

MERIDIAN BASIS:
TN STATE PLANE
NAD 83

LEGEND

- Permit Area (Area = 335 Acres)
- Site Property Line (Area = 550 Acres)
- Access Roads
- BWI Stockpiles
- Process Water Impoundments
- Overburden Placement
- Type A Landscape Screening (Minimum 15' in Width)
- Site Berms (As Necessary)
- Mining Areas

NOTES

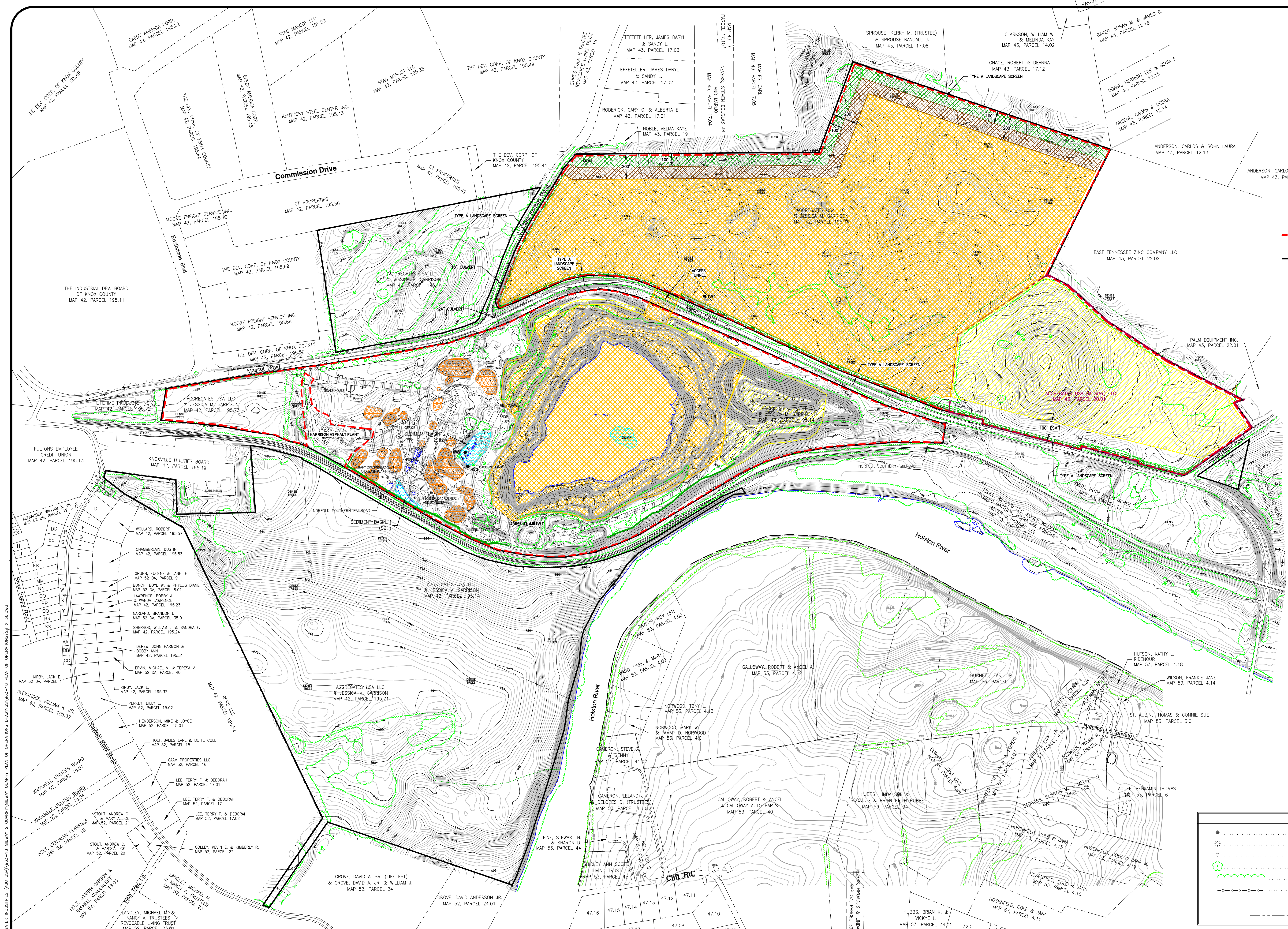
PARCEL ADDED PERMIT AREA WITH THIS APPLICATION MAP 43, PARCEL 20.01

INDICATES PROPERTY LINES OF THE ABOVE NOTED PARCEL

9-E-22-DP
Revised: 8/23/2022

SYMBOL LEGEND

●	POWER POLE	○	FLAGPOLE
○	LIGHT POLE	○	POST
○	SIGN	○	SPOT ELEVATION
○	TREE	—	WATER LINES
—	TREE LINES	—	RAILROADS
—	FENCES	—	GUARDRAILS
—	RIGHT-OF-WAY/ADJOINER PROPERTY LINE		



