



May 4, 2021

Ms. Sharon Smith
Metro Public Works
720 South Fifth Street
Nashville, Tennessee 37206

RE: Jackson Law PBR Submittal - Nashville Waste Solutions

Dear Ms. Smith:

On behalf of Nashville Waste Solutions (NWS) Barge Design Solutions (Barge) is submitting this Jackson Law Package for the above referenced project.

If you have any questions or need any assistance, please call me at 615-252-4481 or at Jason.Repsheer@bargedesign.com.

Sincerely,

A handwritten signature in black ink that reads "Jason Repsher". The signature is written in a cursive, flowing style.

C. Jason Repsher, P.G.

Barge Design Solutions, Inc.

Barge Project # 3764800



NASHVILLE WASTE SOLUTIONS PROCESSING CENTER

JACKSON LAW PERMIT BY RULE NOTIFICATION PACKAGE

4601 Ashland City Highway, Nashville, TN

Prepared
For: Nashville Waste Solutions, LLC

PREPARED BY



615 3rd Avenue South, Suite 700
Nashville, TN 37210
BARGE # 3746800

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

Barge Design Solutions, Inc. (Barge) was asked to compile the information necessary for a Permit-by-Rule application for a new processing facility to meet the requirements of the Tennessee Department of Environment and Conservation (TDEC).

Nashville Waste Solutions is committed to environmentally sound practices involving the collection, processing, transfer, and the disposal of solid waste. This document provides a narrative of the Nashville Waste Solutions operations in conjunction with a new Permit-By-Rule Notification and topographic location map presented in Appendixes 1 and 2 respectively, for the property located at 4601 Ashland City Highway, Nashville, Tennessee. The 'Jackson Law' requirements for processing facilities are addressed in Appendix 3.

The purpose of this facility is to process, shred and sort, the incoming municipal solid waste (MSW) and construction and demolition (C&D) waste to recycle the ferrous and non-ferrous metals. Additional recycled materials may be added, at a later date, as processing technology improves. The residual waste will be baled in approximately 3-ton bales. The bales will be roughly 7-feet long by 4-feet wide by 5 feet high. The bales will then be wrapped in an LLDPE plastic film for shipment on barge or train with trucking as a backup for the operation. The waste will then be transported to a fully permitted Class I Landfill. Brochures and layout information from the manufacturers and suppliers for the processing equipment is in Appendix 7.

The Metro Davidson County Codes Department, after consultation on the proposed operation, have determined that the site meets the definition of a transfer station for the purposes of zoning in Nashville and as such a dual process of a Special Exception for the zoning and the TDEC required 'Jackson Law' process shall both be needed but can have the respective public hearings and three Metro Council meetings held together to prevent overlap and confusion.

This facility will be operated with trained personnel with clearly posted signs for entry locations, hours of operation and contact information. Personnel will be equipped with communication devices to maintain traffic control, facility security and immediate access to emergency personnel if needed. All records required by this Permit-by-Rule will be kept in order at the site.

Environmental restoration and initial clearing of the site for the removal of the former construction laydown yard and equipment will be completed prior to construction activities. An environmental assessment of the current property noted areas of concern to address prior to further site development to clean up possible contamination at the site. The full Environmental Site Assessment is provided in Appendix 4. The office, tipping floor, processing facility / transfer station and storage areas will be a new construction and located well away from the stream and wetland areas defined on the hydrologic determination at the site provided in Appendix 5. While no endangered species were noted at the site it will be prudent to allow possible bat roosting habitat on the western portion of the site to remain. This area has been avoided in the proposed facility layout to avoid impact to any possible bat habitat. In fact, the proposed facility layout utilizes only the current industrial use areas of the property and leaves the existing tree and habitat areas untouched.

The following narrative sections have been correlated to the Tennessee Department of Environment and Conservation – Division of Solid Waste Management (Division) regulations for ease of reference.

2.0 JACKSON LAW CRITERIA

The following sections address TDEC Rule 0400-11-01-.02 Part (2)(b) for the permitting of processing facilities in a County which has enacted the 'Jackson Law' such as Davidson County.

2.1 Waste Type

The proposed facility will process, sort, recycle, store and transfer both MSW and C&D debris as well as other products approved for processing and recovery by TDEC.

2.2 Processing Methods

All loading or unloading of materials will occur within buildings specifically designed for solid waste processing and recovery and on paved surfaces as required. All waste handling will be on a concrete surface within the building. However, a separate 'hot load' area has been designated outside the building to provide an area to address incoming loads and waste that may pose a fire risk to the facility. This area is required by the regulations but is seldomly needed during normal operations as loads are inspected prior to placement on the tipping floor.

The facility has been specifically designed with a separate tipping floor, material processing and storage area to minimize material handling, allow ease of recovery for recycled materials, block or minimize prevailing wind issues and provide for odor and fire suppression systems throughout the separate areas. Waste will be removed from the tipping floor by the end of each operational day or in the event of extended operations, waste will be removed in conjunction with incoming operational tonnage. All recovered materials will be stored within a building or in appropriate containers and paved storage areas.

The processing area for operation of the shredding, recycling baling and bale wrapping activities is a complex process and may be adjusted periodically to allow for addition of additional recycling processing or improvements in operations. The basic schematics for the initial operations along with equipment lists and operational throughput have been provided by the equipment supplier and are located in Appendix 7.

2.3 Noise and Odor Impact

Facility operations will solely take place inside the buildings at the facility and thereby reduce noise potential. The existing site's elevation difference to Ashland City Highway and the 20 to 40 foot high, blasted rock wall limit visibility to the site but also provide a sound buffer to the residential properties on the north side of the highway. Trucks entering and exiting the site will blend with the current truck traffic from the adjacent sand and gravel port facility and will have no additional noise impact to the surrounding area. Current construction laydown yard operations as well as current heavy equipment repair operations should be comparable with operations proposed on the site. See Appendix 8 for Noise Measurements taken on-site which show existing noise levels from highway traffic and industrial activity adjacent to the site. During the readings all activity on the property was halted to ensure accurate off-site readings.

All inbound and outbound materials will be in appropriate containers with all recovery processing occurring within the building. Inside the facility a specialized industrial odor control system (OCS)

consisting of an atomized misting system will be in place to aid in the reduction of odor particles in the air. An example of the odor misting system is provided in Appendix 7. The building orientation is designed with the tipping floor opposite the prevailing wind direction to minimize wind-blown annoyances prior to vehicle entry to the building. No putrescible materials will be located or stored outside with all final materials for transport fully wrapped in the Cross-Wrap system fully encapsulating the material in a LLDPE plastic film. Brochures and additional information from the manufacturer are located in Appendix 7.

The facility will be designed and operated to provide adequate ventilation for odor control and employee safety. The operator will prevent nuisance odors from leaving the boundary of the facility. If nuisance odors are found to be passing the facility boundary, the facility operator may suspend operations until the nuisance is abated or immediately take action to abate the nuisance.

2.4 Property Value Impact

There is no anticipation for property values in surrounding areas to change due to the proposed facility. The property has been under industrial use for over 10 years, and is surrounded by industrial development to the south, and the properties in the area to the east that are zoned Agricultural and Residential (AR2a) are either used for non-conforming industrial uses or are being marketed as future industrial sites. Industrial property values in the area have continued to skyrocket in valuation due to the use of many former industrial site as high density residential as has been observed in the nearby 'Nations' community.

Remaining residential areas to north across Ashland City Highway (Highway12) have also increased in value over the last 10 years and a pace equivalent with the local area even with the current neighboring industrial property usage.

2.5 Transportation Infrastructure Impact

The proposed waste processing / transfer facility is anticipated to generate 140 additional vehicles per day accessing the site located at 4601 Ashland City Highway. Based upon the guidance in standard industry evaluation for traffic studies, the proposed number of site trips will not cause a significant degradation in the level of service on Amy Lynn Drive, Ashland City Highway, or Briley Parkway. Please see the Traffic Impact Study memo located in Appendix 8 for a complete analysis.

2.6 Economic Impact

EPA's 2020 Recycling Economic Information Report states that ferrous metals, construction and demolition (C&D) and nonferrous metals represent the top three contributors of the total economic impact within the recycling industry. A considerable portion of the economic impacts for the recycling sector occur indirectly rather than a direct result of the production. These impacts include employment, wage, and tax contributions, which directly contribute to the community. These are the direct objective of the NWS facility to serve the Nashville area. This facility is intending to hire 15 employees for the various facility operations that take place on site. In addition, the use of the barge and rail transfer operations will generate an additional 5 to 8 jobs depending on loading arrangements and other factors.

The existing and proposed offloading, recycling and landfill facilities in Lake and Obion Counties in northwest Tennessee are an economic boom with over 30 jobs directly related to these operations. Both the Lake and Obion county governments fully support the waste transfer to their counties and the welcome the job creation in these disadvantaged communities.

2.7 Zoning Compatibility

This site is zoned Industrial Restrictive (IR) and located in an area off of Ashland City Highway and Amy Lynn Drive that is characterized by industrial development to the south, and the properties in the area to the east that are zoned Agricultural and Residential (AR2a) are either used for non-conforming industrial uses or are being marketed as future industrial sites. The area of development for the facility is geographically below Ashland City Highway and will be screened from view by properties to the north and west using existing vegetation in addition to the required Type D landscape buffer yard and setbacks. This site located along a railroad spur and just north of the Cumberland River, is uniquely positioned to allow transportation of waste out of the county by rail or barge in addition to the traditional road routes.

After consultation with the Zoning Administrator on the proposed operation, it was determined that the site meets the definition of a transfer station for the purposes of zoning in Nashville. A dual process of a Special Exception for the zoning and the TDEC required 'Jackson Law' process are being undertaken in an overlapping timeline. This will place the proposed facility before the Metro Council to hear both issues at the same meetings before ultimately reaching the BZA for the Special Exception public hearing.

2.8 Public Health, Safety or Welfare Impact

All inbound and outbound materials will be in appropriate containers with all recovery processing occurring within a building. Recycled products that are recovered from the process will also be stored within the buildings or in containers designed for recycled material storage and eventually transferred for beneficial reuse or disposal.

The facility will not be open to the general public but will be open to other business traffic. This facility will have clearly visible and legible signs at the points of public access which indicate the hours of operation, the type of waste accepted and emergency number. The entire facility will be fenced with gate systems at each entry and exit point. The eastern property line adjoins a creek system which provides an excellent additional access barrier as do the hills, existing trees and vertical rock walls at the facility. The southern property line abuts a rail line which also provides an additional access barrier. Additionally, required landscaping per Metro Nashville Planning ordinances will provide a further access deterrent and provide screening for the facility. The facility gates will be closed and locked when no facility personnel are present at the site. Finally, a perimeter fencing system with screening fabric will be placed around the entire facility to limit access but also add to the screening provided by the landscape buffer.

APPENDIX 1 – Permit By Rule Notification



STATE OF TENNESSEE
 DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 DIVISION OF SOLID WASTE MANAGEMENT
 WILLIAM R. SNODGRASS TENNESSEE TOWER
 312 ROSA L. PARKS AVENUE, 14TH FLOOR
 NASHVILLE, TN 37243

SOLID WASTE PERMIT BY RULE NOTIFICATION

1. TYPE OF PERMIT- BY- RULE REQUESTED			ID# TDEC USE ONLY	
<input type="checkbox"/> COMPOST FACILITY	<input type="checkbox"/> LAND APPLICATION	<input type="checkbox"/> TIRE STORAGE FACILITY		
<input type="checkbox"/> CONVENIENCE CENTER	<input checked="" type="checkbox"/> PROCESSING FACILITY	<input type="checkbox"/> TRANSFER STATION		
2. FACILITY INFORMATION			FACILITY LOCATION COUNTY	
FULL LEGAL NAME OF FACILITY			Davidson	
Nashville Waste Solutions Processing Center			LATITUDE (DECIMAL DEGREES)	
4601 Ashland City Highway			36.209791	
PHYSICAL LOCATION OR ADDRESS OF FACILITY			LONGITUDE (DECIMAL DEGREES)	
4601 Ashland City Highway			-86.883808	
FACILITY MAILING ADDRESS			FACILITY EMAIL	
4601 Ashland City Highway			info@nashvillewastesolutions.com	
FACILITY MANAGER OR SITE OPERATOR		PHONE (WITH AREA CODE)	AFFILIATION OF SITE OPERATOR (IF DIFFERENT FROM PERMITTEE)	
Stephen Bridges		615-339-8537		
3. APPLICANT (PERMITTEE)				
APPLICANT NAME		PHONE (WITH AREA CODE)	EMAIL	
Nashville Waste Solutions		615-339-8537	info@nashvillewastesolutions.com	
RESPONSIBLE OFFICIAL / TITLE		PHONE (WITH AREA CODE)	EMAIL	
Stephen Bridges, President		615-339-8537	info@nashvillewastesolutions.com	
RESPONSIBLE OFFICIAL MAILING ADDRESS		CITY	STATE	ZIP
1 Sawgrass Lane		Brentwood	TN	37027
LANDOWNER NAME	LANDOWNER MAILING ADDRESS	CITY	STATE	ZIP
Bell and Associates Construction	1000 Health Park Drive Suite 150	Brentwood		TN 37027
LANDOWNER SIGNATURE	LANDOWNER SIGNATURE	LANDOWNER SIGNATURE	DATE	
			3/29/2021	
4. WASTE HANDLING				
DESCRIPTION OF ACTIVITIES AND WASTES HANDLED OR PROCESSED		AMOUNT OF WASTE HANDLED, PROCESSED OR STORED		
Municipal Solid Waste and CD processed for metal recovery and transfer.		1,600.00	18,000.00	
		WEIGHT TONS / DAY	VOLUME YARDS / DAY	STORAGE MAX CU YARDS
5. CERTIFICATION REQUIRED				
I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.				
SIGNATURE OF RESPONSIBLE OFFICIAL		PRINTED NAME		
		Stephen Bridges		
SIGNATURE OF NOTARY		DATE		
		3/29/2021		
DATE COMMISSION EXPIRES		7/9/24		
		DATE COMMISSION EXPIRES		

INSTRUCTIONS FOR SOLID WASTE PERMIT BY RULE NOTIFICATION

COMPLETE THIS FORM FOR EACH FACILITY THAT IS PROCESSING AND/OR DISPOSING OF SOLID WASTE IN TENNESSEE. IF MULTIPLE FACILITIES EXIST OR ARE PLANNED, DESCRIBE EACH FACILITY AND ITS WASTES ON A SEPARATE FORM. SUBMIT COMPLETED DOCUMENT TO THE RESPECTIVE FIELD OFFICE IN YOUR AREA.

1. TYPE OF PERMIT- BY- RULE REQUESTED

TYPE OF PERMIT-BY-RULE

CHECK TYPE OF PERMIT-BY-RULE REQUESTED

2. FACILITY INFORMATION

FULL LEGAL NAME OF FACILITY

ENTER THE FULL LEGAL NAME FOR THIS SITE TO DISTINGUISH IT FROM ANY OTHER SITE THE APPLICANT OR ORGANIZATION MAY OWN OR OPERATE IN TENNESSEE.

ID# (IDENTIFICATION NUMBER)

LEAVE BLANK - TDEC USE ONLY

PHYSICAL LOCATION

INFORMATION (ADDRESS, DIRECTIONS) THAT WILL AID IN FINDING THIS SITE (NO PO BOX NUMBERS!) PROVIDE COUNTY WHERE SITE IS LOCATED. PROVIDE LATITUDE AND LONGITUDE FOR SITE LOCATION IN DECIMAL DEGREES.

FACILITY MAILING ADDRESS

PROVIDE COMPLETE MAILING ADDRESS FOR THIS SITE

NAME OF FACILITY OR SITE MANAGER OR SITE OPERATOR

NAME AND PHONE NUMBER OF PERSON WHO IS RESPONSIBLE FOR THE DIRECTION OF ACTIVITIES AT THIS SITE

AFFILIATION OF SITE OPERATOR (IF DIFFERENT FROM PERMITTEE)

IF SITE IS OPERATED BY PERSON OR ENTITY OTHER THAN PERMITTEE, GIVE NAME OF PERSON, CORPORATION ETC.

3. APPLICANT (PERMITTEE)

APPLICANT NAME

NAME OF LEGAL ENTITY MAKING APPLICATION FOR PERMIT. THIS NAME WILL BE THE PERMITTEE OF RECORD.

RESPONSIBLE OFFICIAL

PERSON AUTHORIZED TO COMPLETE THIS APPLICATION AND WHO MAY BE CONTACTED BY TDEC FOR ANY FURTHER INFORMATION.

LANDOWNER NAME

PERSON(S) OR ORGANIZATION(S) OF THE IMMEDIATE PROPERTY OWNER(S). ATTACH LETTER FROM LANDOWNER(S).

LANDOWNER SIGNATURE(S)

LANDOWNER(S) MUST SIGN AND DATE APPLICATION

4. WASTE HANDLING

AMOUNT OF WASTE HANDLED / PROCESSED / STORED

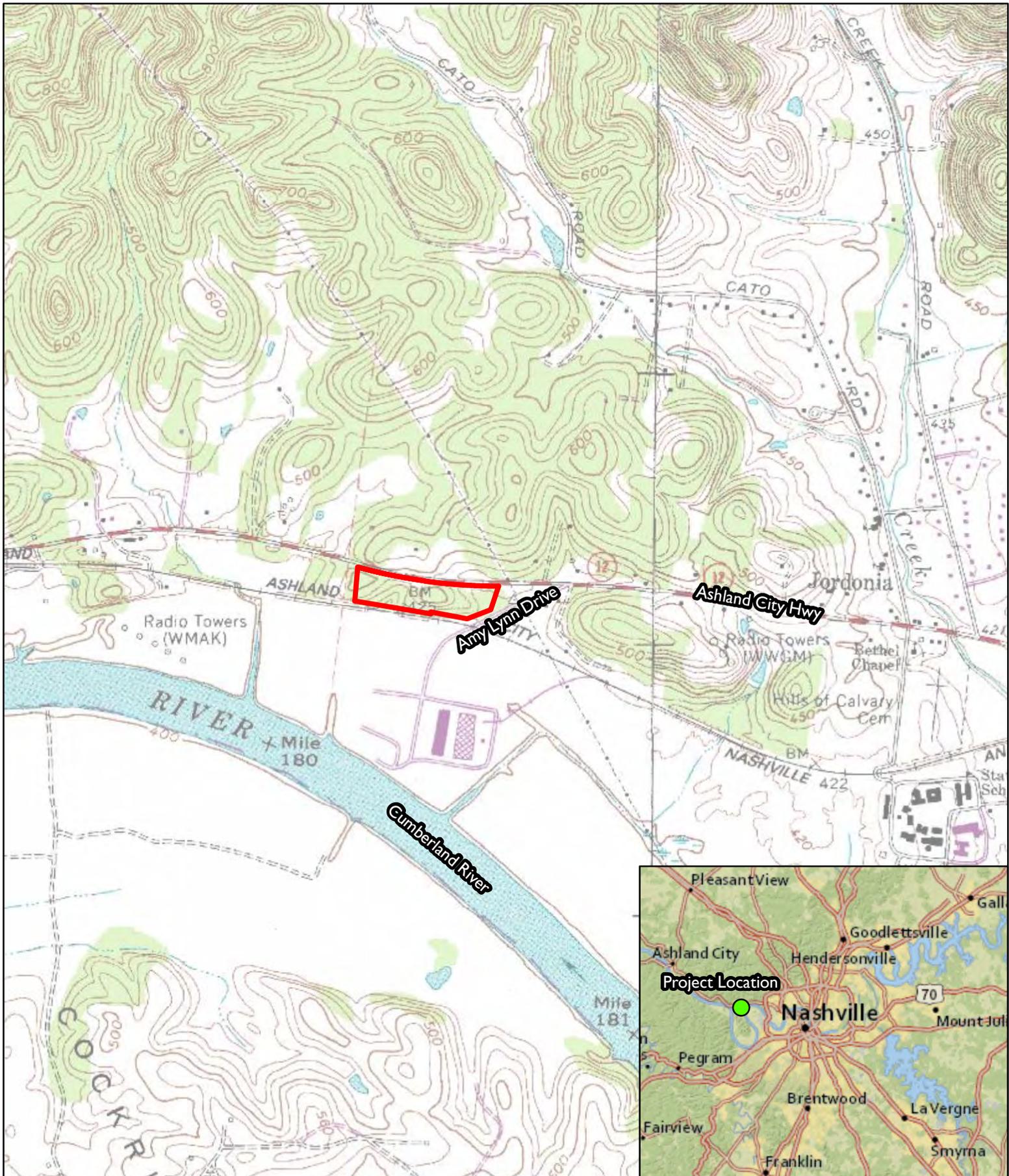
PROVIDE AN ESTIMATE OF THE DAILY WEIGHT (IN TONS) AND/OR VOLUME (IN CU YARDS/DAY) THAT WILL BE HANDLED AT THE FACILITY. INDICATE THE MAXIMUM AMOUNT OF WASTE THAT CAN BE STORED (IN CUBIC YARDS).

5. CERTIFICATION REQUIRED

CERTIFICATION

AFTER ALL DOCUMENTS HAVE BEEN COMPILED FOR SUBMISSION TO THE DIVISION, THE MANAGER OR OWNER RESPONSIBLE FOR THE SITE MUST SIGN THE CERTIFICATION AND GIVE DATE AND TITLE. THIS SIGNATURE MUST BE NOTARIZED.

APPENDIX 2 – Figures



1,000
Feet

1 inch = 1,391 feet
Tennessee State Plane (feet) 4100ftps
North American Datum 1983

BARGE
DESIGN SOLUTIONS

USGS Topographic Map

Nashville Waste Solutions Processing Facility

Davidson County, TN

Project Area

Appendix A-1

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information on areas where **Base Flood Elevations (BFEs)** and/or **Floodway** data have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Dammed Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on this FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway width and other pertinent floodway data are provided in the Flood Insurance Study report for site protection.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for site protection.

The projection used in the preparation of this map was State Plane Tennessee FIPS 4700 (the horizontal datum was NAD83, GRS1980 spheroid). Differences in datum, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
 NOAA, NNGS12
 National Geodetic Survey
 SSMC-3 #020
 1215 East-West Highway
 Silver Spring, Maryland 20910-3282
 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was provided in digital format by the Metropolitan Government of Nashville and Davidson County. This information was photogrammetrically compiled from aerial photography dated March 2008.

