2024
Updated: 9/6/2024
Project No. 70316
Layout: Impacts_Series
Aprx: 70316_WD2024

SWCA ENVIRONMENTAL CONSULTANTS



A / C3.03 MULTI-PLATE ARCH CULVERT AT HAUL ROAD H51 CROSSING SOUTH CREEK

SCALE: 1"=20'



B / C3.03 MULTI-PLATE ARCH CULVERT AT SOUTH CREEK CROSSING DETAIL

SCALE: 1"=5'

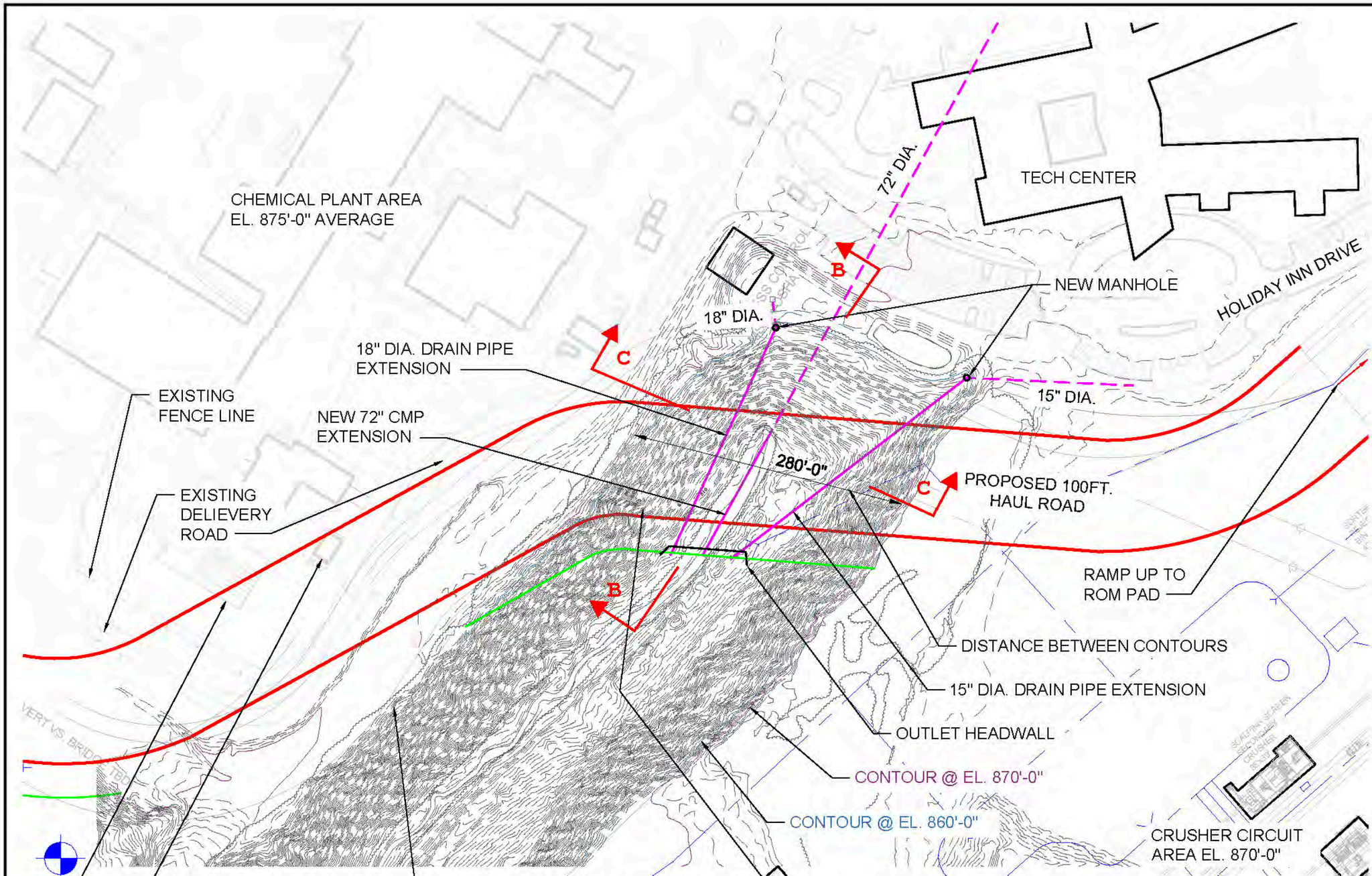
SRK Consulting

3/21/2024

Figure 31:

South Creek Road Crossing Detail

Kings Mountain
Cleveland County,
North Carolina



PLAN

HAUL ROAD - OPTION 2

TAKE SOUTHWEST CORNER OF CHEMICAL PLANT IF STILL
IN OPERATION WHEN HAUL ROAD NEEDS TO BE CONSTRUCTED

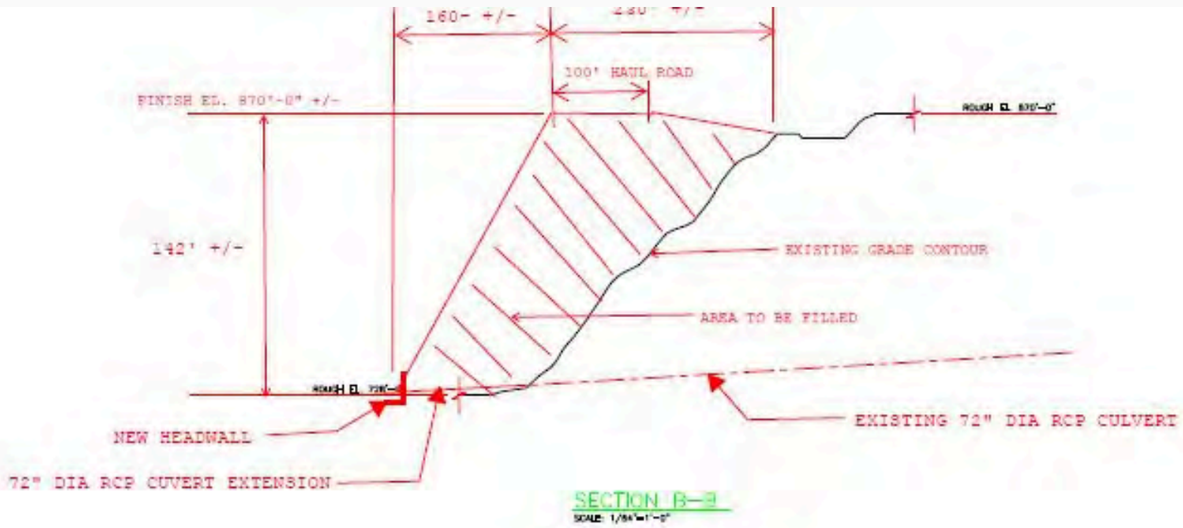
Rev. 1
3/28/2024

LEGEND:

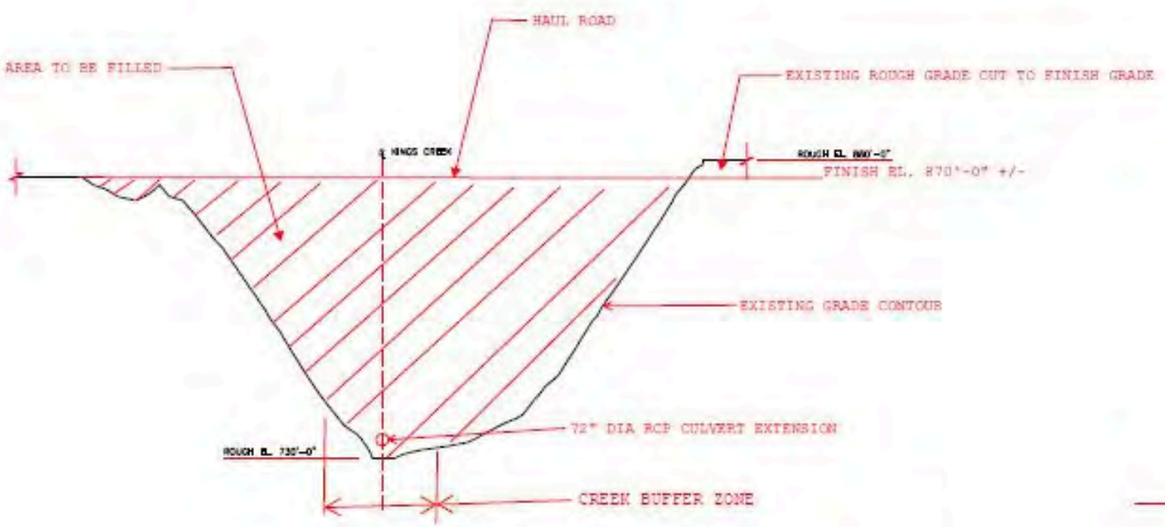
- EXISTING U/G PIPE
- PROPOSED NEW PIPE
- ROAD SLOPE EXTENTS

Figure 32:
Kings Creek Haul Road Plan View

Kings Mountain
Cleveland County,
North Carolina



SECTION B-B



SECTION C-C

NOTES:

Figure 33:
Kings Creek Haul Road
Cross Sections
Kings Mountain
Cleveland County,
North Carolina