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SUBMITTALS AND REVISIONS

DATE	BY	NO.	DESCRIPTION
8/18/22	LAF	1	REVISIONS PER MPC 8/16/22 COMMENTS



BLUE WATER
INDUSTRIES

BWI MIDWAY, LLC – QUARRY
LAT. 36-03-49.4N AND LONG. 83-43-17.5W
KNOX COUNTY, TENNESSEE

PLAN OF OPERATIONS MAP

PROJECT NO. 963-18

DATE: JULY 2022	DRAWN BY: DSM
SCALE: AS NOTED	CHECKED BY: RWM
	APPROVED BY: RWM

FILE NAME: L:\CONTRACTS\963-18 MIDWAY QUARRY\OPERATIONS\963-18 PLAN OF OPERATIONS\963-18 PLAN OF OPERATIONS.DWG

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9-E-22-DP
7/25/2022

9509 Diggs Gap Road, Heiskell, TN 37754

865-512-7628

Fax 865-512-1492

Via Electronic Mail to applications@knoxplanning.org

July 25, 2022

Ms. Amy Brooks, Executive Director
Knoxville-Knox County Planning
City-County Building
400 Main Street, Suite 403
Knoxville, TN 37902

**Re: BWI ETN LLC, dba Blue Water Industries
BWV Midway, LLC - Quarry
Request for Amendment to Existing Plan of Operations**

Dear Director:

Blue Water Industries (BWI) is submitting this application to amend the currently approved Plan of Operations (PO) for the Midway Quarry. BWI desires to add Parcel 043-020.01 to the Midway Quarry approved PO. Maps and forms for the application are attached.

If you have any questions concerning this correspondence, please contact me at 865-255-4349 or whillis@bluewaterindustries.com.

Sincerely,

Walt Hillis

Walt Hillis
Environmental Manager

Attachments



BLUE WATER
I N D U S T R I E S

MINING PLAN OF OPERATIONS
(Amendment I)

BWI Midway Quarry

9600 Mascot Road
Mascot, TN 37806

Date: July 25, 2022

9-E-22-DP
Revised: 8/23/2022



Mining Plan of Operations (Amendment I) Application
Midway Quarry Date July 25, 2022

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Mining Plan of Operations (Amendment I) Application
Midway Quarry July 25, 2022

Purpose for Application is to Amend the Currently Approved Plan of Operations

Add Parcel 043-020.01 acquired in 2009 by Aggregates USA, LLC (predecessor) to Blue Water Industries, LLC to the Midway Quarry Plan of Operations previously approved by Knox County in 1986. The portion of the parcel located west/northwest of Immel Mine Road (area proposed for overburden storage and related activities) is currently permitted in the Individual National Pollutant Discharge Elimination System (NPDES) Permit TN0031089 for the Midway Quarry issued by the Tennessee Department Environment & Conservation-Division of Mineral & Geologic Resources-Mining Section for overburden storage and related activities.

Company Information

Blue Water Industries (BWI) has a principal address of 200 West Forsyth Street, Suite 200, Jacksonville, Florida 32202 with its BWI ETN LLC dba Blue Water Industries Administrative Office located at 9509 Diggs Gap Road, Heiskell, Knox County, Tennessee 37754. BWI owns and operates stone quarries, sand mines, and sales yards in Tennessee, Virginia, Alabama, North Carolina, South Carolina, and Florida. In Knox County, BWI owns and operates the Forks of The River Quarry, I-75 Quarry (East & West), Midway Quarry, Coster Aggregates Sales Yard, and ETN Administrative Office. The BWI facilities in Knox County were historically owned by Aggregates USA LLC (AUSA), Rinker Materials Corporation (RMC), and American Limestone Company (ALC). BWI employees over 350 personnel with approximately 45 of them assigned to facilities in Knox County of which approximately 12 are specifically assigned to the Midway Quarry.

Quarry Industry

The quarry industry is a unique and necessary industry dating back to the beginnings of civilization. Materials from quarrying are used in everything from construction of homes, churches, schools, railroads, roads, and bridges to our national/state security infrastructure, government buildings, monuments, and cemeteries. The industry has advanced through history to the modern processes taking advantage of modern technology to reduce energy use, labor saving automation, increased safety, and greater environmental responsibility to produce a vital product for our society. Modern Americans use as much as 20 tons of mineral products and fuels per person per year. Of these 20 tons, as much as 12 tons per year are crushed stone and sand. Crushed stone goes into a variety of products everyone uses daily although they may not realize it. Concrete in sidewalks, roadways, bridges, walls, floors, and foundations contains 80% crushed stone. Asphalt pavement contains as much as 94% crushed stone and sand aggregates.

Crushed stone and sand also go into gravel roads/parking lots, base for roadways, rip rap for erosion control/stream bank stabilization, agricultural lime, chemical manufacture, cement making, concrete block, foundations, bedding for utility lines, filter media in water treatment plants, and fillers in paper, plastic, glass, and fiberglass.

The crushed stone industry is sensitive to location both from a geologic condition and customer focus. Crushed stone is one of the lowest priced basic commodities. Its price and market area are sensitive to transportation distances. It is important to locate quarries as close to the market area as possible to keep costs to the consumer as low as possible. Truck transportation is the only logical method to transport crushed stone in the Knox County market. Location of a quarry close to major highways and interstates is essential to maximize ease of product distribution and keep traffic patterns from affecting sensitive areas such as residential and high-density commercial business areas.