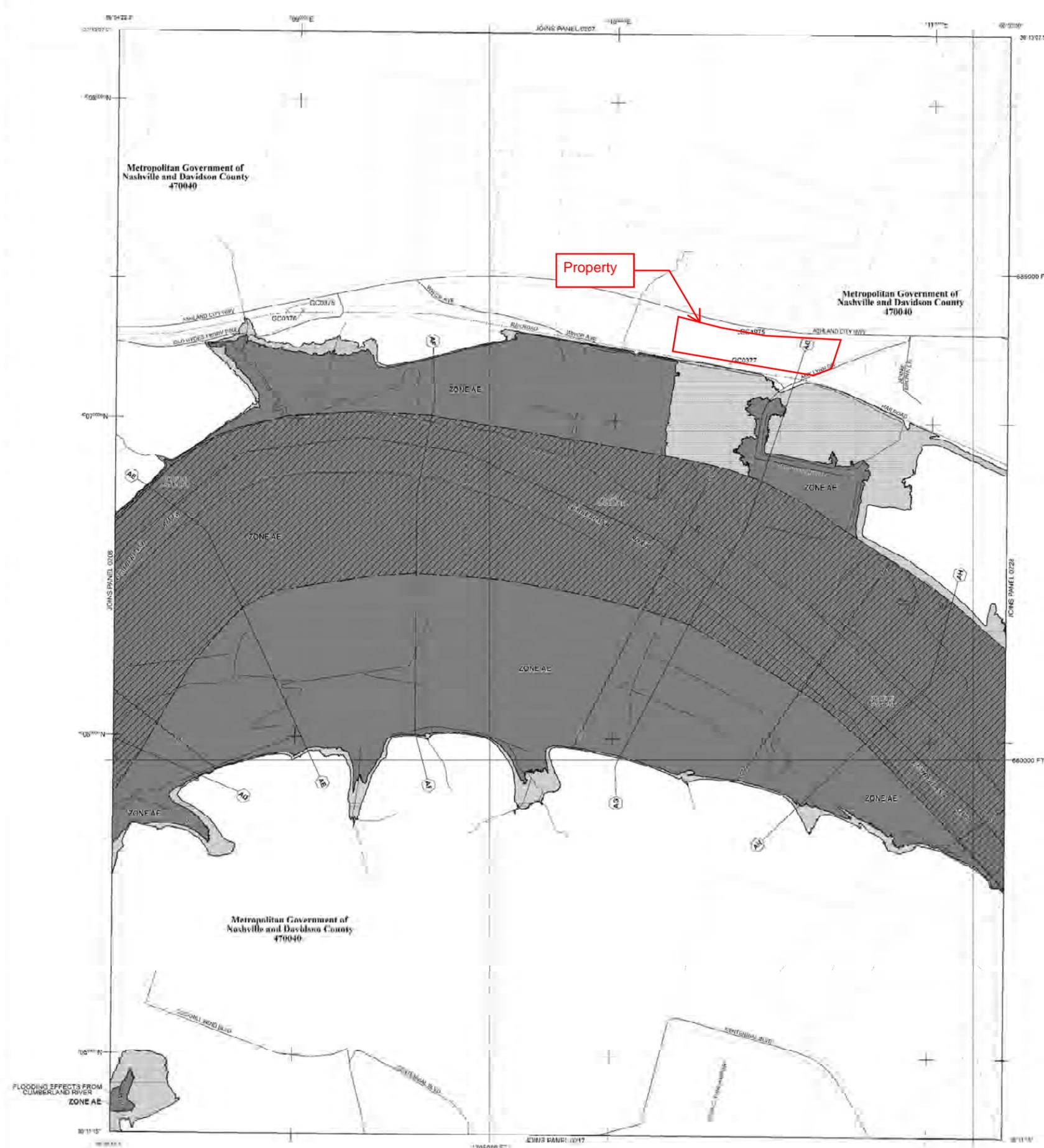
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or dis-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Map Service Center website at <http://www.fema.gov/>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRMA panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line" in some cases may deviate significantly from the channel centerline or separate outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% Annual Chance Flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Zone is the area subject to flooding by the 1% Annual Chance Flood. Areas of Special Flood Hazard include Zones A, AE, AH, AD, AO, AR, AV, and VE. The Base Flood Elevation is the water surface elevation of the 1% Annual Chance Flood.

ZONE A No Base Flood Elevation Determined.

ZONE AE Base Flood Elevation Determined.

ZONE AH Flood depths of 1 to 3 feet (usually water of standing); Base Flood Elevation Determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow or strong currents); Average depths determined. For areas of unusual fan floodings, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% Annual Chance Flood by a flood control system that was subsequently abandoned. Zone AR indicates that the former flood control system is being retained to provide protection from the 1% Annual Chance Flood.

ZONE AM Areas to be protected from 1% Annual Chance Flood event by a Federal flood control system under construction; no Base Flood Elevation Determined.

ZONE V Coastal Flood Zone with velocity hazard from storm surge; no Base Flood Elevation Determined.

ZONE VE Coastal Flood Zone with velocity hazard from storm surge; Base Flood Elevation Determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachments so that the 1% Annual Chance Flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% Annual Chance Flood, areas of 1% Annual Chance Flood with average depths of less than 1 foot or with average areas less than 1 square mile; and areas protected by levees from the Annual Chance Flood.

OTHER AREAS

ZONE D Areas determined to be outside the 0.2% Annual Chance Floodplain.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

CIRCUITWISE PROTECTED AREAS (CPAs)

CBRS areas and CPAs are normally located within or adjacent to Special Flood Hazard Areas.

— Municipality boundary
 - Floodway boundary
 - Zone D boundary
 - SBC and city boundary
 - Boundary showing Special Flood Hazard Area Zones and boundary showing Special Flood Hazard Areas of different Base Flood Elevations, Flood depths, or Flood velocities
 - Base Flood Elevation line and value; elevation in feet
 - Base Flood Elevation value where datum within zone; elevation in feet

— DTG (CL 997)
 * Referenced to the North American Vertical Datum of 1988

— Cross section line

— Intersect line (geographic coordinates referenced to the North American Datum of 1983 (NAD 83), WGS84 Hemisphere)

— 100-meter Universal Transverse Mercator grid box, using 10,000-foot grid values; Tennessee State Plane coordinate system (NAD83) = 4305; Latitude in Universal Transverse Mercator system (see expansion in notes to users section of this FIS report)

• M 1.5
 5-Mile Mile

MAP REVISIONS
 Refer to Map Revisions List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
 APRIL 20, 2011

EFFECTIVE DATES OF REVISIONS TO THIS PANEL:
 April 8, 2012 - to update regulatory limits to change Base Flood Elevations, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to change zone designations, to add floodways, to add roads and road names, to incorporate previously issued Letters of Map Revision, to reflect updated topographic information

For community map revision history prior to countywide mapping, refer to the Community Map History Sites located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-636-6626.

MAP SCALE 1" = 500'

0 50 100 150 200 FEET

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0209H

FIRM
FLOOD INSURANCE RATE MAP
 METROPOLITAN GOVERNMENT OF
 NASHVILLE AND
 DAVIDSON COUNTY,
 TENNESSEE
 AND INCORPORATED AREAS

PANEL 209 OF 478
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)

UNLAWFUL TO REPRODUCE OR TRANSMIT IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

Issue to User: This Map Number series does not affect the user when using any map system. The Community Number series does not affect the user when using any map system.

MAP NUMBER
 47037C0209H
 MAP REVISED
 APRIL 5, 2017

Federal Emergency Management Agency

APPENDIX 3 – Metro Jackson Law Criteria Response

NASHVILLE WASTE SOLUTIONS PROCESSING FACILITY

Permits-by-Rule Criteria (per Tennessee Department of Environment and Conservation)

(a) *All permit by rule facilities shall keep any records that are required by these rules and a copy of its permit by rule authorization at the facility or at another location approved by the Department. Notwithstanding any other provision of this rule, except for subparagraph (1)(c) of this rule, and provided they are not excluded pursuant to part (1)(b)3 of this rule, the following classes of activities shall be deemed to have a permit by rule if the conditions listed are met:*

- i) *The operator complies with the notification requirement of subparagraph (b) of this paragraph;*
Response: Yes, a solid waste processing facility (SWP) notification form will be submitted for each new activity and waste handled or processed to the Tennessee Department of Environment and Conservation Division of Solid Waste Management, initial notification attached.
- ii) *The facility is constructed, operated, maintained, and closed in such a manner as to minimize:*
 - i) *The propagation, harborage, or attraction of flies, rodents, or other disease vectors;*
Response: Solid waste will be handled in a timely manner; as it enters the building it will be dumped onto the concrete tipping floor and moved near the shipping area to be loaded into tractor-trailers to be transported to the landfill. All material will always be handled under roof. All solid waste will be completely removed from the tipping floor by the end of each working day.

This SWP will process non-hazardous materials for recycling and recovery from primarily front and rear load compactor trucks and enclosed compaction roll-offs within buildings specifically designed to accept and allow for processing and transfer of the materials. Recycled products that are recovered from the process will also be stored within the buildings or in containers designed for recycled material storage and eventually transferred for beneficial reuse or disposal.

While there is no anticipated opportunity for the propagation, harborage, or attraction of flies, rodents or other disease vectors an outside pest control company will be under contract to perform pest control activities at the facility.

- II) *The potential for explosions or uncontrolled fires;*
Response: Solid waste loads are to be dumped onto the concrete tipping floor for inspection for any non-compliant materials. Any hazards identified will be immediately conveyed to the Site Manager. Non-compliant waste will remain untouched and all personnel evacuated from the immediate area if necessary, until the material has been cleared for transport and disposal or has been removed from the facility for proper characterization and disposal. In case of a fire the Nashville Fire Department will be contacted immediately by calling 911. Metro codes has required the use of a fire suppression system within the building which will initiate automatically upon event detection. This fire suppression system shall be maintained be local fire ordinances as appropriate.

No flammable or ignitable products will be used at the facility and a fire suppression system will be required as part of any buildings involved. Additional procedures will be developed to respond to accidental fires at this facility with training of site staff. Fire extinguishers are located on each piece of equipment and throughout the facility. Personnel will be trained in the use of this equipment. A fire hydrant is located on-site near the main office building. Should a load of solid waste be received at this facility that is burning, smoking or at a temperature that will potentially cause a fire, it will be removed from inside the structure if

possible, to a designated area outside the building where it will be easier to contain, control and to extinguish.

III) *The potential for releases of solid wastes or solid waste constituents to the environment except in a manner authorized by state and local air pollution control, water pollution control, and/or waste management agencies;*

Response: All inbound and outbound materials will be in appropriate containers with all recovery processing occurring within a building.

Surface and groundwater will be further protected by handling all waste inside the building. Compliance with all state and local surface water regulations will be strictly adhered to. Contact water will be collected using a system of floor drains running to a collection system with a pump system. Contact water will be discharged into the Metro Water Services Sewer System. Any necessary Metro sewer industrial discharge permits will also be obtained. A backup system of three, 6000-gallon tanks will allow for pump and haul operations to an approved treatment facility and also serve as storage in case of fire at the facility to store fire suppression runoff.

All facility traffic will be on paved surfaces and maintained by typical street sweeping methods. Sufficient water will be used on these surfaces to avoid dust as needed. All equipment will be cleaned and maintained to minimize emissions and to reduce tracking. Traffic will be limited to licensed waste haulers that will follow strict traffic flow procedures.

IV) *The potential for harm to the public through unauthorized or uncontrolled access;*

Response: The site will have trained staff on site during operating hours and will control unauthorized access to the facility. Facility staff will monitor the facility for security purposes during operations. In addition, the property will be fenced with limited and controlled access via gates during operational hours. All access gates will be locked when no facility or security personnel are on the site.

iii) *The facility has an artificial or natural barrier which completely surrounds the facility and a means to control entry, at all times, through the gate or other entrances to the facility;*

Response: The entire facility will be fenced with gate systems at each entry and exit point. The eastern property line adjoins a creek system which provides an excellent additional access barrier as do the hills, existing trees and vertical rock walls at the facility. The southern property line abuts a rail line which also provides an additional access barrier. Additionally, required landscaping per Metro Nashville Planning ordinances will provide a further access deterrent and provide screening for the facility. The facility gates will be closed and locked when no facility personnel are present at the site.

iv) *The facility, if open to the public, has clearly visible and legible signs at the points of public access which indicate the hours of operation, the general types of waste materials that either will or will not be accepted, emergency telephone numbers, schedule of charges (if applicable), and other necessary information;*

Response: The facility will not be open to the general public but will be open to other business traffic. This facility will have clearly visible and legible signs at the points of public access which indicate the hours of operation, the type of waste accepted and emergency number. Operational hours for owner transfer may vary from those posted for outside operations.

v) *Trained personnel are always present during operating hours to operate the facility;*

Response: Trained staff will be on-site during all operating hours for the facility. These employees are trained to comply with all regulations concerning the operation of this facility. Documentation of training will be kept on-site and in the main personnel files.

vi) *The facility has adequate sanitary facilities, emergency communications (e.g., telephone), and shelter available for personnel;*

Response: The facility will have restroom, breakroom and other facilities for staff. Proper communications equipment will be maintained at the site at all times including landlines, two-way radios and cell phones.

vii) *The facility's access road(s) and parking area(s) are constructed so as to be accessible in all weather conditions;*

Response: The facility has been designed with all-weather access for the site via paved surfaces with sufficient parking for site personnel, truck and container staging and overall site access. Paving consisting of asphalt, concrete and compacted gravel as noted on the facility layout plan have been designed to handle load truck traffic anticipated at the facility.

viii) *Except for composting facilities utilizing landscaping and land clearing wastes only, all waste handling (including loading and unloading) at the facility is conducted on paved surfaces;*

Response: All loading or unloading of materials will occur within buildings specifically designed for solid waste processing and recovery and on paved surfaces as required. All waste handling will be on a concrete surface within the building. A separate 'hot load' area has been designated outside the building to provide an area to address incoming loads and waste that may pose a fire risk to the facility.

ix) *There is no storage of solid wastes at the facility except in the containers, bins, lined pits or on paved surfaces, designated for such storage;*

Response: There will be no storage of solid waste at this facility until all waste handling equipment and structures are in place and operational. Waste will be received and placed on the tipping floor for process and placement in appropriate containers and bins for transport off-site for recovery or disposal. Waste will be removed from the tipping floor by the end of each operational day or in the event of continuous operations, waste will be removed in conjunction with incoming operational tonnage. All recovered materials will be stored within a building or in appropriate containers and paved storage areas.

x) *Except for incinerators or energy recovery units, there is no burning of solid wastes at the facility;*

Response: No burning of solid wastes will occur at the facility.

xi) *There is no scavenging of solid wastes at the facility and any salvaging is conducted at safe, designated areas and times;*

Response: There will be no scavenging permitted on the property. Recycling and recovery efforts along with recovered material storage will be conducted within the buildings or stored in appropriate containers.

xii) *Wind dispersal of solid wastes at or from the facility is adequately controlled, including the daily collection and proper disposal of windblown litter and other loose, unconfined solid wastes;*

Response: Wind dispersal of solid waste will be controlled at this facility by requiring all material handling to be conducted inside the facility buildings. The building orientation is designed with the tipping floor opposite the prevailing wind direction to minimize wind blow litter prior to vehicle entry to the building.

Employees will be trained to collect any material that escapes the building and to return it to the tipping floor. The perimeter fence and other key wind-blown litter areas will be patrolled daily with the material addressed as described above.

xiii) *All liquids which either drain from solid wastes or are created by washdown of equipment at the facility go to either:*

- I) *A wastewater treatment facility permitted to receive such wastewaters under T.C.A. §§ 69-3-101 et seq. (Tennessee Water Quality Control Act, or*
- II) *Other methods approved by the Commissioner.*

Response: Contact water will be collected using a system of floor drains running to a collection system with a pump system. Contact water will be discharged into the Metro Water Services Sewer System under an industrial discharge permit. A backup system of three, 6000-gallon tanks will allow for pump and haul operations to an approved treatment facility and also serve as storage in case of fire at the facility to store fire suppression runoff.

xiv) *The facility receives no special wastes unless:*

- I) *Such receipt has been specifically approved in writing by the Department, and*
- II) *Special procedures and/or equipment are utilized to adequately confine and segregate the special wastes;*

Response: No special wastes are anticipated to be received at the facility. Should a material source be designated by the Tennessee Department of Environment and Conversation as a “special waste” then all appropriate approvals shall be obtained prior to acceptance of the material at the facility. Such material would be handled as defined by that approval and confined from other operations as required.

xv) *The operator can demonstrate, at the request of the Commissioner, that alternative arrangements (e.g., contracts with other facilities) for the proper processing or disposal of the solid wastes his facility handles are available in the event his facility can not operate;*

Response: The Owner/Operator will have arrangements with other approved facilities to address any materials unable to be processed, recovered or recycled by the facility for transfer, transport and disposal. Delivery shall be by barge, rail or truck as appropriate.

xvi) *The facility has properly maintained and located fire suppression equipment (e.g., fire extinguishers, water hoses) continuously available in sufficient quantities to control accidental fires that may occur;*

Response: Fire suppression equipment will be provided inside the building and in each piece of equipment utilized in the handling of solid waste in this facility. Portable fire extinguishers will be checked and tagged annually by a certified fire equipment company. Company personnel will inspect this equipment once a month as part of routine maintenance checks. All fire suppression equipment will meet all applicable standards for this type of equipment. Personnel will be trained in the use of this equipment and to notify emergency personnel by dialing 911 to assist and take control of an accidental fire. Trained equipment operators will assist with fire suppression when possible by moving burning items outside of the building where additional methods of fire control may be used such as smothering with sand/soil or with additional fire suppression materials.

xvii) *All waste residues resulting from processing activities at the facility are managed in accordance with this Chapter or Chapter 0400-12-01 (Hazardous Waste Management), whichever is applicable, and/or with any other applicable state or federal regulations governing waste management;*

Response: No hazardous waste will be accepted at the facility. Should suspect waste be noted during waste inspections the load will be refused and diverted to an appropriate disposal facility. If incidental hazardous waste be noted and it is already on the tipping floor the load will be separated from the non-hazardous waste and stored in an appropriate container to await characterization and final disposition by the generator of the material. The facility has ample storage areas to allow for this process.

xviii) *The facility is finally closed by removal of all solid wastes and solid waste residues for proper disposal. The operator must notify the Division Director in writing of his completion of closure of the facility. Such notification must include a certification by the operator that the facility has been closed by removal of all the solid waste and residues. Within 21 days of the receipt of such notice the Division Director shall inspect the facility to verify that closure has been completed. Within 10 days of such verification, the Commissioner shall approve the closure in writing to the operator. Closure shall not be considered final and complete until such approval has been made.*

Response: The closure of this facility will begin with the removal of all solid wastes and any residue hauled to an approved facility. The facility concrete floor will be cleaned, and all fluid will be handled with appropriate or approved methods of disposal. The Division Director will be notified in writing as required.

xix) *New solid waste processing facilities shall not be located in wetlands, unless the owner or operator makes the applicable demonstrations to the Commissioner as referenced at subparagraph (2)(p) of Rule 0400-11-01-.04.*

Response: The facility is not located in a wetland. The previous site use as a contractor laydown and salvage yard did not promote wetland development. A review of the U.S. Fish and Wildlife Service wetland location viewer did not identify any wetland as a part of the facility. The U.S. Fish and Wildlife Service map is attached to this narrative in Appendix E. An additional study to field determine wetlands and streams at the site did not note a wetland area as defined by the United States Army Corp of Engineers or from associated wetland mapping services. The property is currently zoned as IR for industrial use.

xx) *The facility must not be located in a 100-year floodplain unless it is demonstrated to the satisfaction of the Commissioner that:*

I) *Location in the floodplain will not restrict the flow of the 100-year flood nor reduce the temporary water storage capacity of the floodplain.*

Response: The property is not within a 100-year floodplain. A copy of the most recent floodplain mapping shows the site is not within the 100-year floodplain of the Cumberland River or ancillary tributaries at an elevation of 410.00 at the site location.

II) *The facility is designed, constructed, operated, and maintained to prevent washout of any solid waste.*

Response: All waste processing will occur within enclosed buildings or with all materials managed within enclosed containers, as such the materials will be managed in accordance with this paragraph. Contact water will be collected and managed so as to prevent accidental release to the environment. Litter and other debris will be collected at the end of each day.

xxi) *The facility does not:*

I) *Cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife;*
or

II) *Result in the destruction or adverse modification of the critical habitat of endangered or threatened species.*

Response: This facility does not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife; or result in the destruction or adverse modification of the critical habitat of endangered or threatened species. The property has been under industrial use for over 10 years.

xxii) *The owner/operator may not store solid waste until the processing equipment has been installed on-site and is ready for use.*

Response: Prior to any waste processing, recycling or recovery operations all necessary equipment will be on-site and operational at the facility.

xxiii) *The owner/operator of a solid waste processing facility which has a solid waste storage capacity of 1000 cubic yards or greater shall file with the Commissioner a performance bond or equivalent cash or securities, payable to the State of Tennessee. Such financial assurance is intended to ensure that adequate financial resources are available to the Commissioner to insure the proper operation, closure, and post closure care of the facility. The types of financial assurance instruments that are acceptable are those specified in subparagraph (3)(d) of Rule 0400-11-01-.03. Such financial assurance shall meet the criteria set forth in T.C.A. § 68-211-116(a) and at subparagraph (3)(b) of Rule 0400-11-01-.03.*

Response: The Owner/Operator shall provide financial assurance as required by the Tennessee Department of Environment and Conservation for the facility to ensure proper cleanup of the facility in the unlikely event of the facility's closure.

xxiv) *The owners or operators proposing a new solid waste processing facility that handles putrescible wastes located within 10,000 feet (3,048 meters) of any airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway end used only by piston-type aircraft must include in the permit-by-rule notification a demonstration that the facility does not pose a bird hazard to aircraft. The owners or operators proposing a new solid waste processing facility that handles putrescible wastes located within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the appropriate Federal Aviation Administration (FAA) office.*

Response: All material processing will occur within a building. No putrescible materials will be located or stored outside other than in appropriate containers, as such birds would not be attracted to the facility. FAA will be contacted for review of the facility prior to building construction.

APPENDIX 4 – Environmental Site Assessment

**Phase I
Environmental Site Assessment Report**

**4601 ASHLAND CITY HIGHWAY
NASHVILLE, TENNESSEE
37218**

PREPARED FOR

Nashville Waste Solutions

PREPARED BY



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Barge Project # 3746800

March 2021

SIGNATURE PAGE

Barge Project Number: 3746800
Barge Project Name: PHASE I ESA 4601 Ashland City Highway, Nashville

AUTHORED BY:

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Title: Geologist
Date: 3/29/2021

FINAL REVIEWED AND APPROVED BY:

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Appendix J	Previous Phase I ESA Report

EXECUTIVE SUMMARY

Barge Design Solutions (Barge) was retained by Nashville Waste Solutions to complete a Phase I Environmental Site Assessment (ESA) on an approximately 13.19 acre parcel at 4601 Ashland City Highway, Davidson, Tennessee. Nashville Waste Solutions requested this ESA as due diligence in preparation for acquiring the subject property, and to satisfy one of the *innocent landowner defense* requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) through the identification of recognized environmental conditions that may exist on the subject property.