Rock quarrying is a long-term proposition. Gone are the days when a quarry was opened for a short-term project such as a specific stretch of interstate or highway and then abandoned. Emphasis is now on locating sites where a quarry can be developed which will serve the community for an extended period (50 plus years). This allows for stability of traffic patterns and surrounding development and allows the quarry operator the time to establish an operation that will be operated in the most efficient manner possible. Upon completion of mining there are many options for reuse/reclamation of quarries. Previously quarried properties have become parks or greenways with hiking/biking/walking trails, nature centers for education and conservation, subdivision sites, golf courses, business complexes, freshwater reservoirs for public water supply, and storm water detention areas for municipalities. Reclamation of this site would be amenable to the creation of a park/greenway (e.g., Mead's Quarry at Ijams Nature Center and the old Vulcan City Quarry at Fort Dickerson Park), business complex, industrial facility with the requirement for a clean fresh water source, or freshwater storage reservoir for an East Knox County potable water source.

Knox County

Knox County is steadily growing and one Sector experiencing this growth is the East County Area from Exit 398 on Interstate 40 at Strawberry Plains Pike up to and beyond Exit 402 at Midway Road with the Midway Business Park being located at Exit 402. Also, an area of growth that includes the Eastbridge Business Park is located between Highway 11W and Highway 11E. The Midway Quarry located at 9600 Mascot Road, Mascot, Tennessee is well positioned and has a current road system, which leads to being the most economical source of crushed stone in Knox County to provide materials for development in these areas. Other sources of stone that could possibly supply this area for development are in areas with less developed transportation infrastructure, closer to residential and/or downtown business development, or originate outside of the county. Crushed stone is sensitive to location, as price for the product increases with increasing distance from the source. This results in situations where it isn't uncommon for the transportation costs to exceed the value of the stone. Not having a high-quality source of stone close to the market results in an economic disadvantage for citizens, developers, and Knox County as a whole. Crushed stone operations are also restricted to where quality stone exists. While there are abundant rock outcroppings in Knox County, quantities of quality

stone in sufficient volume for quarrying in areas with well-developed transportation infrastructure that are beneficial to residential and business developments are uncommon. It was the presence of quality stone and minerals in this area that drew mining companies in as early as the mid-1850s to access the zinc ores with the limestone for construction aggregates being a byproduct of the process. With the growth of the county in this area it encouraged the predecessors to Blue Water Industries (ALC, RMC, and AUSA) to acquire, zone, and permit the properties that currently make up the BWI Midway Quarry to expand and grow the aggregates mining and processing operations.

Midway Quarry

(History)

ALC opened the Midway Quarry in the late 1950's to early 1960's. The quarry operated between Mascot Road and the Norfolk Southern Railway. Operations received approval from the Commission to advance operations to the north side of Mascot Road in 1986. The land proposed for addition to the Plan of Operations with this submittal (Parcel 043-020.01, 0 Mascot Road) was obtained from RCRS, LLC in 2009.

(Location)

The quarry's physical address is 9600 Mascot Road, Mascot, Tennessee 37806, and the approximate geographic center of the quarry site properties is latitude 35°03'-59" North and longitude 83°-43'-04" West. The currently permitted and approved properties at Midway were originally acquired by ALC, RMC, and AUSA stretching from the general vicinity of the intersection of Mine and Mascot Roads along the railway east toward Immel Mine Road and north/northwest back around to Clear Springs Road.

Present land zoning on Midway Quarry property is Industrial (I). To the north/northwest of the quarry is the Industrial zoned Eastbridge Business Park and the east is the Industrial zoned Nyrstar Immel Zinc Mine. There is some Low-Density Residential Zone (RA) north of but not adjacent to the parcel proposed for addition to the Plan and some RA across Mascot Road and the NS Railway to the south of but not adjacent to the parcel.

(Access)

No new ingress/egress points are proposed with this application. Access to the quarry property south of Mascot Road is via a paved two-way entrance located between Eastbridge Boulevard and Clear Springs Road. There is a paved and gated entrance to the old R/M Concrete Plant area directly across from Clear Springs Road, but this entrance isn't utilized unless the main entrance were to be shut down in some type of unusual event or emergency. Access to the existing approved and permitted property located north of Mascot Road is via a gravel gated entranceway. This entrance is only used as necessary by over the road vehicles. Access to this area by off-road mobile quarry equipment will be via a tunnel blasted through the rock under Mascot Road. This tunnel is currently in the first stages of installation working in conjunction with Knox County Engineering and the Federal Mine Safety and Health Administration (MSHA). Access to the parcel proposed for addition to the Plan will be through the existing approved and permitted parcel via the tunnel under Mascot Road or the existing gravel entranceway if necessary.

The further development of operations and use of existing facilities will not put any substantial additional traffic on main roads or residential streets, in conformance with Article 4, Supplementary Regulations, Section 2, 4.10.18.

(Geomorphology and Geology)

The topography of the area is low rolling hills. Geologically the area is underlain by limestone and dolostone or dolomite rock (is a sedimentary carbonate rock containing a high percentage of the mineral dolomite) of the Chickamauga and Knox Groups. The predominant outcropping rock type is the Lenoir Limestone; however, this formation forms only a thin veneer. Mosheim Limestone and Mascot Formation outcrops along the fringe of the property constitute the bulk of the rock to be quarried. The topographic map of the area shows a strong karst development. This is mainly associated with the Lenoir-Mosheim contact and to a lesser degree with the Mosheim-Mascot contact. The present quarry intercepts several small cavities, which conduct water to the quarry during rainy periods from the surrounding area. The outfall of other sinkholes isn't known with certainty but is presumed to ultimately be the Holston River, which flows by the site on the east and southeast border.

Environment, Health, & Safety,

Safety and Health, drilling and blasting, air quality, water quality, solid waste management, noise, and aesthetics are addressed in the following sub-sections. BWI is acutely aware of the public's interest concerning these issues and it can and does successfully address and control these aspects of the operation.

(Air Quality)

The emission of pollutants to the air in Knox County is regulated by the Knox County Department Air Quality Management (KCDAQM). Permits to construct and operate crushed stone processing equipment are obtained from the Department. Currently BWI maintains Air Quality Operating Permit No. 21-0120 from the Department to operate processing equipment at the quarry. Sources of dust at a quarry tend to be crushers, screens, certain stockpiles, and roadways. Emissions from these sources can generally be controlled by the application of water using spray nozzles at selected sites, and partial to complete enclosure of selected equipment. Dust from roadways can best be suppressed by use of a water truck to keep roadways wet and clear of buildup. These activities are conducted in compliance with Knox County Ordinances Article 4, Section 1, 4.10.08.

(Water Quality)

Operation of a quarry in the State of Tennessee requires the possession of an NPDES Permit issued by the Tennessee Department of Environment and Conservation (TDEC). The Midway Quarry operates under NPDES Permit TN0031089. Sources of possible water pollutants at a quarry are generally from stormwater runoff, plant and equipment wash down water, pit pump-out, and plant process (stone wash water and dust suppression) water. Pollutants most likely to be found are suspended solids, oil, and grease, and low or high pH levels. These and any other pollutants of interest potentially present in water at mining sites in Tennessee are regulated by the TDEC, Division of Minerals & Geologic Resources - Surface Mining Section. The most common method of water pollution control is the construction of

sedimentation basins with controlled discharge points, water collection points and recycling through the process, best management practices, and diversion structures to prevent water from becoming affected by contact with quarry operations. All these techniques are used at the quarry. BWI maintains one (1) commingled process water/storm water outfall via NPDES Permit No. TN0031089. BWI also maintains Injection Well Permit UIC Number KNX0000064 issued by TDEC-Division of Water Resources for four (4) water injection points into karst topography and the old underground mine. These activities are conducted in compliance with Knox County Ordinances Article 4, Section 2, 4.50.02 B. (6.).

(Natural and Man-Made Waste Materials)

Natural wastes generated at a quarry site tend to come from two areas; dirt/low quality rock and vegetative debris associated with the removal of overburden during site preparation and product extraction. The overburden can be generally managed in three ways. First it can be sold as fill on construction projects. Second it can be used in berms on-site to shield the operation from the public. Last it can be stored on site in designated storage areas. The management of these materials on-site is regulated by TDEC-Division of Minerals & Geologic Resources - Surface Mining Section via the NPDES Permit No. TN0031089. Parcel 043-020.01 is currently permitted with TDEC for overburden storage and the purpose of this application is to add this parcel for this purpose to the Knox County Planning Commission and Board of Commissioners approved Plan of Operations.

Solid waste from daily operations includes office materials, wood, empty containers, tires, used filters, used oil, batteries, spent solvent, scrap metal, used rubber belting, used tires, and decommissioned equipment. BWI follows a philosophy of reduce and recycle to minimize the generation of solid waste. Typical items recycled consist of cardboard, plastics, batteries, used oil, used filters, used antifreeze, spent solvent, metal, aluminum, and tires. Items reused include used rubber belting for shorter belts and other uses, scrap metal, parts from decommissioned equipment, and recycled/refreshed solvents. Potentially hazardous wastes are recycled when possible or responsibly managed as special or universal wastes. Hazardous waste generation at quarry sites is minimal and the site should qualify as a Conditionally Exempt Small Quantity Generator if necessary. Non-hazardous waste not sent for recycling or reuse will be placed in a dumpster provided by a commercial waste handler for proper disposal in a permitted landfill. The management of these wastes is regulated by the TDEC - Division of Solid Waste Management. These activities are conducted in compliance with Knox County Ordinances Article 4, Section 1, 4.10.06.

(Aesthetics / Landscape Screening 4.10.11, Section B.1. Type "A" and Facility Berms)

As a general practice, when possible existing vegetation will be utilized on all properties at the quarry to maintain the required screening and replaced as necessary if dieback occurs. A minimum of a 15' wide Type "A" Landscape Screen will be maintained on the proposed new parcel. The existing natural screening will be maintained and supplemented as necessary to meet the landscape screening requirement along with the installation of an interior berm for visual, noise, and security purposes as appropriate. The overburden storage area will be seeded as appropriate to retard erosion and provide good visual appearance.