The subject property is identified as Parcel number 06800002900. The parcel is owned by Bell & Associates Constructions, LP. The subject property is located in Nashville, Davidson County, Tennessee. Generally, the subject property is located along Amy Lynn Drive, 900 feet from the Ashland City Highway and Amy Lynn Drive intersection.

The property is currently being used as a construction storage lot for equipment, vehicles, and building materials and appears to have been used as such since the mid-1980s. The 1981 aerial shows the property was used as a quarry for the local development and continued such use into the 1990s. The site was undeveloped in 1938 but shows evidence of structures on the southern boundary in 1949. The adjacent railway is clearly evident and in use in the 1939 aerial.

Current uses of adjoining properties described by cardinal direction:

North: Across Highway 12 R.O.W. - Residential

South: Industrial

East: Former Residential in zoning appeal for Industrial use

West: Unused wooded property

Database Search Results

An environmental database search by Geo-Search was commissioned for the subject property. The findings of the Geo-Search report were reviewed, and for the area within the search radii the findings revealed the following. The results are discussed further in Section 4.0 of this report.

Main Environmental Findings

- The Geo-Search Radius Report identified no locations or areas of concern within the search radii
- No environmental liens were found during the Geo-Search investigation

- The historic aerial photographs reviewed show from 2006 to current times the site has been used as a vehicle and equipment storage facility.

Conclusion

The construction storage site's housekeeping is poor with wooden debris, heavy machinery parts, tires, areas of visually stained soil, multiple ASTs/USTs, unlabeled drums and buckets.

There are approximately 35 shipping containers on the property. Most of the shipping containers were not accessible; however, the inspected containers included construction equipment and construction materials storage.

The onsite building contained equipment for general vehicle maintenance that include, an oil drainer, hydraulic lift, modified drums that appear to hold used oil, and portable generators.

At the time of the inspection there were two construction site generators stored on the west side of the maintenance building. No visible stains were observed nearby.

Based on the available information in records research, our understanding of the past and current operations, and our site reconnaissance, the subject property contains Recognized Environmental Conditions (RECs) that were identified in this report for further investigation. The RECs are based on the presence of areas of stained soils, seven stored ASTs/USTs whose previous uses are unknown, and unlabeled drums and buckets. Barge recommends that the nature and extent of the stained soil be evaluated, the multiple ASTs/USTs, and the drums/buckets be removed in compliance with state and local laws before purchase of the property is conducted.

1.0 INTRODUCTION

1.1 Purpose

The purpose of this ESA is to identify recognized environmental conditions on the subject property. The ASTM Standard Practice E1527-13 defines areas of past or current environmental concerns as 'Recognized Environmental Conditions' which is specifically described as:

“The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release...into structures on the property or into the ground, groundwater, or surface water on the property...This term is not intended to include de minimis conditions that generally do not present a material risk of harm to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.”

By identifying recognized environmental conditions or the lack thereof, the use of this ESA is intended to satisfy one of the requirements to qualify for the “innocent landowner defense” to CERCLA liability.

1.2 Scope of Work

The scope of work performed in the preparation of this ESA was in conformance with the standards set forth in the ASTM Standard Practice E 1527-13, the All Appropriate Inquiries (AAI) provision in 40 CFR Part 312, and the apparent conditions, uses, and history of the subject property.

The following specific task items were addressed in the Scope of Work for this ESA:

- Documentation of the known historical use to 1940 or to first period of development. This includes deeds, restrictions, agreements, and easements.
- Determination of use (prior and current activities) of property and facility construction which would indicate the presence of or cause the release of hazardous substances.
- Determination of use of adjacent and surrounding property generally within a one-mile radius (unless a greater area is warranted), which could allow the release of hazardous substances to the subject property.
- Review of available subsurface and geological information, aerial photographs, and topographic maps.
- Review of reasonably ascertainable data from state and federal regulatory agencies and utility companies, file searches and permit reviews. These

- include but are not limited to records of hazardous spills, superfund listings, waste disposal sites, underground storage tanks, waste generators, wetlands, NPDES permits, waste treatment facilities, and air emissions permits for the subject property and the adjacent properties within one-half mile of the subject property.
- Interviews with individuals knowledgeable with the current, historical and regulatory use of the property.
 - Site reconnaissance to look for obvious indications of present or past activities, such as waste handling, solid waste disposal, hazardous materials usage, waste water treatment, discharge, or disposal, or the presence of underground/aboveground storage tanks (UST/AST), which have or could have contaminated the site.

Per the standards set forth in the ASTM Standard Practice E 1527-13 the following were non-scope considerations: Asbestos-containing building materials, biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality unrelated to releases of hazardous substances or petroleum products into the environment, industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, and wetlands.

1.3 Significant Assumptions

Due to the limitations of data availability and reliability, no environmental assessment can wholly eliminate uncertainty regarding potential for significant environmental conditions in connection with a property. Performance of this Phase I Environmental Site Assessment is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property.

Barge's opinions regarding direction of ground-water flow are limited and are based primarily on observed surface topography and topographic mapping. Unknowns such as bedrock strata and karst conditions that can affect groundwater flow direction are not predictable without additional investigation.

The statements of fact contained within this report are true and correct to the best of our knowledge. However, Barge does not assume responsibility for incorrect data which is inadvertently supplied to or obtained by Barge from third party information sources.

1.4 Special Terms and Conditions, Limitations, and Exceptions

The Phase I Environmental Site Assessment (ESA) was completed to conform to the American Society of Testing and Materials (ASTM) Standard Practice E 1527-13. It did not include sampling of environmental media or investigation of subsurface conditions.

Similarly, this ESA did not include specific evaluations to determine the presence of lead-based paint, asbestos containing material, wetlands, or radon.

Inquiries made in completing this ESA have not been exhaustive, but they have been consistent with the standards set forth in the ASTM Standard Practice E 1527-13, the All Appropriate Inquiries (AAI) provision in 40 CFR Part 312, and the apparent conditions, uses, and history of the subject property.

Drawings and exhibits included in this report were for the purpose of assisting the reader in visualizing the property and was data which may have been supplied in part by reliable third-party agencies other than Barge. These drawings and exhibits were not intended to take the place of actual surveys, utility locations, utility capacities, or data otherwise needed for actual development and construction.

In accordance with the ASTM Standard Practice E 1527-13, this report is accepted to be valid for a period not-to-exceed 180 days. Beyond that period, the reader of this report should consider the re-verification of the report data which is subject to change after the initial report preparation based on the type of property assessed, and the condition of the areas surrounding the subject property.

1.5 User Reliance

This report has been prepared for reliance by Nashville Waste Solutions. Neither all nor any part of the contents of this report shall be relied upon by parties other than the entity(s) indicated which subscribed directly with Barge for its preparation, without the prior written consent of Barge.

1.6 Environmental Professional Statement

This Phase I ESA was completed by or under the direct supervision of the Environmental Professional (EP) identified on the signature page of this report. The EP declares that, to the best of his or her professional knowledge and belief, they meet the definition of an Environmental Professional as defined in 40 CFR Part 312.

2.0 SUBJECT PROPERTY DESCRIPTION

2.1 Location

The subject property is located in Nashville, Davidson County, Tennessee. The subject property is located at 4601 Ashland City Highway. Vicinity and site maps showing the location and boundary of the subject property are provided in Appendix A.

2.2 Subject Property and Vicinity Characteristics

The subject property is being used as a construction storage site. The general housekeeping of the site is poor with construction equipment and debris found across the site including:

- Stained soils located near the maintenance building
- Stained soils located at an active diesel AST
- Approximately seven ASTs/USTs stored on site
- Approximately 100 drums and buckets located throughout the site (Note - generally the drums are unlabeled and sealed)
- Approximately 35 shipping containers located on site

The area that closely borders the property is primarily industrial, with residential properties to the north and east of the site.

2.3 Current Use of the Subject Property

The subject property is currently being used as an equipment, vehicle, and materials storage location for a construction firm. There is one structure located on site which is actively being used.

2.4 Descriptions of Subject Property Structures and Improvements

The single building on site is a 3,400 square foot building. The building consists of metal exterior and roof. The building is used for general maintenance including vehicle maintenance, and equipment storage.

2.5 Current Use of Adjoining Properties

North: Ashland City Highway (Highway 12) is directly north of the target property. Beyond Ashland City Highway the parcels are residential, and vacant wooded rural land.

South: Industrial concrete company, and Waste Management site

East: Former Residential in zoning appeal for Industrial use

West: Vacant wooded rural land

3.0 USER PROVIDED INFORMATION

3.1 User Questionnaire

In accordance with ASTM Standard Practice E1527-13, in order to qualify for one of the Landowner Liability Protections offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the User must provide information (if available) to the environmental professional. If all information is not provided, the environmental professional could determine that all appropriate inquiry is not complete.

An Environmental Questionnaire was not completed.

3.1.1 Previous Phase I Environmental Site Assessment Report

A previous Phase I Environmental Site Assessment was conducted for Jeff Tinsley of Bell and Associates Construction, LLC. This site assessment was conducted on December 3, 2020 by Key Environmental. The report is presented in Appendix J.

3.2 Title Records

A current title search was reviewed for Parcel #06800002900. A copy of the title search and supporting documents, including the current property deed and legal description, are presented in Appendix G.

3.3 Environmental Liens or Activity and Use Limitations

No environmental liens, or activity and land use limitations for the subject property were found for Parcel #06800002900. A copy of the lien search and supporting documents are presented in Appendix G.

3.4 Specialized, Commonly Known or Reasonably Ascertainable Knowledge

The reliant parties are familiar with the subject property and have obtained specialized, commonly known, or reasonably ascertainable knowledge. The reliant parties have been provided site data from the current owner in anticipation of a financial transaction.

3.5 Valuation Reduction for Environmental Issues

Recognized environmental conditions were present on site which would appear to result in a valuation reduction of the subject property.

3.6 Owner, Property Manager, and Occupant Information

The subject property is identified as Parcel #06800002900. The parcels are owned by Bell & associates Construction, LP. The property is currently used as an equipment storage location for the construction company.

3.7 Reasons for Performing Phase I

This Phase I ESA was performed as due diligence in preparation for acquiring the subject property, and to satisfy one of the *innocent landowner defense* requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), for the Foreign Sovereign Immunities Act (FSIA), through the identification of recognized environmental conditions that may exist on the property, prior to property ownership transfer and/or other financial transaction.

4.0 RECORDS REVIEW

4.1 Standard Environmental Record Sources

4.1.1 Federal and State Database

On behalf of Barge, Geo-Search completed an ASTM-compliant environmental records/database review. The database review took place on February 2021, and is included in Appendix H. The Geo-Search review provides federal and state regulatory agency information for the subject property and properties within the ASTM search radii and indicated the following:

ASTM FEDERAL, STATE, AND TRIBAL DATABASE LISTS		
Database	Approximate Minimum Search Distance (miles)	Number of Facilities
NPL/Proposed NPL	1.0	0
Delisted NPL	0.5	0
CERCLIS	0.5	0
RCRA CORRACTS	1.0	0
RCRA non-CORRACTS TSD	0.5	0
RCRA Generators	<i>Property and adjoining properties only</i>	0
Institutional/Engineering Controls	<i>Property only</i>	0
ERNS	<i>Property only</i>	0
State/Tribal Equivalent NPL	1.0	0
State/Tribal Equivalent CERCLIS	0.5	0
Landfill/SWF	0.5	3
LUST	0.5	0
LUST TRUST	0.5	0
UST	<i>Property and adjoining properties only</i>	0
Historic UST	<i>Property and adjoining properties only</i>	0
AST	<i>Property and adjoining</i>	0

	<i>properties only</i>	
VCP	0.5	0
LIENS	0.5	0
FINDS	<i>Property and adjoining properties only</i>	0
Brownfield	0.5	0
SRP	0.5	0

Subject Property

- The Geo-Search search did not return any results for the subject property.

Surrounding Properties

- The Geo-Search noted that within half a mile of the subject property three facilities were listed as Landfill and Solid Waste Disposal Sites (LFSWDS).
 - The Class III Landfill is located southeast of the property and based on elevation and geology is down gradient of the site.
 - The Landfill and Solid Waste Disposal Sites that were listed were noted as active Class III Landfill listed as Southern Services Landfill operated by Waste Management Inc DML 190000032 according to Tennessee Department of Environment and Conservation (TDEC) databases.
 - Class III Landfills take Class IV wastes (primarily construction and demolition debris) plus landscaping, land clearing, and farming waste.
 - An active Solid Waste Processing (SWP) permit SWP 190001446 known as Middle Tennessee Eco Park: C & D Recycling Center a subsidiary of Waste Management Inc. according to the TDEC database.
 - An inactive SWP permit for Southern Services SWP 190001161 according to the TDEC database

4.1.2 State Agency Inquiries

The Tennessee Department of Environment and Conservation solid waste data viewer was used to review the latest landfill inspection conducted on February 25, 2021. The inspection noted no current issues on site. The report is included in Appendix I

4.2 Additional Environmental Records Sources

Other than TDEC database information, no specific additional environmental record sources were obtained.

4.3 Physical Setting

4.3.1 Topography

The current U.S. Geological Survey topographic 7.5-minute map for the property area is the Scottsboro, 20131. The subject property is located approximately 425 feet above sea level at the lowest point and approximately 500 feet at the highest point. Located at Latitude 36.209749524° and Longitude -86.88653769°. The central portion of the property was originally approximately 500 feet above sea level until 1985 when blasting was conducted to make the property useable by the client. The western portion of the property remains wooded land. Topographic maps are included in Appendix D.

4.3.2 Soils & Geology

Examination of the National Cooperative Soil Survey of the area issued by the United States Department of Agriculture Soil Conservation Service, indicates that the property is entirely underlain soil classified as the Barfield-Rock outcrop complex. The bedrock in this area which is exposed on site due to blasting consists of Ordovician aged units of shale and limestone.

4.3.3 Wetlands & Endangered Species

A wetland delineation and endangered species survey was not performed as part of the scope of this report.

4.3.4 Surface Water Bodies and Storm Water

A review of the United States Geological Survey (USGS) National Hydrology Dataset (NHD) indicates there are no streams on the subject property. The closest body of water is the Cumberland River located approximately 1,800 feet south of the parcel.

4.3.5 Flood Plains

According to the FEMA Flood Insurance Rate Map for the area, dated 9/19/2020; the subject property is not on a flood plain. The closest flood place is located south of the

property listed as Zone X. Zone X is determined to be outside of the area of the 100- and 500-year floodplains.

4.4 Historical Research

Historical topographic maps dated 1903, 1932, 1955, 1968, 1968 (Photo revised 1983), 1997, 2013, were researched during preparation of this report and are presented in Appendix D.

Aerial photographs dated 1938, 1949, 1953, 1959, 1969, 1976, 1981, 1985, 1992, 1998, 2006, 2007, 2008, 2010, 2012, 2014, 2016, 2018 are presented in Appendix C.

No Sanborn fire insurance maps were available for this property.

4.5 Historical Use of Subject and Adjoining Properties

Topographic Maps dating back to 1903, aerial photographs dating back to 1938, indicate the property was unused prior to 1981. From 1981 to 1998 the property was used as a staging ground for construction equipment. Beginning in 1998 the property was excavated to expand the useable space. From 1998 onward the property is used as the storage yard for construction equipment, materials, and vehicles. The western wooded portion of the property has not been in use since before 1938.

North

The one property to the north is residential since before 1938. The other two properties have been unused wooded land since before 1938.

West

The property to the west has been unused land since before 1938

South

The property to the south was farmland until 1981. From 1981 onwards the area south of the target property has been developed industrially.

East

The property to the east was noted as residential before 1938 and is currently residential as well but is currently for sale for industrial use according to observed signage.

5.0 Subject Property Reconnaissance

5.1 Methodology and Limiting Conditions

The reconnaissance of the subject property was performed by Chelsea Sachs and Ryan Cleveland of Barge on February 26, 2021. The property was accessible at the time of inspection; there were approximately 35 shipping containers located on the subject

property; due to lack of access only four were investigated. Barge personnel traversed the length and width of the property on foot. The wooded western portion of the property had access limitations involving sheer cliffs, and inaccessibility via train tracks. Photographs of the subject property taken during the site reconnaissance are presented in Appendix B.

5.2 Hazardous Substances in Connection with Identified Uses

There is an active diesel fuel AST located at the entrance to the maintenance building that is used to fuel the construction equipment.

5.3 Unidentified Substance, Containers, Staining, or Stressed Vegetation

Throughout the site areas of soil staining were observed. The more extensive soil staining was located near the construction vehicles, the active diesel AST, and the used-oil storage tank.

There are approximately 100 metal and plastic 55-gallon drums and 5-gallon buckets located on the site. The majority of the drums are unlabeled; due to the limited nature of a Phase I ESA, an investigation of the contents of the drums was not conducted.

Multiple propane cylinders of various sizes were located behind the maintenance building.

5.4 Known Spills or Releases

Stained soil was observed on the property; however, there were no reported spills or releases on the subject property at the time of site reconnaissance.

5.5 Storage Tanks

5.5.1 Underground Storage Tank (USTs)

There was no evidence of underground storage tanks (USTs) observed on the subject property at the time of site reconnaissance.

5.5.2 Aboveground Storage Tank (ASTs)

One active diesel AST was located at the entrance to the maintenance building. A portable AST was located on top of a shipping containers across from the maintenance building.

5.6 Lead-Based Paint (LBP)

A lead paint survey was not completed as part of the scope of this ESA. Structures built before 1978 have a greater potential of containing LBP.

5.7 Indications of Polychlorinated Biphenyl's (PCBs)

No transformers were observed on the subject property. Any transformers would be owned by the local electric utility, and therefore their responsibility.

5.8 Asbestos Containing Materials (ACMs)

An asbestos survey was not completed as part of the scope of this ESA and the presence or absence of ACMs in the building has not been determined. Structures built before 1975 have a greater potential of containing ACMs.

5.9 Floor Drains/Sumps

No floor drains or sumps were observed.

5.10 Indications of Solid Waste Disposal

No indications of solid waste disposal were observed on the subject property at the time of site reconnaissance. However, during the site visit conducted by Barge, burn barrels were being used to burn paper. According to an on-site employee, there are several shipping containers worth of material being disposed of by burning.

5.11 Vapor Intrusion and Encroachment

The vapor migration pathways to the subject property would be via preferential flow pathways for vapors including utility lines, fractures in the soil, or along caves or conduits within the bedrock. Vapor pathways do not necessarily mirror ground-water flow pathways. Based on our current findings for the site, vapor intrusion is not anticipated to be an issue at this time.

6.0 INTERVIEWS

6.1 Interviews with Owner

An interview was conducted with the property owner's representative. To their knowledge there has been no environmental concerns.

The used oil AST on site is regularly removed off site by a removal company.

The site is supplied with water, electrical, sewers, and HVAC systems.

6.2 Interviews with Local Government Officials

No interviews were conducted with local government officials based on the findings of the Geo-Search report, historical site information, and interviews.

6.3 Interviews with Neighboring or Nearby Property Owners or Occupants

No additional interviews with property owners were performed based on the findings of the Geo-Search report, historical site information, and interviews.

7.0 FINDINGS AND CONCLUSIONS

7.1 Findings

- The Ge-Search Radius Report identified that within half a mile of the subject property three facilities were listed as Landfill and Solid Waste Disposal Sites (LFSWDS)
- Construction equipment and debris is located throughout the site including tires, wooden frames, pallets, rebar, propane cylinders, shipping containers, vehicle equipment, and generators.
- During the field inspection locations and items of concern were observed.
 - One active UST containing diesel fuel, and multiple propane cylinders
 - Approximately 100 55-gallon drums and 5-gallon buckets were observed on site. Due to the nature of Phase I ESAs the contents of the drums and buckets are unknown.
 - Seven ASTs/USTs whose previous uses are unknown

7.2 Data Failure

Data failure is "a failure to achieve the historical research objectives" of AAI, "even after reviewing the standard historical sources" listed in AAI "that are reasonably ascertainable

and likely to be useful.” There were no data failures encountered during preparation of this report.

7.3 Data Gaps

Data gaps are, “a lack of or inability to obtain information required by this practice despite good faith efforts by the environmental professional to gather such information. Data gaps may result from incompleteness in any of the activities required by this practice, including, but not limited to site reconnaissance, and interviews.” Due to lack of access via train tracks, and cliffs the wooden western side of the property was not investigated. Located on site was approximately 35 shipping containers with limited access and all boxes were not investigated.

7.4 Deviations

No deviations were made from the ASTM Standard Practice E 1527-13 guidelines.

7.5 Conclusions

Barge performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard Practice E1527-13, of the subject property located at 4601 Ashland City Highway, Nashville, Tennessee in Davidson County. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report

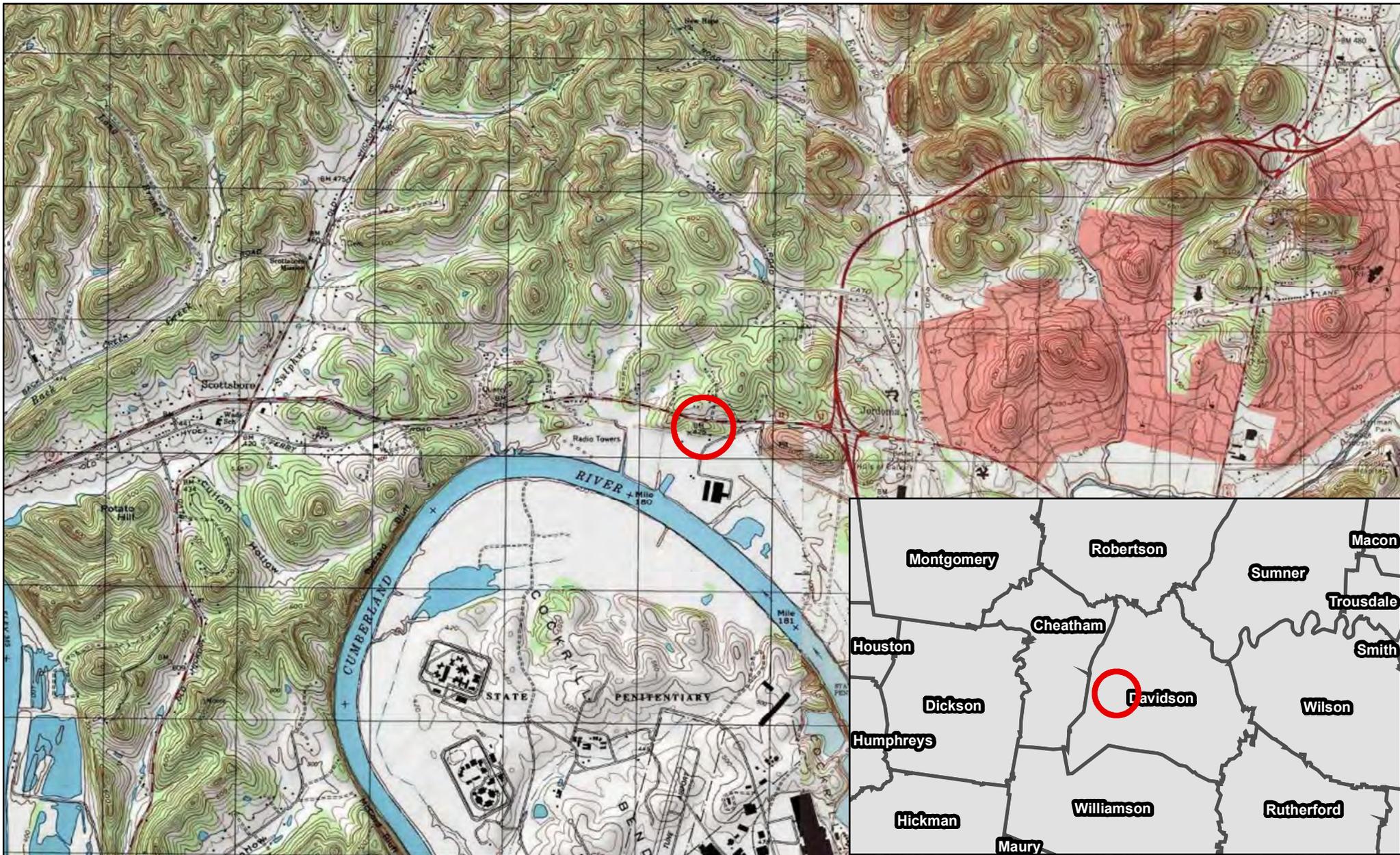
Based on the available information in records research, our understanding of the past and current operations, and our site reconnaissance, the subject property contains Recognized Environmental Conditions (RECs) that were identified. The RECs are based on the presence of areas of stained soils, seven stored ASTs/USTs whose previous uses are unknown, and unlabeled drums and buckets.