(Health & Safety)

The quarry operates under the guidelines of the United States Department of Labor-Mine Safety and Health Administration (MSHA). Federal MSHA inspectors inspect the quarry a minimum of two (2) times per fiscal year. MSHA requires all employees that participate in mining activities at the site to be trained miners with required new miner, on-going, and annual training requirements. MSHA regulates and inspects aspects of the operation such as noise/dust exposures, pit development, overburden removal/placement, plant and mobile equipment operation, petroleum management, employee training, general cleanliness, drilling and blasting, and other related items.

(Drilling and Blasting)

Drilling and blasting are the only efficient way to obtain rock from this type of deposit for making crushed stone aggregates. BWI contracts with licensed drillers, blasters, and seismic monitoring professionals to perform and monitor these activities at the quarry. Drilling is conducted by compressed air or hydraulic percussion drills on a precisely laid out pattern. This pattern of holes is designed to maximize breakage of the rock and minimize the number of explosives used. The major type of explosives used in modern quarrying are ANFO, ANFO emulsions, or water gels. These explosives are brought to the site by a contractor, loaded into the holes following precise guidelines as to the number of explosives that can be used, and detonated by a licensed blaster. The blasting contractor and/or a separate seismic monitoring company monitor each blast and record readings from seismographs stationed near the quarry. BWI operates two other quarries in Knox County and complies with county, state, and federal performance standards related to these activities. The Tennessee State Fire Marshall's Office regulates such activities and periodically inspects the records for compliance that are required to be kept for three (3) years from the date the blast occurs. These activities are conducted in compliance with Tenn. Code Ann. Section 68-105-101, et seq., and with Knox County Ordinances Article 4, Section 1, 4.10.01, 4.10.03, and 4.10.07. To the extent there is any inconsistency in the state statutory standards and the Knox County standards, the state standards preempt the local standards. See Tenn. Code Ann. Section 68-105-110.

(Noise)

Noise at a quarry site comes from blasting and operation of mobile and stationary equipment. BWI complies with the Knox County noise level standards on and beyond the property boundaries as required by Article 4, Section 1, 4.10.01. The location of the primary crusher in an interior central location positioned in a low area screens most neighbors. The use of operational noise reduction measures and the use of berms and vegetation for sight and sound barriers provide further protection.

Blasting provides the loudest source of noise; however, the location and instantaneous nature of the blast will have no long-term effect. Blasting occurs normally once to twice a week during the busiest times and generally around the noon hour to mid-afternoon if possible. The short duration of the blast is within Knox County performance standard guidelines per Article 4, Section 1, 4.10.07 and BWI takes every step possible to minimize noise from this activity. As necessary seismographs with microphones will be used at selected sites to determine noise levels associated with blasting.

Summary

Blue Water Industries and its predecessors have operated quarries in Knox County, East and Middle Tennessee, Alabama, Florida, North/South Carolina, and Virginia for many years with the Midway Quarry being in operation for approximately sixty-five (65) years. There is a long-term market need for quality crushed stone provided by the quarry to meet the needs of the growing East Knox County sector as well as the Grainger and Jefferson County markets. The deposit of quality limestone located at the quarry can meet these needs well into the future.



Appendix A



Blue Water Industries, LLC

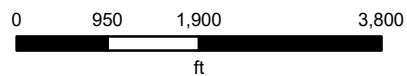
Parcel 043-020.01

Approximately 49 Acres

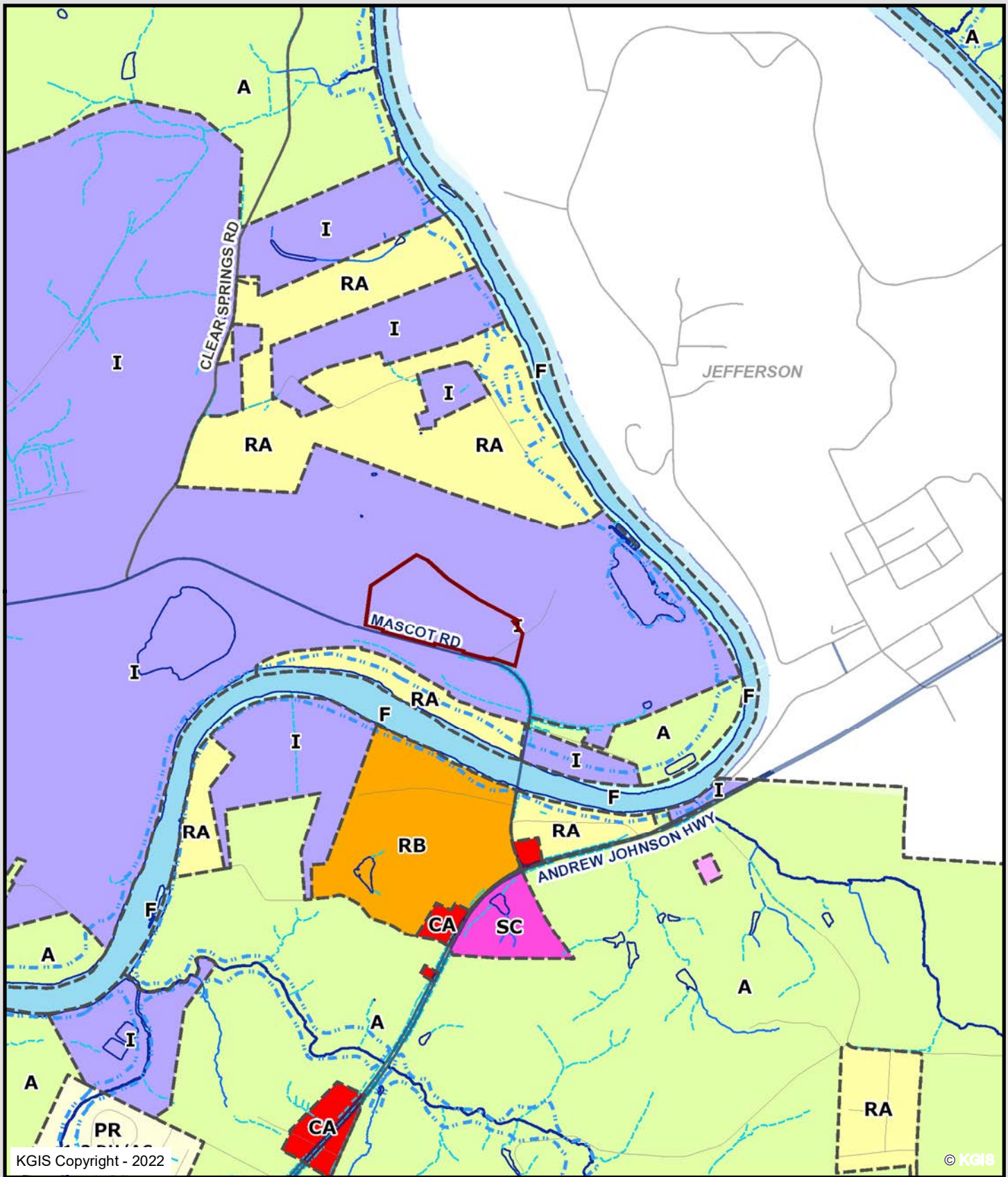
Knoxville - Knox County - KUB Geographic Information System



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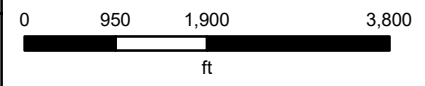
Blue Water Industries, LLC

Parcel 043-020.01
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Knoxville - Knox County - KUB Geographic Information System



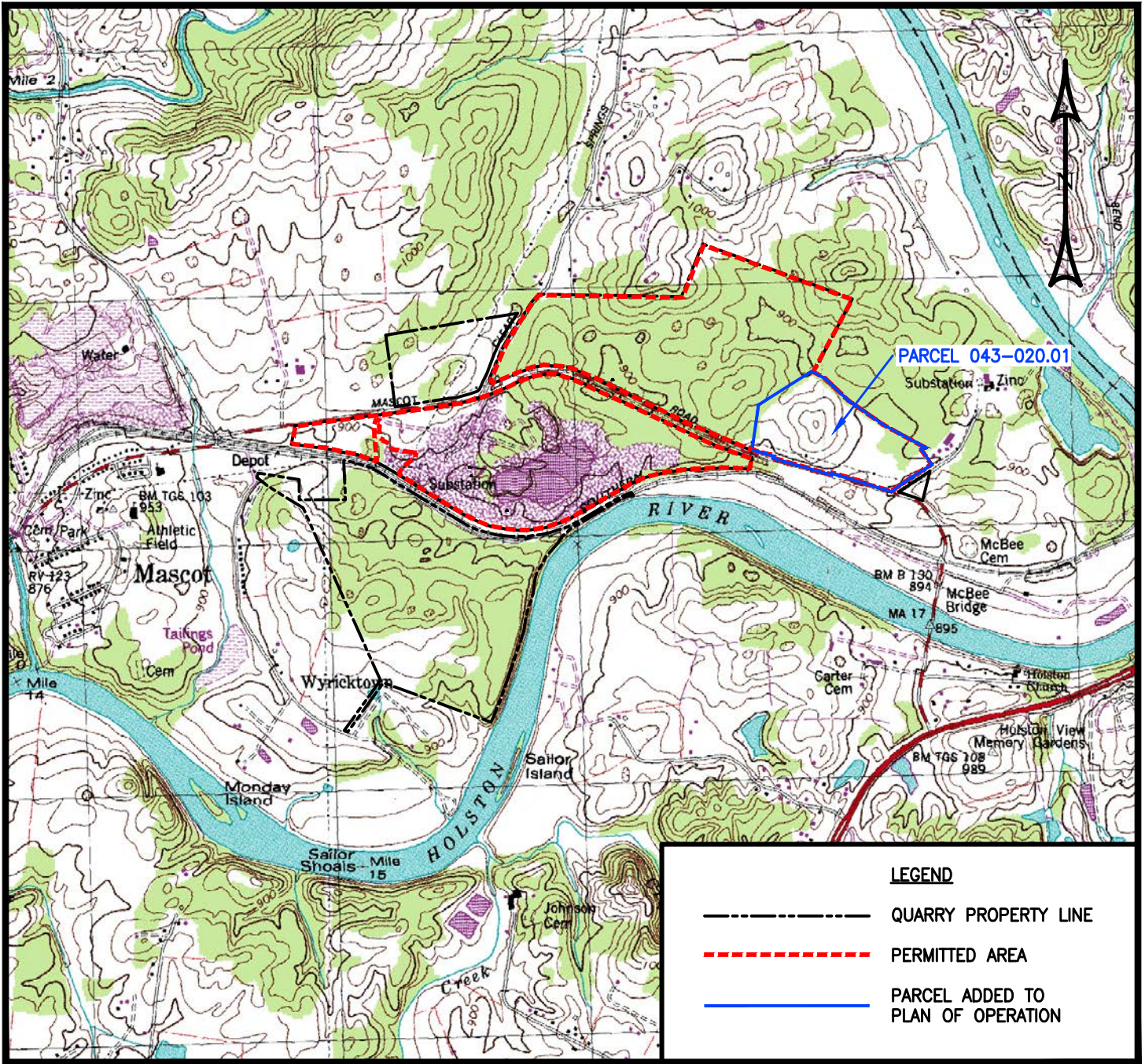
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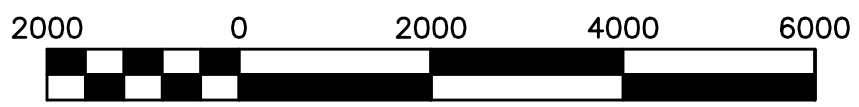