In addition, to the above referenced RECs the following items were observed on site;

- General construction equipment and debris:
 - Tires located throughout property
 - Paper waste being burned
 - Approximately 35 shipping containers
 - Vehicle equipment
- The maintenance building:
 - Vehicle oil drainer
 - Hydraulic lift
 - Used oil
 - Portable generators
 - Vehicle equipment

Barge recommends that the nature and extent of the stained soil be evaluated, the multiple ASTs/USTs, and the drums/buckets be removed in compliance with state and local laws before purchase of the property is conducted.

Appendix A
Vicinity and Site Maps



3,250 Feet

1 inch = 3,221 feet

Tennessee State Plane 4100 fips
North American Datum (1983)

BARGE
DESIGN SOLUTIONS

Nashville Waste Solutions - Phase I Environmental Site Assessment
March 2021
 4601 Ashland City Highway
 Nashville, Davidson County,
 Tennessee

Figure 1. - Site Location Map



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

160
Feet
1 inch = 167 feet
Tennessee State Plane 4100 fips
North American Datum (1983)



BARGE
DESIGN SOLUTIONS

**Nashville Waste Solutions -Phase I Environmental Site Assessment
March 2021**

4601 Ashland City Highway
Nashville, Davidson County,
Tennessee

Figure 2. -Site Boundary
Map

Appendix B

Site Photographs

Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph: 1

Center of property
outside of maintenance
building.



Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph: 2

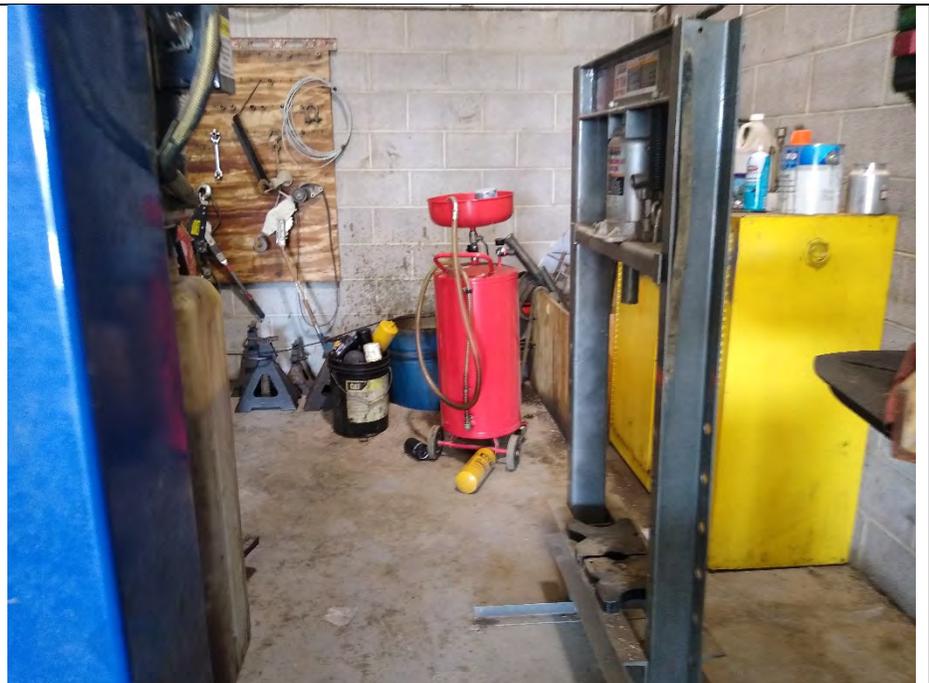
Inside of maintenance
building.



Photographer: Ryan Cleveland
Date: 2/26/2021
Description: Photograph 3: Used oil container



Photographer: Ryan Cleveland
Date: 2/26/2021
Description: Photograph 4: Used oil drainer



Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph 5:

Hydraulic lift



Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph 6:

Soil staining in front of maintenance building.



Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph 7:

Soil staining on west side
of equipment yard.



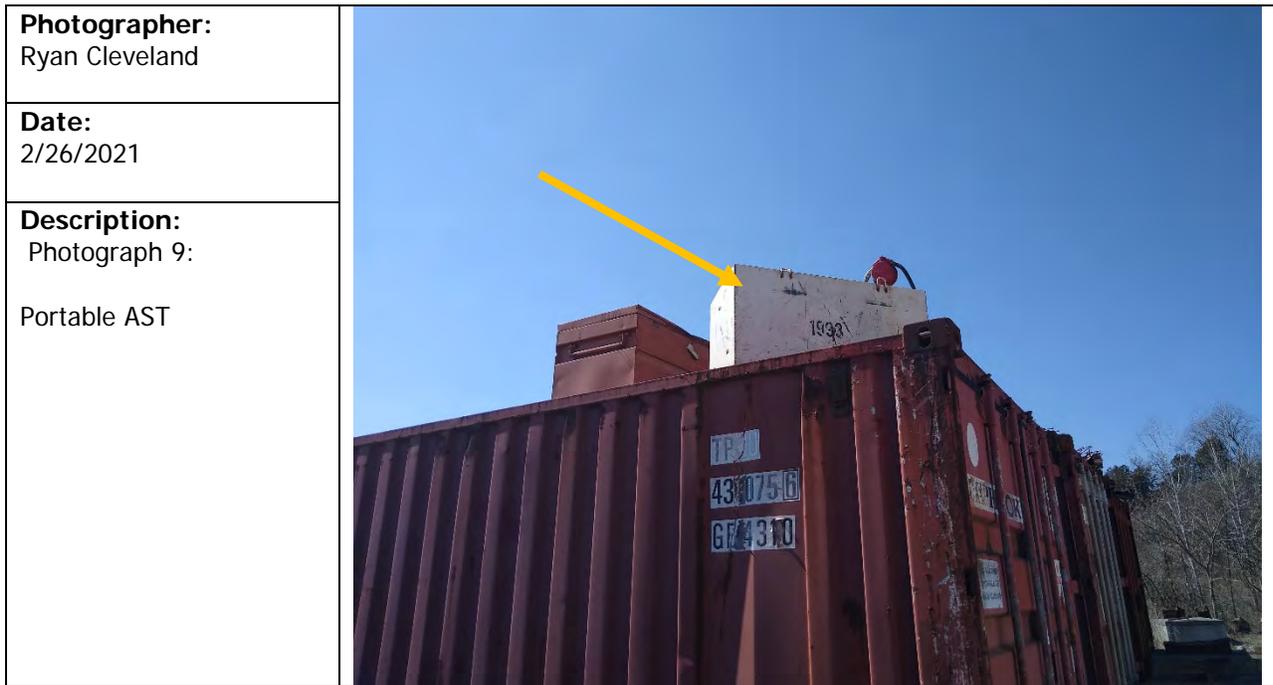
Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph 8:

Soil staining on western
side of maintenance
building





Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 11: Unused AST behind maintenance building.	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 12: Diesel AST located in front of maintenance building. Including soil staining	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 13: Three unused ASTs	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 14: Two steel storage tanks located on eastern side of site. Visually rusted.	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 15: Used oil AST with concrete pad below.	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 16: Portable generators (not active)	

Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph 17:

Tires located behind maintenance building.



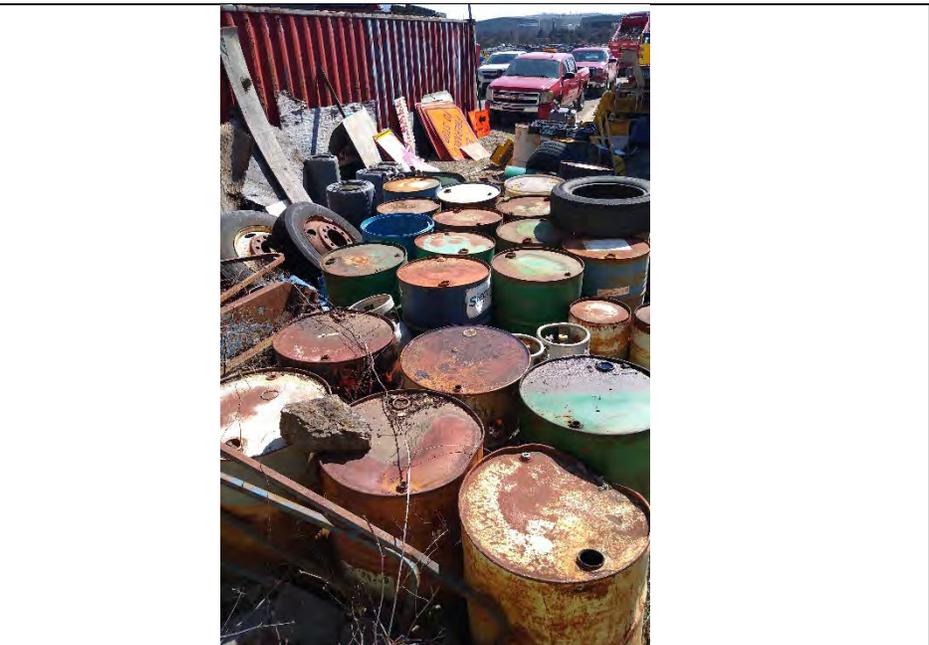
Photographer:
Ryan Cleveland

Date:
2/26/2021

Description:
Photograph 18:

55-Gallon drums located behind maintenance building.

Drums in varying conditions



Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 19: 55-gallon drums & Propane cylinders & Tires *Located behind maintenance building.*	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 20: Additional 55-gallon drums located on the eastern side of the maintenance building. + 5-gallon buckets	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 21: 55-gallon drums used as rebar containing	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 22: 55-gallon drums being used to burn paper waste.	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 23: Interior of one shipping container. *Four inspected shipping containers storing construction equipment*	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 24: Storage container of equipment. Including gasoline canisters	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 25: Train tracks south of property	

Photographer: Ryan Cleveland	
Date: 2/26/2021	
Description: Photograph 26: Trailers south of Property	

Appendix C
Geo-Search Aerial Photo Report

Historical Aerial Photographs

[NEW: GeoLens by Geosearch](#)

Target Property:
Ashland City Hwy
4601 Ashland City Hwy
Nashville, Davidson, Tennessee 37218

Prepared For:
Barge Design Solutions

Order #: 161884
Job #: 399292
Project #:
Date: 3/1/2021

Target Property Summary

Ashland City Hwy

4601 Ashland City Hwy

Nashville, Davidson, Tennessee 37218

USGS Quadrangle: **Scottsboro**

Target Property Geometry: **Area**

Target Property Longitude(s)/Latitude(s):

(-86.886593769, 36.210741150), (-86.886754701, 36.209749524), (-86.884523103, 36.209449585),

(-86.883605788, 36.209296555), (-86.882109115, 36.209094554), (-86.881191800, 36.209382252),

(-86.880859206, 36.210153521), (-86.883289287, 36.210220854), (-86.884984443, 36.210422852)

Aerial Research Summary

<u>Date</u>	<u>Source</u>	<u>Scale</u>	<u>Frame</u>
2018	USDA	1" = 500'	N/A
2016	USDA	1" = 500'	N/A
2014	USDA	1" = 500'	N/A
2012	USDA	1" = 500'	N/A
2010	USDA	1" = 500'	N/A
2008	USDA	1" = 500'	N/A
2007	USDA	1" = 500'	N/A
2006	USDA	1" = 500'	N/A
04/02/1998	USGS	1" = 500'	N/A
03/17/1992	USGS	1" = 1000'	4648-23
02/05/1985	USGS	1" = 1320'	15-133
02/24/1981	USGS	1" = 500'	367-7
03/07/1976	USGS	1" = 500'	8-6
02/04/1969	ASCS	1" = 1320'	PI-2
04/04/1959	ASCS	1" = 1320'	PI-1
10/23/1953	AMS	1" = 500'	6218
09/21/1949	ASCS	1" = 500'	4-179
04/23/1938	ASCS	1" = 500'	4-101

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Ashland City Hwy
USDA
2018

GeoSearch



0 500
feet



Ashland City Hwy
USDA
2016

GeoSearch



Ashland City Hwy
USDA
2014

GeoSearch



Ashland City Hwy
USDA
2012

GeoSearch



Ashland City Hwy
USDA
2010

GeoSearch



Ashland City Hwy
USDA
2008

GeoSearch



0 500
feet



Ashland City Hwy
USDA
2007

GeoSearch



Ashland City Hwy
USDA
2006

GeoSearch



Ashland City Hwy
USGS
04/02/1998

GeoSearch



Ashland City Hwy
USGS
03/17/1992

GeoSearch



0 1,320
feet



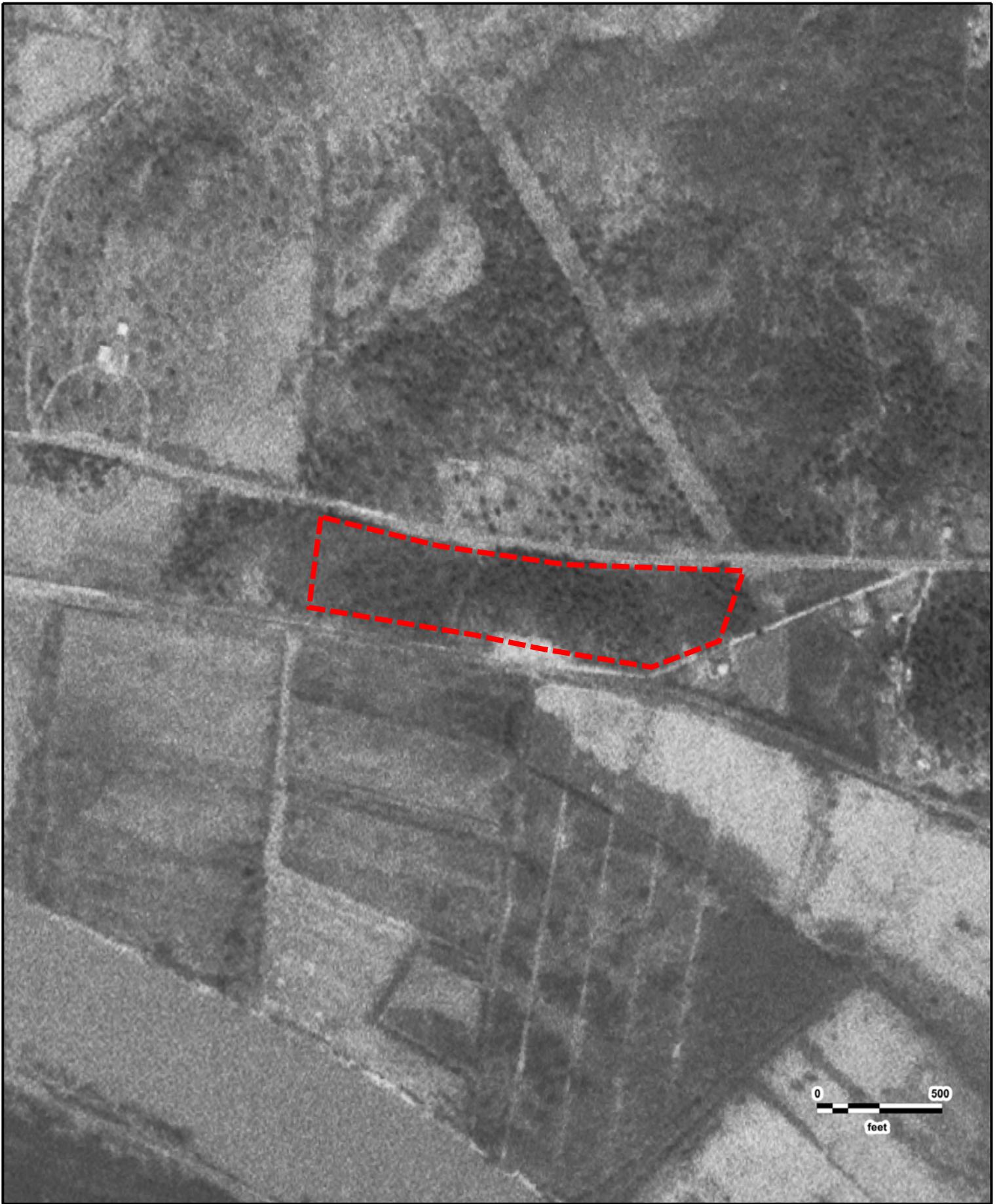
Ashland City Hwy
USGS
02/05/1985

GeoSearch



Ashland City Hwy
USGS
02/24/1981

GeoSearch



0 500
feet



Ashland City Hwy
USGS
03/07/1976

GeoSearch



AER-3 KK-73

AER-3 KK-72

0 1,320
feet



Ashland City Hwy
ASCS
02/04/1969

GeoSearch



Ashland City Hwy
ASCS
04/04/1959

GeoSearch



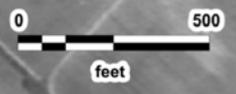
Ashland City Hwy
AMS
10/23/1953





Ashland City Hwy
ASCS
09/21/1949





Ashland City Hwy
ASCS
04/23/1938



Appendix D
Geo-Search Historical Topographic Map
Report

Historical Topographic Maps

[NEW: GeoLens by Geosearch](#)

Target Property:

**Ashland City Hwy
4601 Ashland City Hwy
Nashville, Davidson, Tennessee 37218**

Prepared For:

Barge Design Solutions

Order #: 161884

Job #: 399291

Project #:

Date: 3/1/2021

Target Property Summary

Ashland City Hwy

4601 Ashland City Hwy

Nashville, Davidson, Tennessee 37218

USGS Quadrangle: **Scottsboro**

Target Property Geometry: **Area**

Target Property Longitude(s)/Latitude(s):

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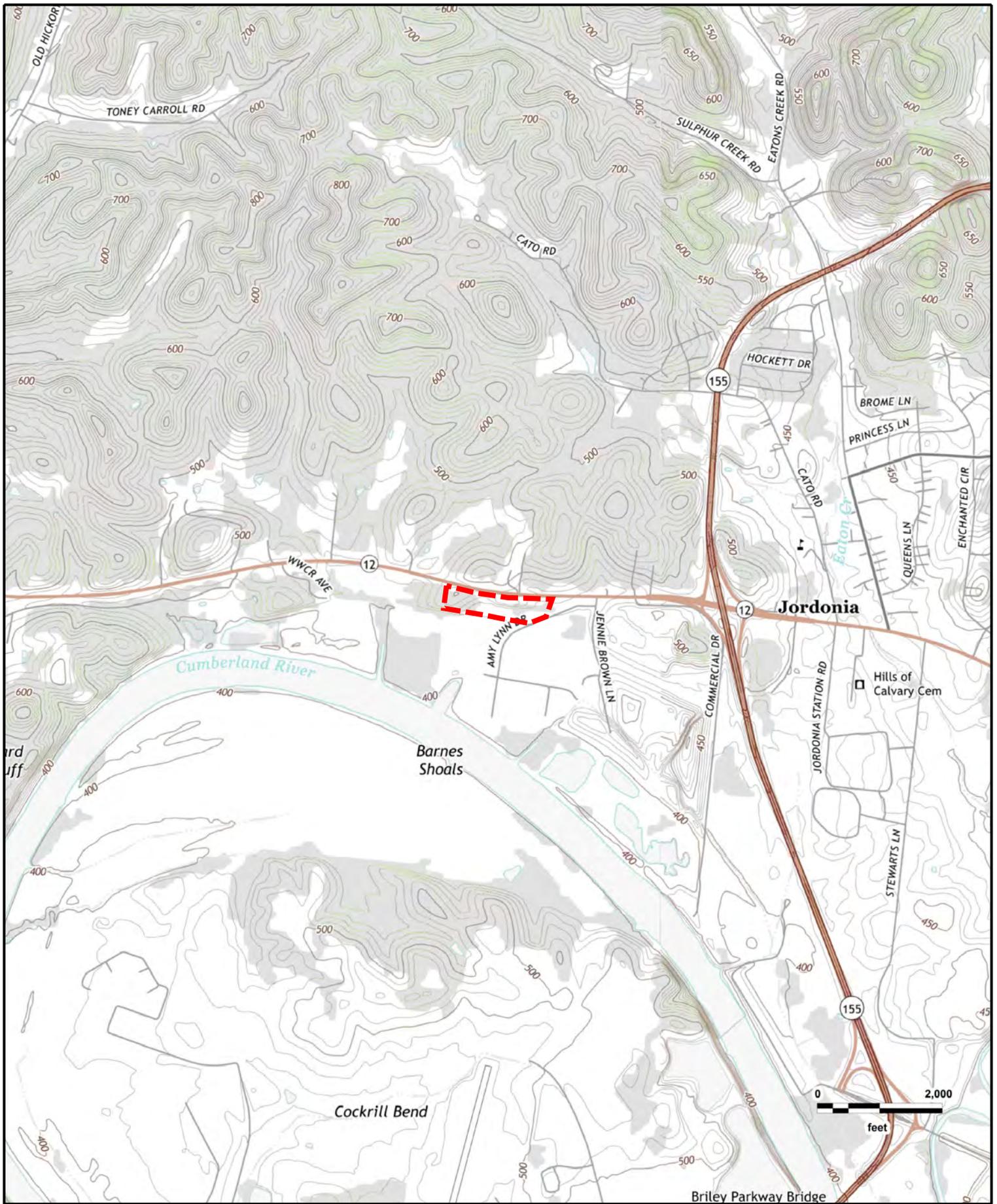
(-86.883605788, 36.209296555), (-86.882109115, 36.209094554), (-86.881191800, 36.209382252),

(-86.880859206, 36.210153521), (-86.883289287, 36.210220854), (-86.884984443, 36.210422852)

Topographic Map Summary

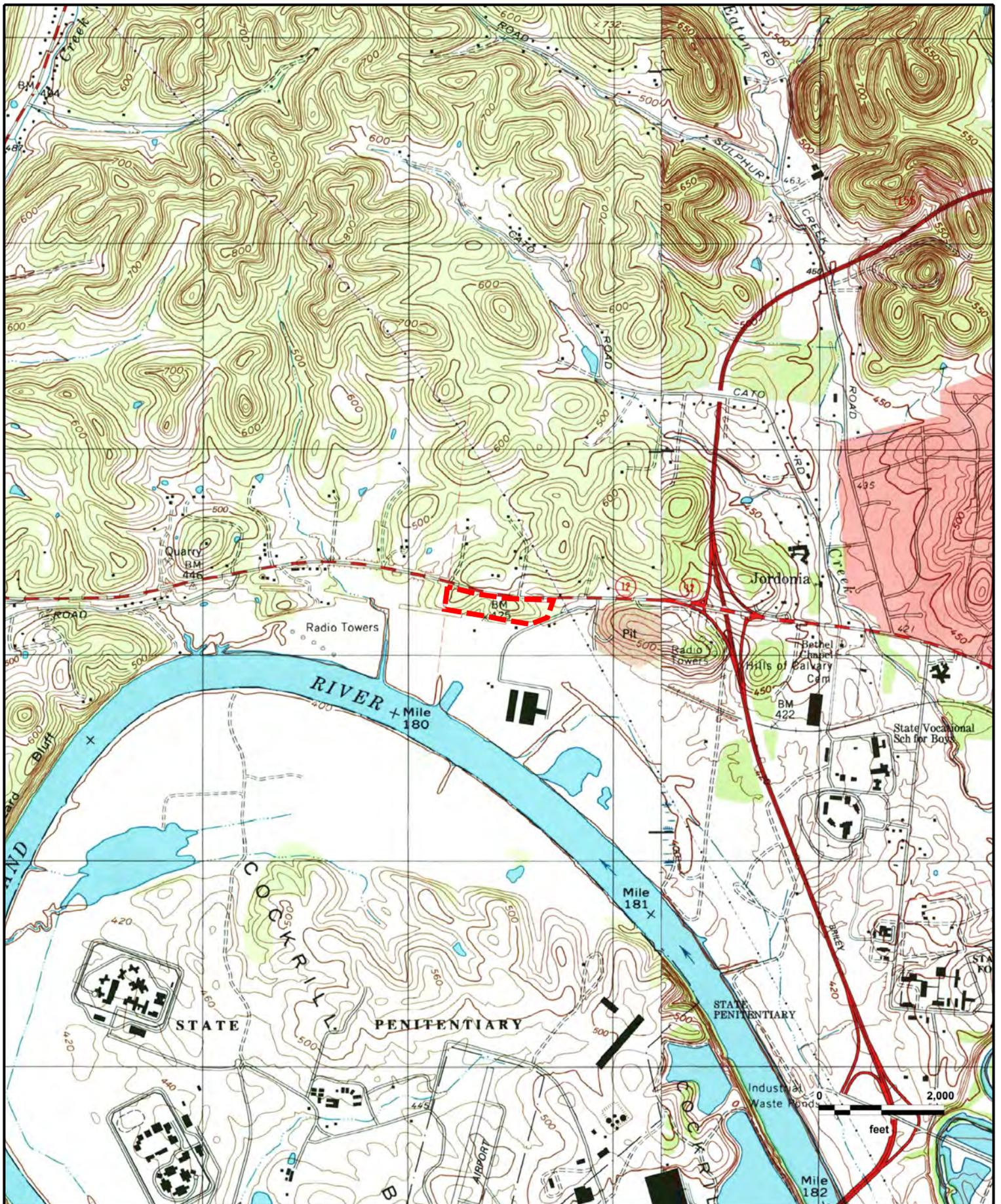
<u>Date</u>	<u>Quadrangle</u>	<u>Scale</u>
2013	SCOTTSBORO, TN (2013) NASHVILLE WEST, TN (2013)	1" = 2000'
1997	SCOTTSBORO, TN (1997) NASHVILLE WEST, TN (1997)	1" = 2000'
1968 PHOTOREVISED 1983	SCOTTSBORO, TN (1983) NASHVILLE WEST, TN (1983)	1" = 2000'
1968	SCOTTSBORO, TN (1968) NASHVILLE WEST, TN (1968)	1" = 2000'
1955	SCOTTSBORO, TN (1955) NASHVILLE WEST, TN (1952)	1" = 2000'
1932	NASHVILLE, TN	1" = 5208'
1903	NASHVILLE, TN	1" = 10420'

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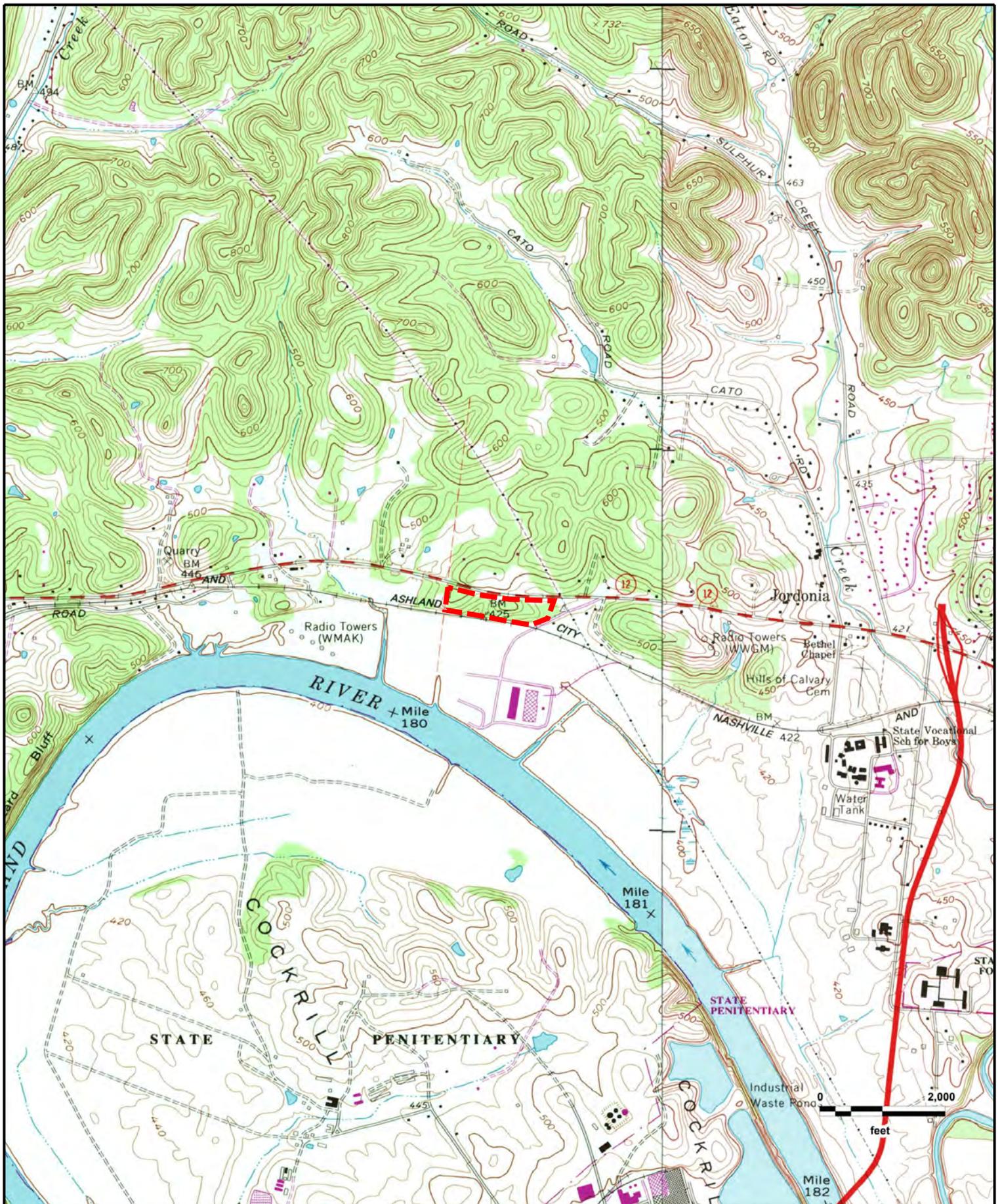
Ashland City Hwy
SCOTTSBORO, TN (2013), NASHVILLE WEST, TN (2013)





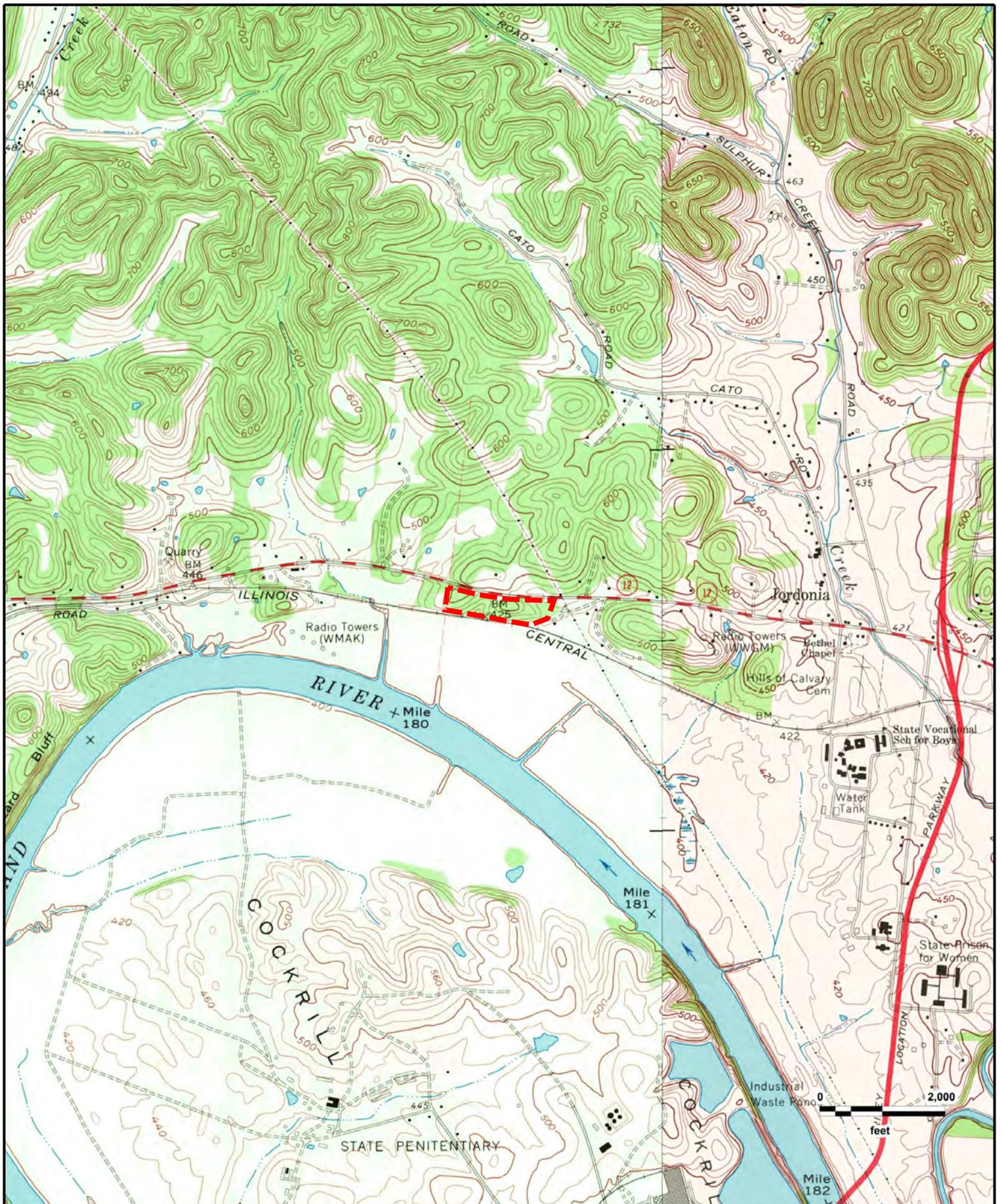
Ashland City Hwy
SCOTTSBORO, TN (1997), NASHVILLE WEST, TN (1997)

GeoSearch



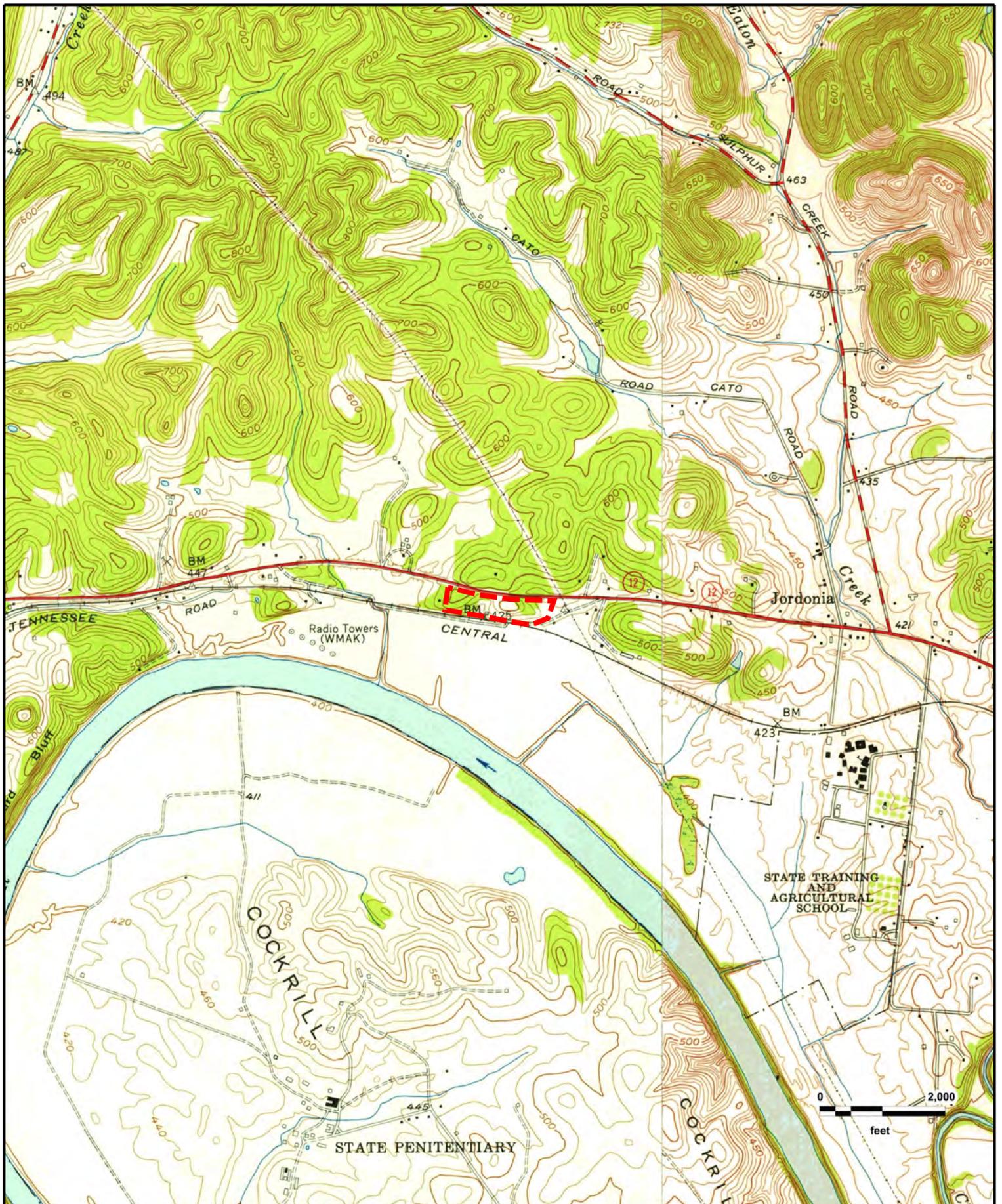
Ashland City Hwy
SCOTTSBORO, TN (1983), NASHVILLE WEST, TN (1983)

GeoSearch



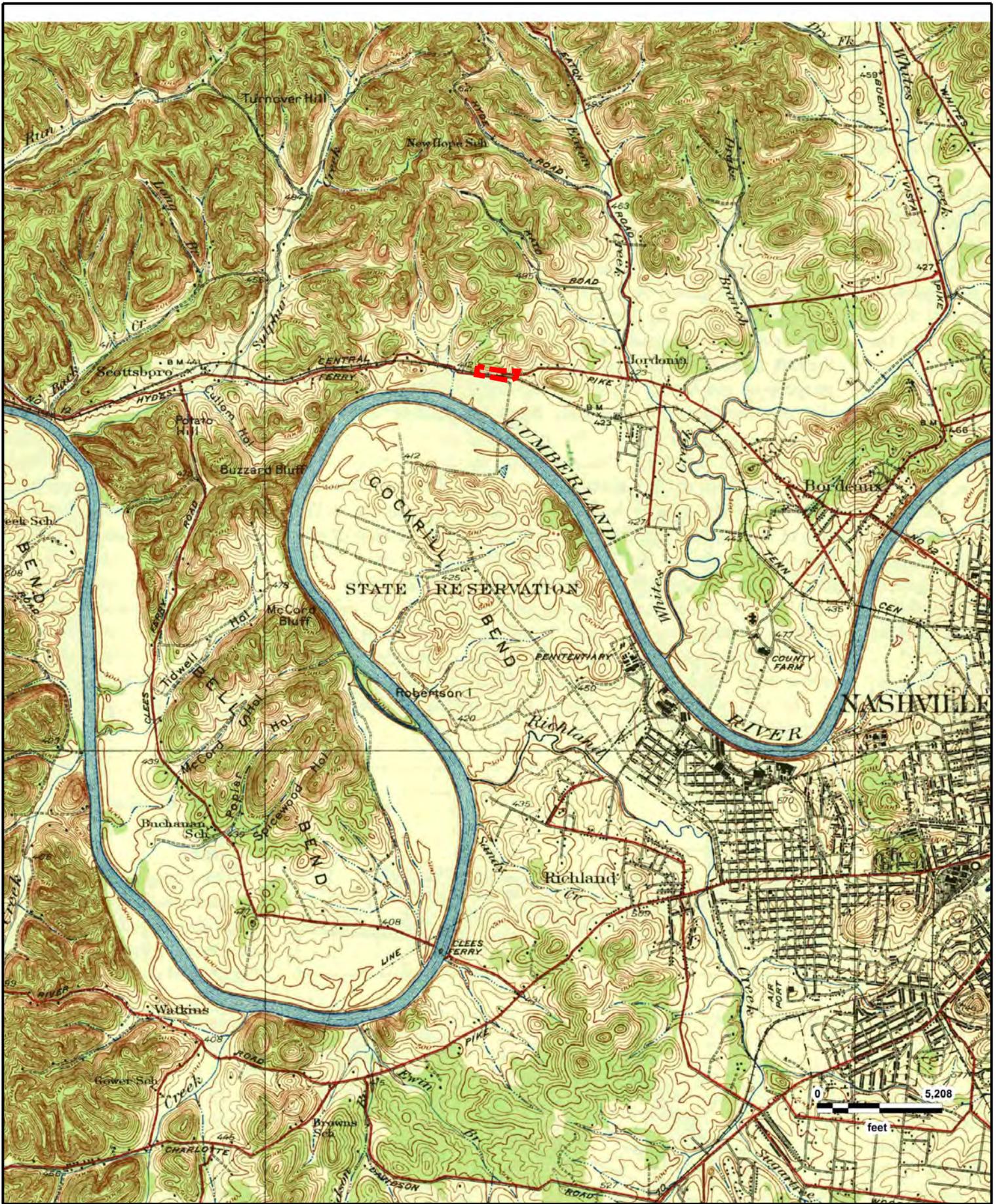
Ashland City Hwy
SCOTTSBORO, TN (1968), NASHVILLE WEST, TN (1968)

GeoSearch



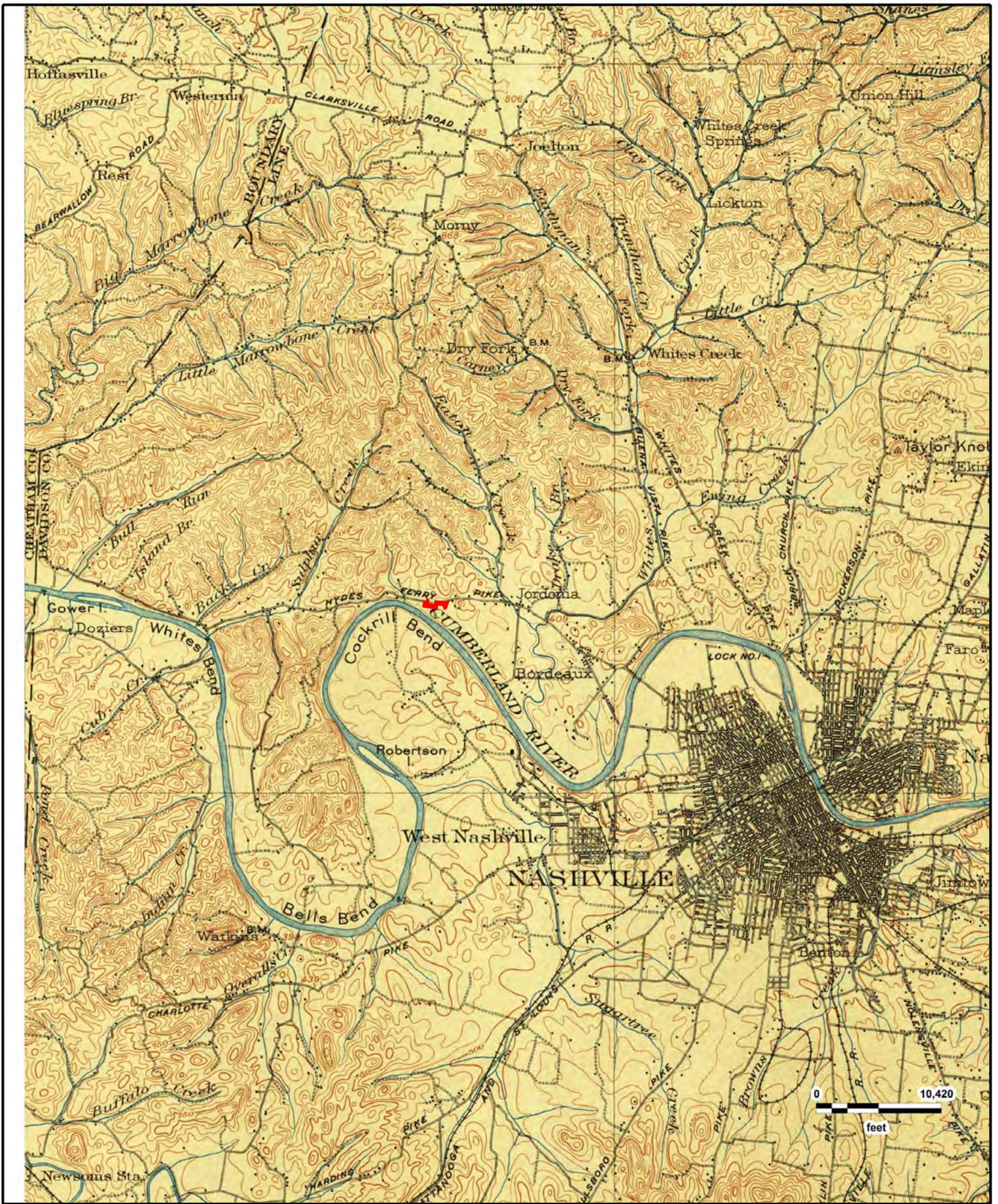
Ashland City Hwy
SCOTTSBORO, TN (1955), NASHVILLE WEST, TN (1952)

GeoSearch



Ashland City Hwy
NASHVILLE, TN (1932)





Ashland City Hwy
NASHVILLE, TN (1903)

GeoSearch

Appendix E
Geo-Search Sanborn Map Report

Fire Insurance Map Abstract

Target Property:

**Ashland City Hwy
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218**

Prepared For:

Barge Design Solutions

Order #: 161884

Job #: 399296

Date: 03/01/2021

Fire Insurance Map Research Results

Date: 03/01/2121
GS Job Number: 161884
Company Name: Barge Design Solutions
Project Number:
Site Information: Ashland Clty Hwy
4601 Ashland City Hwy
Nashville, Tennessee 37218

Research Results: No Coverage Available

The collections of fire insurance maps listed below were reviewed according to the site information supplied by client. Based on the information provided, no coverage is available.