Appendix B



LEGEND

- QUARRY PROPERTY LINE
- - - - - PERMITTED AREA
- PARCEL ADDED TO PLAN OF OPERATION



SCALE: 1"=2000'

Taken from: U.S.G.S.
 7.5 Minute Series (Topographic)
 Mascot Quadrangle
 LAT. 36°-03'-49.4"N and LONG. 83°-43'-17.5"W



P.O. BOX 2968, MURFREESBORO, TN 37133-2968
 (615) 895-8221 * FAX (615) 895-0632

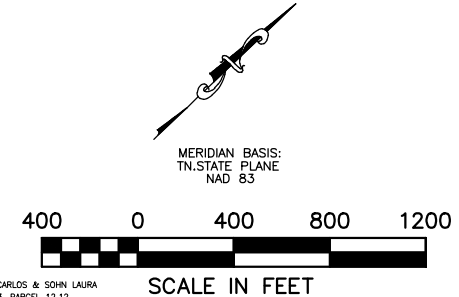
Location Map - Map 1

BWI Midway, LLC - Quarry
 Lat. 36°-03'-49.4"N and Long. 83°-43'-17.5"W
 Knox County, Tennessee
 Permit Area: +/- 335 Acres
 Date: July 2022

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Appendix C



- LEGEND**
- Permit Area (Area = 335 Acres)
 - Site Property Line (Area = 550 Acres)
 - Access Roads
 - BWI Stockpiles
 - Process Water Impoundments
 - Overburden Placement
 - Type A Landscape Screening (Minimum 15' in Width)
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9-E-22-DP
Revised: 8/23/2022

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○ SIGN	○ SPOT ELEVATION
○ TREE	— WATER LINES
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— FENCES	— GUARDRAILS

--- RIGHT-OF-WAY/ADJOINER PROPERTY LINE

FILE NAME: L:\CHARTERS\BWS BLUE WATER INDUSTRIES (BWI) 9-E-22-DP QUARRY PLAN OF OPERATIONS SUBMITTALS\9-E-22-DP QUARRY PLAN OF OPERATIONS\9-E-22-DP QUARRY PLAN OF OPERATIONS (1) X 17.DWG

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DATE	BY	NO.	DESCRIPTION
8/18/22	LAF	1	REVISIONS PER MPC 8/16/22 COMMENTS