Library of Congress
University Publications of America
Other Libraries (universities, state, local, etc.).

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Appendix F
Geo-Search City Directory Abstract

Historical By Street Number

Target Property:

*Amy Lynn Dr,
Nashville, TN 37218*

Prepared For:
Barge Design Solutions

Order #: 161884

Project #:

Date: 2/26/2021

City Directory Historical by Street Number

1 Amy Lynn Dr	No Listing (1990-1995); Street Begins (2000-2020)
3709 Amy Lynn Dr	No Listing (1990-1995); Beastey Willie L (2000); No Listing (2005-2020)
3711 Amy Lynn Dr	No Listing (1990-1995); Abernathy Gevena G (2000); No Listing (2005-2020)
3717 Amy Lynn Dr	No Listing (1990-1995); Mimms Rosa M (2000); No Listing (2005-2020)
3719 Amy Lynn Dr	No Listing (1990-1995); Klockner Namasco Holding Corp [Metls Svc Cntrs] (2000); Allied Crawford Steel Inc [Steel] (2005-2020)
3730 Amy Lynn Dr	No Listing (1990-1995); Haileys Harbor [Marine Cargo Hndlng] (2000); Hailey's Harbor Inc [Terminals-River & Marine] (2005-2020); Us Telecom [Telecommunications Serv] (2010-2015); Hailey's River Terminal [Nonclassified Establishments] (2015); Cumberland Scrap Processors [Scrap Metals] (2020)
3731 Amy Lynn Dr	No Listing (1990-1995); National Material Co [Metls Svc Cntrs] (2000); X [Railroad Crosses] (2000); John W Mc Dougall Co [Steel- Structural] (2005-2020); Ews Salt Lake [Construction Companies] (2020); Perkins Tina (2020)
3737 Amy Lynn Dr	No Listing (1990-1995); L & L Trucking Co [Trckg] (2000); No Listing (2005-2020)
3758 Amy Lynn Dr	No Listing (1990-2015); C J Mulch Inc [Sawmills] (2020)
4511 Amy Lynn Dr	No Listing (1990-1995); Boyce Michael (2000); No Listing (2005-2020)
4535 Amy Lynn Dr	No Listing (1990-1995); Gafford Juanita (2000); Purcell Scott (2005); No Current Listing (2010-2020); X [Railroad Crosses] (2010-2020)
4537 Amy Lynn Dr	No Listing (1990-1995); Not Verified (2000); No Listing (2005-2020)
4614 Amy Lynn Dr	No Listing (1990-2000); C J Mulch Inc [Sawmills] (2005-2015); No Listing (2020)
4651 Amy Lynn Dr	No Listing (1990-2000); Southern Services [Landfills- Sanitary] (2005-2020); A W Waste [Waste Containers] (2015-2020); Nashville Portable Toilet [Toilets-Portable] (2020); Waste Management [Recycling Centers] (2020)

Comments:

Historical By Street Number

Target Property:

*4601 Ashland City Hwy,
Nashville, TN 37218*

Prepared For:

Barge Design Solutions

Order #: 161884

Project #:

Date: 2/26/2021

City Directory Historical by Street Number

1 Ashland City Hwy	No Listing (1990-2020)
4448 Ashland City Hwy	No Listing (1990-2000); Eason Joan E (2005); No Listing (2010-2020)
4454 Ashland City Hwy	No Listing (1990-2000); Catignani James C (2005); No Listing (2010-2020)
4458 Ashland City Hwy	No Listing (1990-1995); Moore Forrest Jr (2000-2005); X [Eatons Creek Rd Begins] (2000); No Listing (2010-2015); Moore Forrest J Jr & Catherine M (2020)
4479 Ashland City Hwy	No Listing (1990-2005); Radio Nashville Inc [Radio Stations/Broadcasting Co] (2010-2015); No Listing (2020)
4511 Ashland City Hwy	No Listing (1990-1995); Hughes Stephanie D (2000); X [Jordonia Station Rd Ends] (2000); No Listing (2005-2020)
4537 Ashland City Hwy	No Listing (1990-1995); Not Verified (2000); No Listing (2005-2020)
4544 Ashland City Hwy	No Listing (1990-1995); Blankenship Vini (2000); No Listing (2005); Mumpower Julie A (2010-2020)
4544-4560 Ashland City Hwy	No Listing (1990-2000); No Current Listing (2 Hses) (2005); No Listing (2010-2020)
4560 Ashland City Hwy	No Listing (1990-1995); Moore Dianna L (2000); No Listing (2005); No Current Listing (2010-2020)
4608 Ashland City Hwy	No Listing (1990-1995); Huddleston Samuel (2000-2010); Huddleston & Huddleston Construction [Msnry Other Stnwrk] (2000-2015); Shalander Melody (2015-2020)
4618 Ashland City Hwy	No Listing (1990-1995); Green Barbara A & Joe (2000-2010); X [Amy Lynn Dr Ends] (2000); No Listing (2015); Beard Eddie (2020); Beard Clarence E (2020)
4618-4642 Ashland City Hwy	No Listing (1990-2010); No Current Listing (2 Hses) (2015); No Listing (2020)
4642 Ashland City Hwy	No Listing (1990-1995); Austin Pressley G (2000-2010); No Listing (2015); Austin Presley G Sr & Carolyn A (2020)
4684 Ashland City Hwy	No Listing (1990-1995); Hwang Shin T (2000); No Listing (2005-2020)
4686 Ashland City Hwy	No Listing (1990-2015); Hiwnag Shin T (2020)
4688 Ashland City Hwy	No Listing (1990-1995); Not Verified (2000); Hwang Shin T (2005-2015); No Current Listing (3 Apts) (2005); No Listing (2020)
4688-4701 Ashland City Hwy	No Listing (1990-2015); No Current Lisitng (2 Hses) (2020)
4694 Ashland City Hwy	No Listing (1990-1995); Liou Rongdar (2000); No Listing (2005-2010); Mark Dolan (2015); No Listing (2020)
4694-4722 Ashland City Hwy	No Listing (1990-2005); No Current Listing (3 Hses) (2010); No Listing (2015-2020)
4701 Ashland City Hwy	No Listing (1990-1995); Porter George (2000); Baker Danielle (2005); No Listing (2010); No Current Listing (2015); No Listing (2020)

4722 Ashland City Hwy	No Listing (1990-1995); Marcrum Richard H Jr (2000); Marcrum Lori L (2000); No Current Listing (2005); No Listing (2010); Proctor James W & Christie J (2015-2020)
4729 Ashland City Hwy	No Listing (1990-1995); Veach Calvin C (2000); Veach's Garage [Auto Rpr] (2000-2005); No Listing (2010-2020)
4733 Ashland City Hwy	No Listing (1990-1995); Austad Robert (2000-2010); Bradberry Robert C (2000); No Listing (2015); Austad Robert C (2020)
4738 Ashland City Hwy	No Listing (1990-1995); Not Verified (2000); No Listing (2005-2020)
4748 Ashland City Hwy	No Listing (1990-1995); Bond Vernon Sr (2000); Bond Ella B (2000); No Listing (2005); Bond Ella B (2010-2015); Bond Anthony M (2010); Bond Vernon (2020); Bond Anthony M (2020)
4748-4752 Ashland City Hwy	No Listing (1990-2000); No Current Listing (2 Hses) (2005); No Listing (2010-2020)
4752 Ashland City Hwy	No Listing (1990-1995); Fuqua Robert T & Patricia (2000); No Listing (2005); Fuqua Patricia L (2010-2020); X [Wwcr Ave Ends] (2010); Mccurdy Allyson (2020); X [Wwcr Ave Ends] (2020)
4761 Ashland City Hwy	No Listing (1990-2000); Waller Chandra A (2005); No Listing (2010-2020)

Comments:

City Directory Standard Report

Target Property:

*Amy Lynn Dr,
Nashville, TN 37218*

Prepared For:
Barge Design Solutions

Order #: 161884

Project #:

Date: 2/26/2021

City Directory Standard Report

Amy Lynn Dr, Nashville, TN 37218

R.L. POLK & CO.

NASHVILLE NORTH 2020

AMY LYNN DR

1	STREET BEGINS
3719	ALLIED CRAWFORD [STEEL]
3730	CUMBERLAND SCRAP PROCESSORS [SCRAP METALS]
3730	HAILEY'S HARBOR INC [TERMINALS- RIVER & MARINE]
3730	HAILEY'S RIVER TERMINAL [CEMENT-RETAIL]
3731	EWS SALT LAKE [CONSTRUCTION COMPANIES]
3731	JOHN W MC DOUGALL CO INC [STEEL-STRUCTURAL]
3731	PERKINS TINA
3758	C J MULCH INC [SAWMILLS]
4535	NO CURRENT LISTING
4535	X [RAILROAD CROSSES]
4651	AW WASTE [WASTE CONTAINERS]
4651	NASHVILLE PORTABLE TOILET [TOILETS-PORTABLE]
4651	SOUTHERN SERVICES [LANDFILLS- SANITARY]
4651	WASTE MANAGEMENT [RECYCLING CENTERS]
4651	WASTE MANAGEMENT SOUTHERN SVC [GARBAGE COLLECTION]
4651	X [END OF LISTINGS]

R.L. POLK & CO.

NASHVILLE NORTH 2015

AMY LYNN DR

1	STREET BEGINS
3719	ALLIED CRAWFORD [STEEL]
3730	CUMBERLAND SCRAP PROCESSORS [SCRAP METALS & IRON]
3730	HAILEY'S HARBOR INC [TERMINALS- RIVER & MARINE]
3730	HAILEY'S RIVER TERMINAL [NONCLASSIFIED ESTABLISHMENTS]

City Directory Standard Report

Amy Lynn Dr, Nashville, TN 37218

3730	US TELECOM [TELECOMMUNICATIONS SERV]
3731	JOHN W MC DOUGALL CO INC [STEEL-STRUCTURAL]
4535	NO CURRENT LISTING
4535	X [RAILROAD CROSSES]
4614	C J MULCH INC [SAWMILLS]
4651	A W WASTE [WASTE CONTAINERS]
4651	SOUTHERN SERVICES [LANDFILLS- SANITARY]
4651	WASTE MANAGEMENT [LANDFILLS- SANITARY]
4651	X [END OF LISTINGS]

R.L. POLK & CO.

NASHVILLE NORTH 2010

AMY LYNN DR

1	STREET BEGINS
3719	ALLIED CRAWFORD [STEEL]
3730	CUMBERLAND SCRAP PROCESSOR [SCRAP METALS & IRON]
3730	HAILEY'S HARBOR INC [TERMINALS- RIVER & MARINE]
3730	US TELECOM [TELECOMMUNICATIONS SERV]
3731	JOHN W MC DOUGALL CO INC [STEEL-STRUCTURAL]
4535	NO CURRENT LISTING
4535	X [RAILROAD CROSSES]
4614	C J MULCH INC [SAWMILLS]
4651	SOUTHERN SERVICES [LANDFILLS- SANITARY]
4651	X [END OF LISTINGS]

R.L. POLK & CO.

NASHVILLE NORTH 2005

AMY LYNN DR

1	STREET BEGINS
3719	ALLIED CRAWFORD STEEL INC [STEEL]
3730	HAILEY'S HARBOR INC [TERMINALS- RIVER & MARINE]

City Directory Standard Report

Amy Lynn Dr, Nashville, TN 37218

3731	JOHN W MC DOUGALL CO [STEEL- STRUCTURAL]
4535	PURCELL SCOTT
4614	C J MULCH INC [SAWMILLS]
4651	SOUTHERN SERVICES [LANDFILLS- SANITARY]
4651	X [END OF LISTINGS]

R.L. POLK & CO.

NASHVILLE NORTH 2000

AMY LYNN DR

1	STREET BEGINS
3709	BEASTEY WILLIE L
3711	ABERNATHY GEVENA G
3717	MIMMS ROSA M
3717	MIMMS SANDRA E
3719	KLOCKNER NAMASCO HOLDING CORP [METLS SVC CNTRS]
3730	HAILEYS HARBOR [MARINE CARGO HNDLNG]
3731	NATIONAL MATERIAL CO [METLS SVC CNTRS]
3731	X [RAILROAD CROSSES]
3731	Y [ASHLAND CITY HWY INTS]
3737	L & L TRUCKING CO [TRCKG]
4511	BOYCE MICHAEL
4535	GAFFORD JUANITA
4535	GAFFORD LILLIE J
4537	NOT VERIFIED
4537	X [END OF LISTINGS]

R.L. POLK & CO.

NASHVILLE 1995
SUBURBAN

AMY LYNN DR

1	STREET NOT LISTED
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R.L. POLK & CO.

NASHVILLE 1990
SUBURBAN

AMY LYNN DR

1	STREET NOT LISTED
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Comment:

City Directory Standard Report

Target Property:

*4601 Ashland City Hwy,
Nashville, TN 37218*

Prepared For:

Barge Design Solutions

Order #: 161884

Project #:

Date: 2/26/2021

City Directory Standard Report
4601 Ashland City Hwy, Nashville, TN 37218

R.L. POLK & CO.

NASHVILLE NORTH 2020

ASHLAND CITY HWY

4458	MOORE FORREST J JR & CATHERINE M
4544	MUMPOWER AMY N
4544	MUMPOWER JULIE A
4560	NO CURRENT LISITNG
4608	SHALANDER MELODY
4618	BEARD CLARENCE E
4618	BEARD EDDIE
4642	AUSTIN PRESLEY G SR & CAROLYN A
4686	HIWNAG SHIN T
4688-4701	NO CURRENT LISITNG (2 HSES)
4722	MARCRUM RICHARD H & LORI L
4733	AUSTAD ROBERT C
4748	BOND ANTHONY M
4748	BOND VERNON
4752	FUQUA ROBERT & PATRICIA L
4752	MCCURDY ALLYSON
4752	X [WWCR AVE ENDS]

R.L. POLK & CO.

NASHVILLE NORTH 2015

ASHLAND CITY HWY

4479	RADIO NASHVILLE INC [RADIO STATIONS/BROADCASTING CO]
4544	MUMPOWER AMY N
4544	MUMPOWER COURTNEY
4560	NO CURRENT LISTING
4608	HUDDLESTON JANICE F & SAMUEL C
4608	SHALANDER MELODY
4618-4642	NO CURRENT LISTING (2 HSES)
4688	HWANG MEL C
4688	HWANG SHIN T
4694	MARK DOLAN

City Directory Standard Report

4601 Ashland City Hwy, Nashville, TN 37218

4701	NO CURRENT LISTING
4722	PROCTOR JAMES W & CHRISTIE J
4748	BOND VERNON SR & ELLA B
4752	FUQUA ROBERT & PATRICIA L

R.L. POLK & CO.

NASHVILLE NORTH 2010

ASHLAND CITY HWY

4479	RADIO NASHVILLE INC [RADIO STATIONS/BROADCASTING CO]
4544	MUMPOWER JULIE A
4560	NO CURRENT LISTING
4608	HUDDLESTON & HUDDLESTON CONTRS [CONCRETE CONTRACTORS]
4608	HUDDLESTON CHARLES S JR
4608	HUDDLESTON JENNIFER E
4618	GREEN BARBARA A
4642	AUSTIN CAROLYN A
4642	AUSTIN PRESLEY G
4688	HWANG MEI C
4688	HWANG SHIN T
4694-4722	NO CURRENT LISTING (3 HSES)
4733	AUSTAD ROBERT C
4748	BOND ANTHONY M
4748	BOND ELLA B
4752	FUQUA PATRICIA L
4752	X [WWCR AVE ENDS]

R.L. POLK & CO.

NASHVILLE NORTH 2005

ASHLAND CITY HWY

4448	EASON JOAN E
4454	CATIGNANI CHRIS
4454	CATIGNANI JAMES C
4458	MOORE FORREST H JR
4544	X [JENNIE BROWN LN INTS]
4544-4560	NO CURRENT LISTING (2 HSES)

City Directory Standard Report

4601 Ashland City Hwy, Nashville, TN 37218

4608	HUDDLESTON & HUDDLESTON CONTRS [CONCRETE CONTRACTORS]	
4608	HUDDLESTON CHARLES S JR	
4608	HUDDLESTON SAMUEL	
4618	GREEN JOE A	
4642	AUSTIN PRESLEY G SR	
4688	HWANG SHIN T	
4688	NO CURRENT LISTING (3 APTS)	1-3
4701	BAKER DANIELLE	
4722	NO CURRENT LISTING	
4729	VEACH'S GARAGE [AUTO RPR & SERV]	
4733	AUSTAD ROBERT C	
4748-4752	NO CURRENT LISTING (2 HSES)	
4748-4752	X [WWCR AVE INTS]	
4761	WALLER CHANDRA A	

R.L. POLK & CO.

NASHVILLE NORTH 2000

ASHLAND CITY HWY

4458	MOORE FORREST JR	
4458	X [EATONS CREEK RD BEGINS]	
4511	HUGHES STEPHANIE D	
4511	X [JORDONIA STATION RD ENDS]	
4537	NOT VERIFIED	
4544	BLANKENSHIP VINI	
4560	MOORE DIANNA L	
4608	HUDDLESTON & HUDDLESTON CONSTRUCTION [MSNRY OTHER STNWRK]	
4608	HUDDLESTON CHARLES S JR	
4608	HUDDLESTON SAMUEL	
4618	GREEN BARBARA A & JOE	
4618	X [AMY LYNN DR ENDS]	
4642	AUSTIN PRESSLEY G	
4684	HWANG SHIN T	

City Directory Standard Report

4601 Ashland City Hwy, Nashville, TN 37218

4688	NOT VERIFIED
4694	LIU RONGDAR
4701	PORTER GEORGE
4722	MARCRUM LORI L
4722	MARCRUM RICHARD H JR
4729	VEACH CALVIN C
4729	VEACH'S GARAGE [AUTO RPR]
4733	AUSTAD ROBERT
4733	BRADBERRY ROBERT C
4738	NOT VERIFIED
4748	BOND ELLA B
4748	BOND VERNON SR
4752	FUQUA ROBERT T & PATRICIA

R.L. POLK & CO.

NASHVILLE 1995
SUBURBAN

ASHLAND CITY HWY

1 STREET NOT LISTED

R.L. POLK & CO.

NASHVILLE 1990
SUBURBAN

ASHLAND CITY HWY

1 STREET NOT LISTED

Comment:

City Directory Target Property Address

Target Property:

*Amy Lynn Dr,
Nashville, TN 37218*

Prepared For:
Barge Design Solutions

Order #: 161884

Project #:

Date: 2/26/2021

City Directory Target Property Address

Amy Lynn Dr, Nashville, TN 37218

1 AMY LYNN DR

2020	STREET BEGINS	R.L. POLK & CO.	NASHVILLE NORTH
2015	STREET BEGINS	R.L. POLK & CO.	NASHVILLE NORTH
2010	STREET BEGINS	R.L. POLK & CO.	NASHVILLE NORTH
2005	STREET BEGINS	R.L. POLK & CO.	NASHVILLE NORTH
2000	STREET BEGINS	R.L. POLK & CO.	NASHVILLE NORTH
1995	STREET NOT LISTED	R.L. POLK & CO.	NASHVILLE SUBURBAN
1990	STREET NOT LISTED	R.L. POLK & CO.	NASHVILLE SUBURBAN

3709 AMY LYNN DR

2000	BEASTEY WILLIE L	R.L. POLK & CO.	NASHVILLE NORTH
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3711 AMY LYNN DR

2000	ABERNATHY GEVENA G	R.L. POLK & CO.	NASHVILLE NORTH
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3717 AMY LYNN DR

2000	MIMMS ROSA M	R.L. POLK & CO.	NASHVILLE NORTH
2000	MIMMS SANDRA E	R.L. POLK & CO.	NASHVILLE NORTH

3719 AMY LYNN DR

2020	ALLIED CRAWFORD [STEEL]	R.L. POLK & CO.	NASHVILLE NORTH
2015	ALLIED CRAWFORD [STEEL]	R.L. POLK & CO.	NASHVILLE NORTH
2010	ALLIED CRAWFORD [STEEL]	R.L. POLK & CO.	NASHVILLE NORTH
2005	ALLIED CRAWFORD STEEL INC [STEEL]	R.L. POLK & CO.	NASHVILLE NORTH
2000	KLOCKNER NAMASCO HOLDING CORP [METLS SVC CNTRS]	R.L. POLK & CO.	NASHVILLE NORTH

3730 AMY LYNN DR

2020	CUMBERLAND SCRAP PROCESSORS [SCRAP METALS]	R.L. POLK & CO.	NASHVILLE NORTH
2020	HAILEY'S HARBOR INC [TERMINALS- RIVER & MARINE]	R.L. POLK & CO.	NASHVILLE NORTH

City Directory Target Property Address

Amy Lynn Dr, Nashville, TN 37218

2020	HAILEY'S RIVER TERMINAL [CEMENT-RETAIL]	R.L. POLK & CO.	NASHVILLE NORTH
2015	CUMBERLAND SCRAP PROCESSORS [SCRAP METALS & IRON]	R.L. POLK & CO.	NASHVILLE NORTH
2015	HAILEY'S HARBOR INC [TERMINALS-RIVER & MARINE]	R.L. POLK & CO.	NASHVILLE NORTH
2015	HAILEY'S RIVER TERMINAL [NONCLASSIFIED ESTABLISHMENTS]	R.L. POLK & CO.	NASHVILLE NORTH
2015	US TELECOM [TELECOMMUNICATIONS SERV]	R.L. POLK & CO.	NASHVILLE NORTH
2010	CUMBERLAND SCRAP PROCESSOR [SCRAP METALS & IRON]	R.L. POLK & CO.	NASHVILLE NORTH
2010	HAILEY'S HARBOR INC [TERMINALS-RIVER & MARINE]	R.L. POLK & CO.	NASHVILLE NORTH
2010	US TELECOM [TELECOMMUNICATIONS SERV]	R.L. POLK & CO.	NASHVILLE NORTH
2005	HAILEY'S HARBOR INC [TERMINALS-RIVER & MARINE]	R.L. POLK & CO.	NASHVILLE NORTH
2000	HAILEYS HARBOR [MARINE CARGO HNDLNG]	R.L. POLK & CO.	NASHVILLE NORTH

3731 AMY LYNN DR

2020	EWS SALT LAKE [CONSTRUCTION COMPANIES]	R.L. POLK & CO.	NASHVILLE NORTH
2020	JOHN W MC DOUGALL CO INC [STEEL-STRUCTURAL]	R.L. POLK & CO.	NASHVILLE NORTH
2020	PERKINS TINA	R.L. POLK & CO.	NASHVILLE NORTH
2015	JOHN W MC DOUGALL CO INC [STEEL-STRUCTURAL]	R.L. POLK & CO.	NASHVILLE NORTH
2010	JOHN W MC DOUGALL CO INC [STEEL-STRUCTURAL]	R.L. POLK & CO.	NASHVILLE NORTH
2005	JOHN W MC DOUGALL CO [STEEL-STRUCTURAL]	R.L. POLK & CO.	NASHVILLE NORTH
2000	NATIONAL MATERIAL CO [METLS SVC CNTRS]	R.L. POLK & CO.	NASHVILLE NORTH
2000	X [RAILROAD CROSSES]	R.L. POLK & CO.	NASHVILLE NORTH
2000	Y [ASHLAND CITY HWY INTS]	R.L. POLK & CO.	NASHVILLE NORTH

3737 AMY LYNN DR

2000	L & L TRUCKING CO [TRCKG]	R.L. POLK & CO.	NASHVILLE NORTH
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City Directory Target Property Address

Amy Lynn Dr, Nashville, TN 37218

3758 AMY LYNN DR

2020	C J MULCH INC [SAWMILLS]	R.L. POLK & CO.	NASHVILLE NORTH
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4511 AMY LYNN DR

2000	BOYCE MICHAEL	R.L. POLK & CO.	NASHVILLE NORTH
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4535 AMY LYNN DR

2020	NO CURRENT LISTING	R.L. POLK & CO.	NASHVILLE NORTH
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2020	X [RAILROAD CROSSES]	R.L. POLK & CO.	NASHVILLE NORTH
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2015	NO CURRENT LISTING	R.L. POLK & CO.	NASHVILLE NORTH
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2015	X [RAILROAD CROSSES]	R.L. POLK & CO.	NASHVILLE NORTH
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2010	NO CURRENT LISTING	R.L. POLK & CO.	NASHVILLE NORTH
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2010	X [RAILROAD CROSSES]	R.L. POLK & CO.	NASHVILLE NORTH
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2005	PURCELL SCOTT	R.L. POLK & CO.	NASHVILLE NORTH
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2000	GAFFORD JUANITA	R.L. POLK & CO.	NASHVILLE NORTH
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2000	GAFFORD LILLIE J	R.L. POLK & CO.	NASHVILLE NORTH
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4537 AMY LYNN DR

2000	NOT VERIFIED	R.L. POLK & CO.	NASHVILLE NORTH
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2000	X [END OF LISTINGS]	R.L. POLK & CO.	NASHVILLE NORTH
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4614 AMY LYNN DR

2015	C J MULCH INC [SAWMILLS]	R.L. POLK & CO.	NASHVILLE NORTH
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2010	C J MULCH INC [SAWMILLS]	R.L. POLK & CO.	NASHVILLE NORTH
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2005	C J MULCH INC [SAWMILLS]	R.L. POLK & CO.	NASHVILLE NORTH
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4651 AMY LYNN DR

2020	AW WASTE [WASTE CONTAINERS]	R.L. POLK & CO.	NASHVILLE NORTH
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2020	NASHVILLE PORTABLE TOILET [TOILETS- PORTABLE]	R.L. POLK & CO.	NASHVILLE NORTH
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City Directory Target Property Address

Amy Lynn Dr, Nashville, TN 37218

2020	SOUTHERN SERVICES [LANDFILLS-SANITARY]	R.L. POLK & CO.	NASHVILLE NORTH
2020	WASTE MANAGEMENT [RECYCLING CENTERS]	R.L. POLK & CO.	NASHVILLE NORTH
2020	WASTE MANAGEMENT SOUTHERN SVC [GARBAGE COLLECTION]	R.L. POLK & CO.	NASHVILLE NORTH
2020	X [END OF LISTINGS]	R.L. POLK & CO.	NASHVILLE NORTH
2015	A W WASTE [WASTE CONTAINERS]	R.L. POLK & CO.	NASHVILLE NORTH
2015	SOUTHERN SERVICES [LANDFILLS-SANITARY]	R.L. POLK & CO.	NASHVILLE NORTH
2015	WASTE MANAGEMENT [LANDFILLS-SANITARY]	R.L. POLK & CO.	NASHVILLE NORTH
2015	X [END OF LISTINGS]	R.L. POLK & CO.	NASHVILLE NORTH
2010	SOUTHERN SERVICES [LANDFILLS-SANITARY]	R.L. POLK & CO.	NASHVILLE NORTH
2010	X [END OF LISTINGS]	R.L. POLK & CO.	NASHVILLE NORTH
2005	SOUTHERN SERVICES [LANDFILLS-SANITARY]	R.L. POLK & CO.	NASHVILLE NORTH
2005	X [END OF LISTINGS]	R.L. POLK & CO.	NASHVILLE NORTH

Comment:

City Directory Target Property Address

Target Property:

*4601 Ashland City Hwy,
Nashville, TN 37218*

Prepared For:

Barge Design Solutions

Order #: 161884

Project #:

Date: 2/26/2021

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1 ASHLAND CITY HWY

1995	STREET NOT LISTED	R.L. POLK & CO.	NASHVILLE SUBURBAN
1990	STREET NOT LISTED	R.L. POLK & CO.	NASHVILLE SUBURBAN

4448 ASHLAND CITY HWY

2005	EASON JOAN E	R.L. POLK & CO.	NASHVILLE NORTH
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4454 ASHLAND CITY HWY

2005	CATIGNANI JAMES C	R.L. POLK & CO.	NASHVILLE NORTH
2005	CATIGNANI CHRIS	R.L. POLK & CO.	NASHVILLE NORTH

4458 ASHLAND CITY HWY

2020	MOORE FORREST J JR & CATHERINE M	R.L. POLK & CO.	NASHVILLE NORTH
2005	MOORE FORREST H JR	R.L. POLK & CO.	NASHVILLE NORTH
2000	MOORE FORREST JR	R.L. POLK & CO.	NASHVILLE NORTH
2000	X [EATONS CREEK RD BEGINS]	R.L. POLK & CO.	NASHVILLE NORTH

4479 ASHLAND CITY HWY

2015	RADIO NASHVILLE INC [RADIO STATIONS/BROADCASTING CO]	R.L. POLK & CO.	NASHVILLE NORTH
2010	RADIO NASHVILLE INC [RADIO STATIONS/BROADCASTING CO]	R.L. POLK & CO.	NASHVILLE NORTH

4511 ASHLAND CITY HWY

2000	HUGHES STEPHANIE D	R.L. POLK & CO.	NASHVILLE NORTH
2000	X [JORDONIA STATION RD ENDS]	R.L. POLK & CO.	NASHVILLE NORTH

4537 ASHLAND CITY HWY

2000	NOT VERIFIED	R.L. POLK & CO.	NASHVILLE NORTH
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4544 ASHLAND CITY HWY

2020	MUMPOWER JULIE A	R.L. POLK & CO.	NASHVILLE NORTH
2020	MUMPOWER AMY N	R.L. POLK & CO.	NASHVILLE NORTH

City Directory Target Property Address

4601 Ashland City Hwy, Nashville, TN 37218

2015	MUMPOWER AMY N	R.L. POLK & CO.	NASHVILLE NORTH
2015	MUMPOWER COURTNEY	R.L. POLK & CO.	NASHVILLE NORTH
2010	MUMPOWER JULIE A	R.L. POLK & CO.	NASHVILLE NORTH
2005	X [JENNIE BROWN LN INTS]	R.L. POLK & CO.	NASHVILLE NORTH
2000	BLANKENSHIP VINI	R.L. POLK & CO.	NASHVILLE NORTH

4560 ASHLAND CITY HWY

2020	NO CURRENT LISITNG	R.L. POLK & CO.	NASHVILLE NORTH
2015	NO CURRENT LISTING	R.L. POLK & CO.	NASHVILLE NORTH
2010	NO CURRENT LISTING	R.L. POLK & CO.	NASHVILLE NORTH
2000	MOORE DIANNA L	R.L. POLK & CO.	NASHVILLE NORTH

4608 ASHLAND CITY HWY

2020	SHALANDER MELODY	R.L. POLK & CO.	NASHVILLE NORTH
2015	HUDDLESTON JANICE F & SAMUEL C	R.L. POLK & CO.	NASHVILLE NORTH
2015	SHALANDER MELODY	R.L. POLK & CO.	NASHVILLE NORTH
2010	HUDDLESTON & HUDDLESTON CONTRS [CONCRETE CONTRACTORS]	R.L. POLK & CO.	NASHVILLE NORTH
2010	HUDDLESTON CHARLES S JR	R.L. POLK & CO.	NASHVILLE NORTH
2010	HUDDLESTON JENNIFER E	R.L. POLK & CO.	NASHVILLE NORTH
2005	HUDDLESTON & HUDDLESTON CONTRS [CONCRETE CONTRACTORS]	R.L. POLK & CO.	NASHVILLE NORTH
2005	HUDDLESTON SAMUEL	R.L. POLK & CO.	NASHVILLE NORTH
2005	HUDDLESTON CHARLES S JR	R.L. POLK & CO.	NASHVILLE NORTH
2000	HUDDLESTON SAMUEL	R.L. POLK & CO.	NASHVILLE NORTH
2000	HUDDLESTON CHARLES S JR	R.L. POLK & CO.	NASHVILLE NORTH
2000	HUDDLESTON & HUDDLESTON CONSTRUCTION [MSNRY OTHER STNWRK]	R.L. POLK & CO.	NASHVILLE NORTH

City Directory Target Property Address

4601 Ashland City Hwy, Nashville, TN 37218

4618 ASHLAND CITY HWY

2020	BEARD EDDIE	R.L. POLK & CO.	NASHVILLE NORTH
2020	BEARD CLARENCE E	R.L. POLK & CO.	NASHVILLE NORTH
2010	GREEN BARBARA A	R.L. POLK & CO.	NASHVILLE NORTH
2005	GREEN JOE A	R.L. POLK & CO.	NASHVILLE NORTH
2000	GREEN BARBARA A & JOE	R.L. POLK & CO.	NASHVILLE NORTH
2000	X [AMY LYNN DR ENDS]	R.L. POLK & CO.	NASHVILLE NORTH

4642 ASHLAND CITY HWY

2020	AUSTIN PRESLEY G SR & CAROLYN A	R.L. POLK & CO.	NASHVILLE NORTH
2010	AUSTIN PRESLEY G	R.L. POLK & CO.	NASHVILLE NORTH
2010	AUSTIN CAROLYN A	R.L. POLK & CO.	NASHVILLE NORTH
2005	AUSTIN PRESLEY G SR	R.L. POLK & CO.	NASHVILLE NORTH
2000	AUSTIN PRESSLEY G	R.L. POLK & CO.	NASHVILLE NORTH

4684 ASHLAND CITY HWY

2000	HWANG SHIN T	R.L. POLK & CO.	NASHVILLE NORTH
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4686 ASHLAND CITY HWY

2020	HIWNAG SHIN T	R.L. POLK & CO.	NASHVILLE NORTH
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4688 ASHLAND CITY HWY

2015	HWANG SHIN T	R.L. POLK & CO.	NASHVILLE NORTH
2015	HWANG MEL C	R.L. POLK & CO.	NASHVILLE NORTH
2010	HWANG SHIN T	R.L. POLK & CO.	NASHVILLE NORTH
2010	HWANG MEI C	R.L. POLK & CO.	NASHVILLE NORTH
2005	HWANG SHIN T	R.L. POLK & CO.	NASHVILLE NORTH
2005	NO CURRENT LISTING (3 APTS)	1-3 R.L. POLK & CO.	NASHVILLE NORTH

City Directory Target Property Address

4601 Ashland City Hwy, Nashville, TN 37218

2000	NOT VERIFIED	R.L. POLK & CO.	NASHVILLE NORTH
<u>4694 ASHLAND CITY HWY</u>			
2015	MARK DOLAN	R.L. POLK & CO.	NASHVILLE NORTH
2000	LIU RONGDAR	R.L. POLK & CO.	NASHVILLE NORTH
<u>4701 ASHLAND CITY HWY</u>			
2015	NO CURRENT LISTING	R.L. POLK & CO.	NASHVILLE NORTH
2005	BAKER DANIELLE	R.L. POLK & CO.	NASHVILLE NORTH
2000	PORTER GEORGE	R.L. POLK & CO.	NASHVILLE NORTH
<u>4722 ASHLAND CITY HWY</u>			
2020	MARCRUM RICHARD H & LORI L	R.L. POLK & CO.	NASHVILLE NORTH
2015	PROCTOR JAMES W & CHRISTIE J	R.L. POLK & CO.	NASHVILLE NORTH
2005	NO CURRENT LISTING	R.L. POLK & CO.	NASHVILLE NORTH
2000	MARCRUM RICHARD H JR	R.L. POLK & CO.	NASHVILLE NORTH
2000	MARCRUM LORI L	R.L. POLK & CO.	NASHVILLE NORTH
<u>4729 ASHLAND CITY HWY</u>			
2005	VEACH'S GARAGE [AUTO RPR & SERV]	R.L. POLK & CO.	NASHVILLE NORTH
2000	VEACH CALVIN C	R.L. POLK & CO.	NASHVILLE NORTH
2000	VEACH'S GARAGE [AUTO RPR]	R.L. POLK & CO.	NASHVILLE NORTH
<u>4733 ASHLAND CITY HWY</u>			
2020	AUSTAD ROBERT C	R.L. POLK & CO.	NASHVILLE NORTH
2010	AUSTAD ROBERT C	R.L. POLK & CO.	NASHVILLE NORTH
2005	AUSTAD ROBERT C	R.L. POLK & CO.	NASHVILLE NORTH
2000	AUSTAD ROBERT	R.L. POLK & CO.	NASHVILLE NORTH
2000	BRADBERRY ROBERT C	R.L. POLK & CO.	NASHVILLE NORTH

City Directory Target Property Address

4601 Ashland City Hwy, Nashville, TN 37218

4738 ASHLAND CITY HWY

2000	NOT VERIFIED	R.L. POLK & CO.	NASHVILLE NORTH
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4748 ASHLAND CITY HWY

2020	BOND VERNON	R.L. POLK & CO.	NASHVILLE NORTH
2020	BOND ANTHONY M	R.L. POLK & CO.	NASHVILLE NORTH
2015	BOND VERNON SR & ELLA B	R.L. POLK & CO.	NASHVILLE NORTH
2010	BOND ELLA B	R.L. POLK & CO.	NASHVILLE NORTH
2010	BOND ANTHONY M	R.L. POLK & CO.	NASHVILLE NORTH
2000	BOND VERNON SR	R.L. POLK & CO.	NASHVILLE NORTH
2000	BOND ELLA B	R.L. POLK & CO.	NASHVILLE NORTH

4752 ASHLAND CITY HWY

2020	FUQUA ROBERT & PATRICIA L	R.L. POLK & CO.	NASHVILLE NORTH
2020	MCCURDY ALLYSON	R.L. POLK & CO.	NASHVILLE NORTH
2020	X [WWCR AVE ENDS]	R.L. POLK & CO.	NASHVILLE NORTH
2015	FUQUA ROBERT & PATRICIA L	R.L. POLK & CO.	NASHVILLE NORTH
2010	FUQUA PATRICIA L	R.L. POLK & CO.	NASHVILLE NORTH
2010	X [WWCR AVE ENDS]	R.L. POLK & CO.	NASHVILLE NORTH
2000	FUQUA ROBERT T & PATRICIA	R.L. POLK & CO.	NASHVILLE NORTH

4761 ASHLAND CITY HWY

2005	WALLER CHANDRA A	R.L. POLK & CO.	NASHVILLE NORTH
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4544-4560 ASHLAND CITY HWY

2005	NO CURRENT LISTING (2 HSES)	R.L. POLK & CO.	NASHVILLE NORTH
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4618-4642 ASHLAND CITY HWY

2015	NO CURRENT LISTING (2 HSES)	R.L. POLK & CO.	NASHVILLE NORTH
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City Directory Target Property Address

4601 Ashland City Hwy, Nashville, TN 37218

4688-4701 ASHLAND CITY HWY

2020	NO CURRENT LISITNG (2 HSES)	R.L. POLK & CO.	NASHVILLE NORTH
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4694-4722 ASHLAND CITY HWY

2010	NO CURRENT LISTING (3 HSES)	R.L. POLK & CO.	NASHVILLE NORTH
------	-----------------------------	-----------------	--------------------

4748-4752 ASHLAND CITY HWY

2005	NO CURRENT LISTING (2 HSES)	R.L. POLK & CO.	NASHVILLE NORTH
------	-----------------------------	-----------------	--------------------

2005	X [WWCR AVE INTS]	R.L. POLK & CO.	NASHVILLE NORTH
------	-------------------	-----------------	--------------------

Comment:

Appendix G
Geo-Search Environmental Lien Search
Report



Environmental Lien

Target Property:
Ashland City Hwy
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218

Prepared For:
Barge Design Solutions

Order #: 161884

Job #: 399290

Date: 03/01/2021

TARGET PROPERTY SUMMARY

Ashland City Hwy

4601 Ashland City Hwy

Nashville, Davidson County, Tennessee 37218

USGS Quadrangle: **Scottsboro, TN**

Target Property Geometry: **Area**

Target Property Longitude(s)/Latitude(s):

**(-86.886594, 36.210741), (-86.886755, 36.209750), (-86.884523, 36.209450), (-86.883606, 36.209297),
(-86.882109, 36.209095), (-86.881192, 36.209382), (-86.880859, 36.210154), (-86.883289, 36.210221),
(-86.884984, 36.210423), (-86.886594, 36.210741)**

County/Parish Covered:

Davidson (TN)

Zipcode(s) Covered:

Nashville TN: 37209, 37218

State(s) Covered:

TN

Disclaimer - The information provided in this report was obtained from a variety of public sources. GeoSearch cannot ensure and makes no warranty or representation as to the accuracy, reliability, quality, errors occurring from data conversion or the customer's interpretation of this report. This report was made by GeoSearch for exclusive use by its clients only. Therefore, this report may not contain sufficient information for other purposes or parties. GeoSearch and its partners, employees, officers and independent contractors cannot be held liable for actual, incidental, consequential, special or exemplary damages suffered by a customer resulting directly or indirectly from any information provided by GeoSearch.