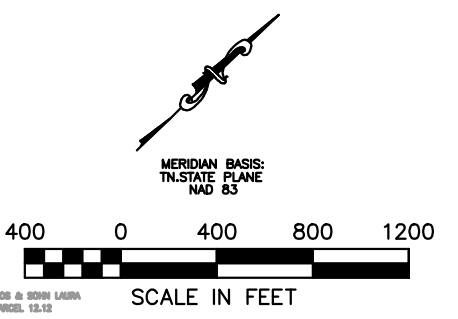
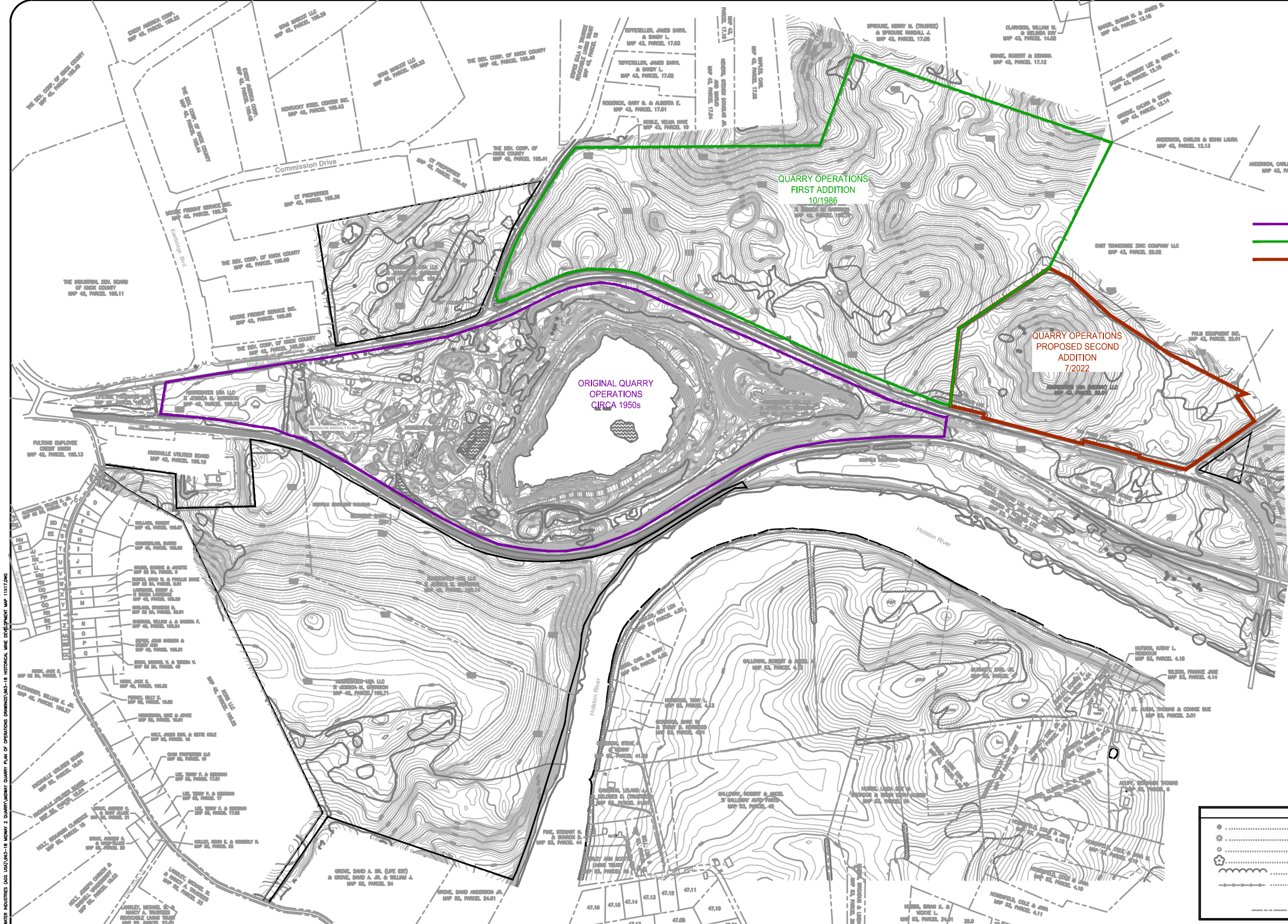
BLUE WATER
INDUSTRIES
BWI MIDWAY, LLC – QUARRY
LAT. 36-03-49.4N AND LONG. 83-43-17.5W
KNOX COUNTY, TENNESSEE

PLAN OF OPERATIONS MAP

PROJECT NO. 963-18

DATE: JULY 2022	DRAWN BY: DSM
SCALE: AS NOTED	CHECKED BY: RWM
	APPROVED BY: RWM

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LEGEND

	ORIGINAL QUARRY OPERATIONS CIRCA 1950s
	QUARRY OPERATIONS FIRST ADDITION 10/1986
	QUARRY OPERATIONS PROPOSED SECOND ADDITION 07/2022

9-E-22-DP
Revised: 8/23/2022

SYMBOL LEGEND

	POWER POLE		FLAGPOLE
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DATE	BY	NO.	DESCRIPTION

BLUE WATER
INDUSTRIES
BWI MIDWAY, LLC – QUARRY
LAT. 36-03-49.4N AND LONG. 83-43-17.5W
KNOX COUNTY, TENNESSEE

PLAN OF OPERATIONS MAP

PROJECT NO. 963-18

DATE: AUGUST 2022	DRAWN BY: DSM
SCALE: AS NOTED	CHECKED BY: RWM
	APPROVED BY: RWM

FILE NAME: L:\CHARTERS\BWS\BWI MIDWAY QUARRY PLAN OF OPERATIONS\BWS\BWI-MIDWAY-QUARRY-PLAN-OF-OPERATIONS-DRAWINGS\963-18-OPERATIONS-MAP-DEVELOPMENT-MAP-111172.DWG

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