ENVIRONMENTAL LIEN/AUL SEARCH

We have done a search of Davidson County Recorders Records for “Environmental Liens” only on the subject property as identified as 4601 Ashland City Hwy, Nashville, TN. Tax Parcel No. 068 00 0 029.00 and find the following:

None found

We have done a search of Davidson County Recorders Records for “Activity and Use Limitations” (AUL’s) only on the subject property as identified as 4601 Ashland City Hwy, Nashville, TN. Tax Parcel No. 068 00 0 029.00 and find the following:

None found

Appendix H
Geo-Search Radius Map Report

GeoPlus Physical Setting Maps

Target Property:

**Ashland City Hwy
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218**

Prepared For:

Barge Design Solutions

Order #: 161884

Job #: 399297

Date: 02/25/2021

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<i>FEMA Map</i>	2
<i>FEMA Report</i>	3
<i>NWI Map</i>	4
<i>NWI Report</i>	5
<i>SOIL Map</i>	7
<i>SOIL Report</i>	8
<i>GEOLOGY Map</i>	9
<i>GEOLOGY Report</i>	10

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Target Property Summary

Target Property Information

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee 37218

Coordinates

Area centroid (-86.883859, 36.2098678)
430 feet above sea level

USGS Quadrangle

Scottsboro, TN

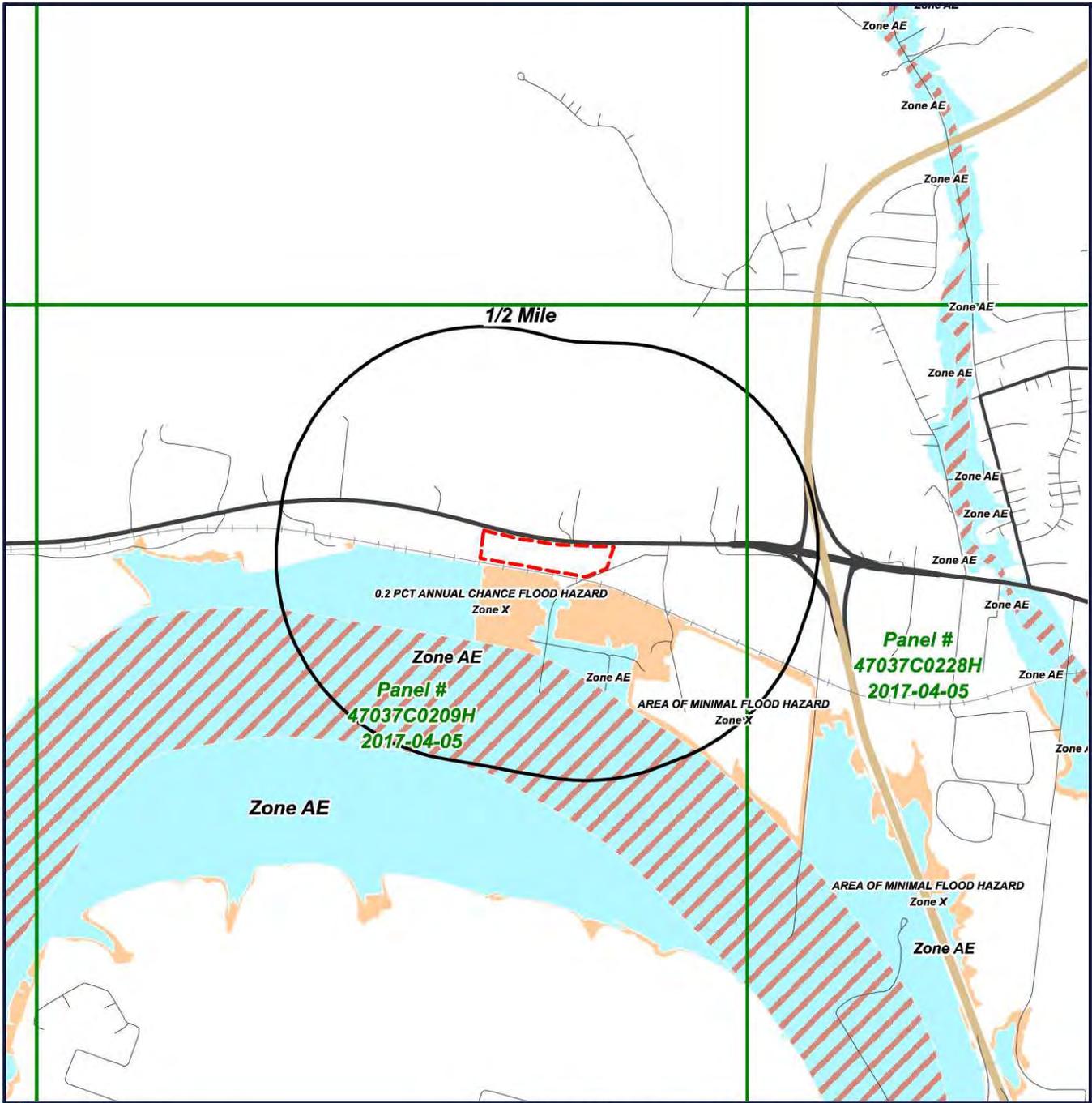
Geographic Coverage Information

County/Parish: Davidson (TN)

ZipCode(s):

Nashville TN: 37209, 37218

FEMA Map

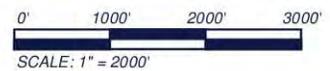


Target Property (TP)

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218

Letter of map revision date:
 09/19/2020
 Latest study effective date:
 05/15/2020

- Without Base Flood Elevation (BFE)
Zone A, V, A99
With BFE or Depth
- Regulatory Floodway Zone AE, AO, AH, VE, AR
- 0.2% Annual Chance Flood Hazard - Zone X
- Future Conditions 1% Annual Chance Flood Hazard - Zone X
- Area with Reduced Flood Risk due to Levee - Zone X
- Area with Flood Risk due to Levee - Zone D
- Area of Undetermined Flood Hazard Zone D
- Minimal Flood Hazard - Zone X
- Digital Data Not Available



FEMA Report

FEMA - Federal Emergency Management Agency

The National Flood Hazard Layer (NFHL) data used in this report is derived from the Federal Emergency Management Agency. The NFHL dataset is a compilation of effective Flood Insurance Rate Map (FIRM) databases (a collection of the digital data that are used in GIS systems for creating new Flood Insurance Rate Maps) and Letters of Map Change (Letters of Map Amendment and Letters of Map Revision only) that create a seamless GIS data layer for United States and its territories. The NFHL is updated as new study or LOMC data becomes effective. Note: Currently, not all areas have modernized FIRM database data available. As a result, users may need to refer to the effective Flood Insurance Rate Map for effective flood hazard information.

FEMA Flood Zone Definitions within Search Radius

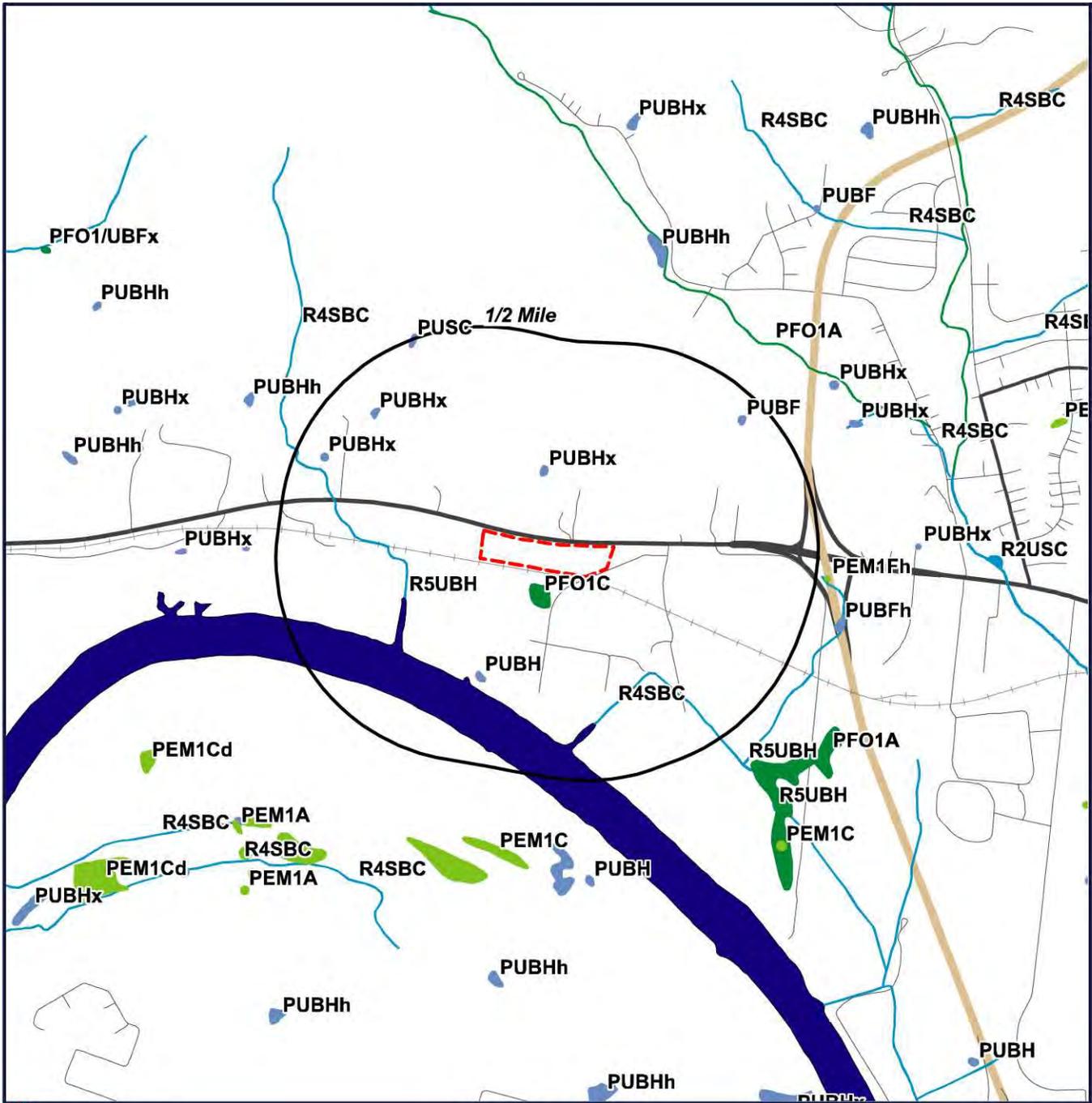
Zone AE

Areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods. BFEs are shown within these zones. (Zone AE is used on new and revised maps in place of Zones A1–A30.)

Zone X

An area that is determined to be outside the 100 and 500 year floodplains.

NWI Map

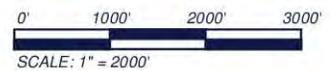


Target Property (TP)

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218

Map Date: 05/01/2018

- | | | | | | |
|--|-----------------------------------|--|----------|--|----------------------------------|
| | ESTUARINE AND MARINE DEEPWATER | | LAKE | | FRESHWATER POND |
| | ESTUARINE AND MARINE WETLAND | | OTHER | | NDA - DIGITAL DATA NOT AVAILABLE |
| | FRESHWATER EMERGENT WETLAND | | RIVERINE | | |
| | FRESHWATER FORESTED/SHRUB WETLAND | | | | |



NWI Report

NWI - National Wetlands Inventory

The US NWI digital data bundle is a set of records of wetlands location and classification as defined by the U.S. Fish & Wildlife Service. This dataset is one of a series available in 7.5 minute by 7.5 minute blocks containing ground planimetric coordinates of wetlands point, line, and area features and wetlands attributes. When completed, the series will provide coverage for all of the contiguous United States, Hawaii, Alaska, and U.S. protectorates in the Pacific and Caribbean. The digital data as well as the hardcopy maps that were used as the source for the digital data are produced and distributed by the U.S. Fish & Wildlife Service's National Wetlands Inventory project. Currently, this data is only available in select counties throughout the United States.

NWI Definitions within Search Radius

L1UBHh

SYSTEM: LACUSTRINE
SUBSYSTEM: LIMNETIC
CLASS: UNCONSOLIDATED BOTTOM
WATER REGIME: PERMANENTLY FLOODED
SPECIAL MODIFIER: DIKED/IMPOUNDED

PFO1C

SYSTEM: PALUSTRINE
CLASS: FORESTED
SUBCLASS: BROAD-LEAVED DECIDUOUS
WATER REGIME: SEASONALLY FLOODED

PUBF

SYSTEM: PALUSTRINE
CLASS: UNCONSOLIDATED BOTTOM

PUBH

SYSTEM: PALUSTRINE
CLASS: UNCONSOLIDATED BOTTOM

PUBHx

SYSTEM: PALUSTRINE
CLASS: UNCONSOLIDATED BOTTOM
SPECIAL MODIFIER: EXCAVATED

PUSC

SYSTEM: PALUSTRINE
CLASS: UNCONSOLIDATED SHORE

R4SBC

SYSTEM: RIVERINE
SUBSYSTEM: INTERMITTENT
CLASS: STREAMBED
WATER REGIME: SEASONALLY FLOODED

NWI Report

R5UBH

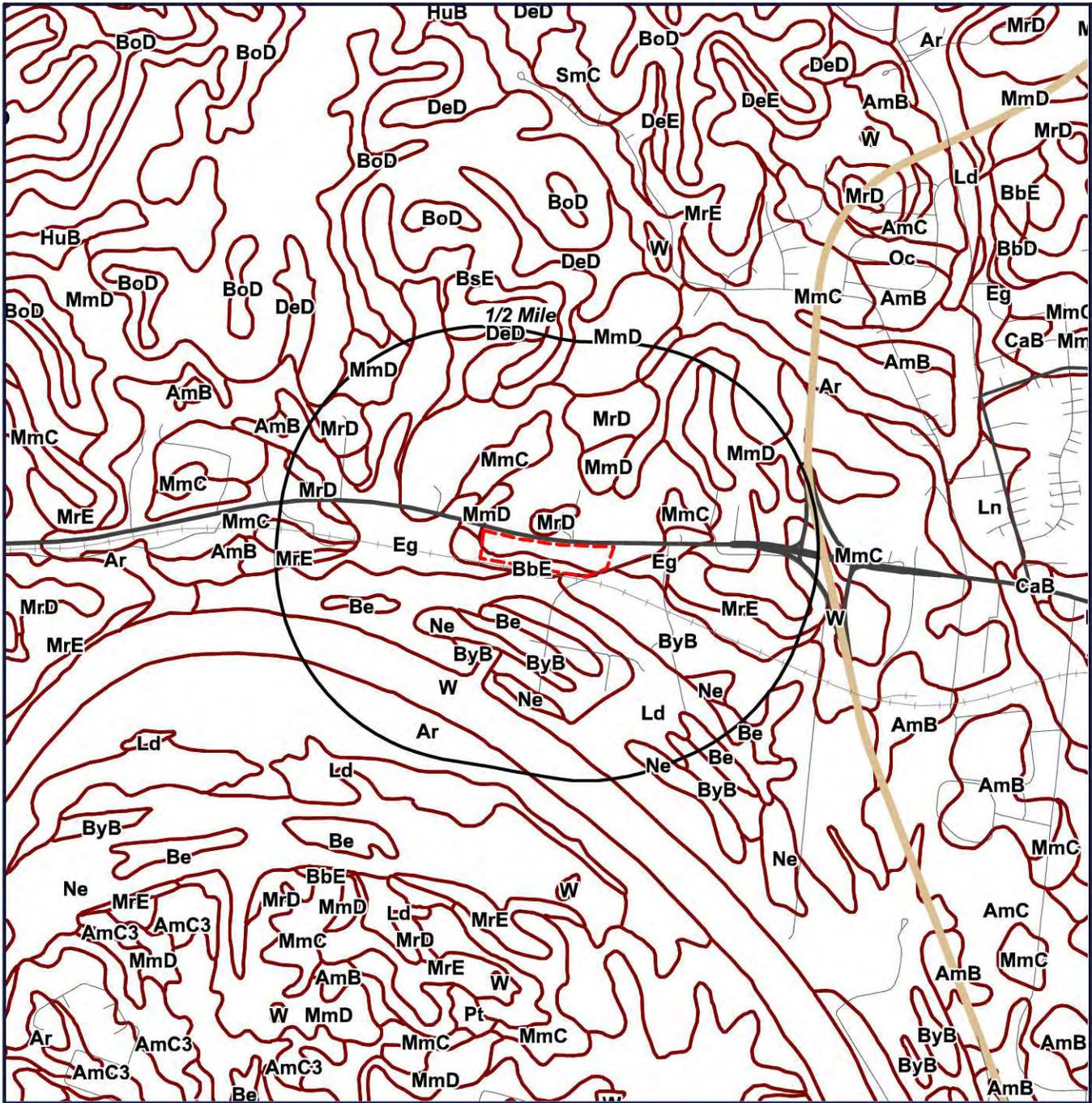
SYSTEM: RIVERINE

SUBSYSTEM: UNKNOWN PERENNIAL

CLASS: UNCONSOLIDATED BOTTOM

WATER REGIME: PERMANENTLY FLOODED

Soil Map

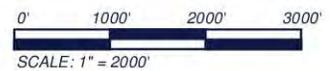


 Target Property (TP)

 SOIL BOUNDARY

 NOTCOM - DIGITAL DATA NOT AVAILABLE/NOT COMPLETE

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218



SOIL Report

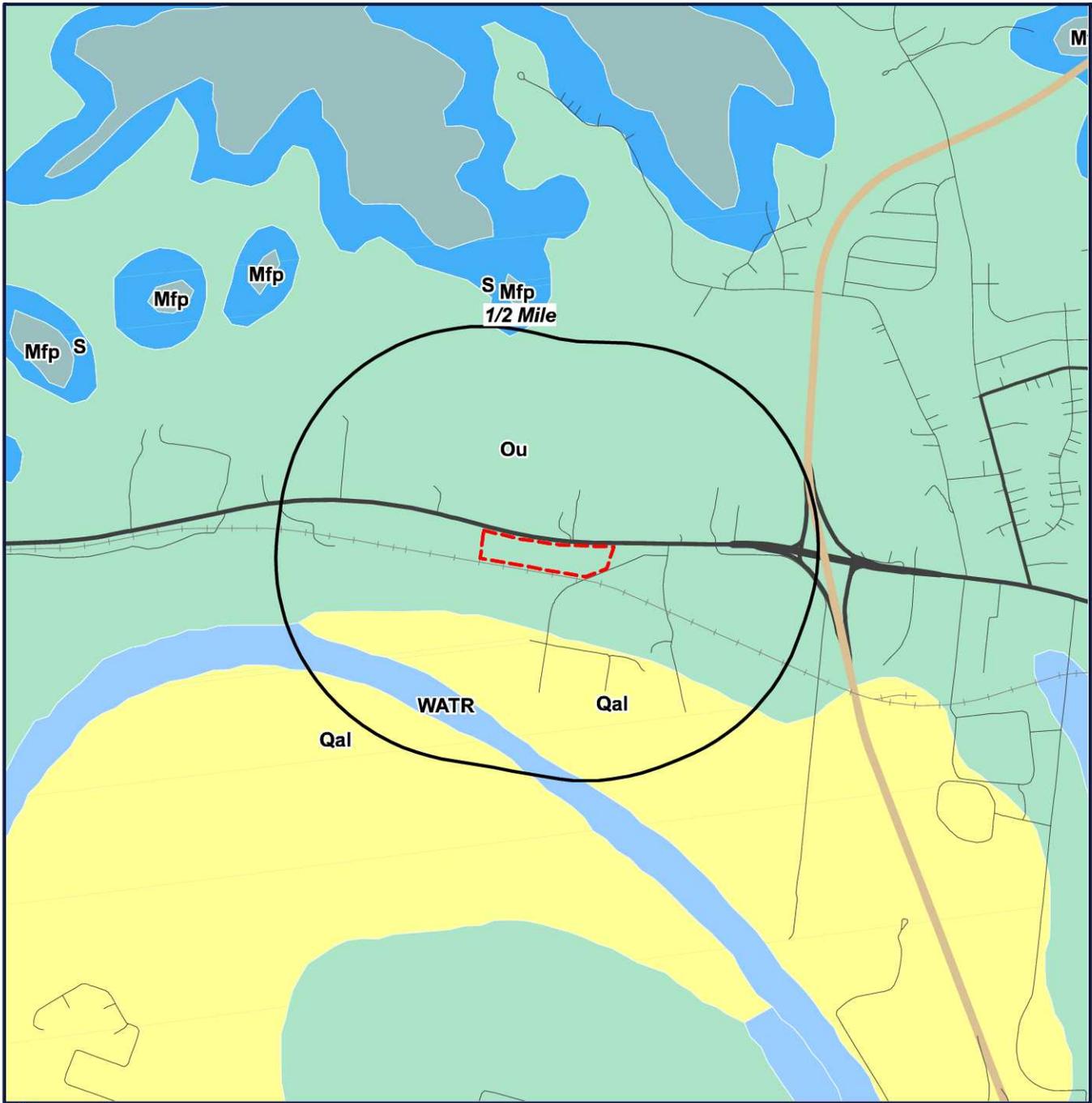
Soil Surveys

The soil data used in this report is obtained from the Natural Resources Conservation Service (NRCS). The NRCS is the primary federal agency that works with private landowners to help them conserve, maintain and improve their natural resources. The soil survey contains information that can be applied in managing farms and ranches; in selecting sites for roads, ponds, buildings and other structures; and in determining the suitability of tracts of land for farming, industry and recreation. This data is available in select counties throughout the United States.

SOIL Code Definitions within Search Radius

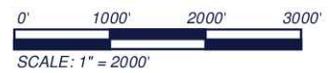
AmB	Armour silt loam, 2 to 5 percent slopes
Ar	Arrington silt loam, 0 to 2 percent slopes, occasionally flooded
BbD	Barfield-Rock outcrop complex, 5 to 20 percent slopes
BbE	Barfield-Rock outcrop complex, 20 to 70 percent slopes
Be	Beason silt loam
BoD	Bodine cherty silt loam, 5 to 20 percent slopes
BsE	Bodine-Sulphura complex, 20 to 50 percent slopes
ByB	Byler silt loam, 2 to 5 percent slopes
DeD	Dellrose gravelly silt loam, 12 to 20 percent slopes, eroded
Eg	Egam silty clay loam
HuB	Humphreys cherty silt loam, 1 to 4 percent slopes
Ld	Lindell silt loam, 0 to 2 percent slopes, occasionally flooded
MmC	Mimosa silt loam, 5 to 12 percent slopes, eroded
MmD	Mimosa silt loam, 12 to 25 percent slopes
MrD	Mimosa-Rock outcrop complex, 5 to 20 percent slopes
MrE	Mimosa-Rock outcrop complex, 20 to 40 percent slopes
Ne	Newark silt loam
W	Water

Geology Map



 Target Property (TP)

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218



GEOLOGY Report

US GEOLOGY

THE GEOLOGY DATA USED IN THIS REPORT ORIGINATES FROM THE USGS. THE FIRST STAGE IN DEVELOPING STATE DATABASES FOR THE CONTERMINOUS UNITED STATES WAS TO ACQUIRE DIGITAL VERSIONS OF ALL EXISTING STATE GEOLOGIC MAPS. ALTHOUGH A SIGNIFICANT NUMBER OF DIGITAL STATE MAPS ALREADY EXISTED, A NUMBER OF STATES LACKED THEM. FOR THESE STATES NEW DIGITAL COMPILATIONS WERE PREPARED IN COOPERATION WITH STATE GEOLOGIC SURVEYS OR BY THE NSA (NATIONAL SURVEYS AND ANALYSIS) PROJECT. THESE NEW DIGITAL STATE GEOLOGIC MAPS AND DATABASES WERE CREATED BY DIGITIZING ALREADY EXISTING PRINTED MAPS, OR, IN A FEW CASES, BY MERGING EXISTING LARGER SCALE DIGITAL MAPS.

GEOLOGY Definitions within Search Radius

GEOLOGY SYMBOL: **Ou**

UNIT NAME: **Ordovician [units] including Richmond Group (which includes Mannie Shale, Fernvale Limestone, Sequatchie Formation, and Arnheim Formation), the Maysville Group (which includes Leipers Formation), the Eden Group (which includes Inman Formation), and the**

UNIT AGE: **Ordovician**

UNIT DESCRIPTION:

Ordovician [units] including Richmond Group (which includes Mannie Shale - Olive-gray shale. Thickness 0 to 20 feet; Fernvale Limestone - Massive, coarsely crystalline, gray limestone with varicolored grains. Thickness 0 to 50 feet; Sequatchie Formation - Olive-gray and greenish-gray shale, mudstone, and argillaceous limestone; dolomitic, laminated, and sandy. Thickness 0 to 100 feet; and Arnheim Formation Nodular, shaly, gray limestone. Thickness 0 to 20 feet; the Maysville Group (which includes Leipers Formation - Nodular, shaly limestone; fine- to coarse-grained limestone; and phosphatic calcarenite locally. Thickness 0 to 150 feet); the Eden Group (which includes the Inman Formation - Thin-bedded to laminated, fine-grained, gray limestone with shale partings. Thickness 0 to 50 feet); and the Nashville Group (which includes Catheys Formation - Nodular, shaly limestone; fine- to coarse-grained limestone; phosphatic calcarenite; and light-gray cryptograined limestone. Thickness 50 to 175 feet.)

ADDITIONAL UNIT INFORMATION:

West-Central sheet - Central Basin

ROCKTYPE/S: **shale; limestone;**

GEOLOGY SYMBOL: **Qal**

UNIT NAME: **Alluvial deposits**

UNIT AGE: **Quaternary**

UNIT DESCRIPTION:

Alluvial Deposits - Sand, silt, clay, and gravel. In flood plain of Mississippi River more than 100 feet thick; in smaller streams generally less than 20 feet thick.

ADDITIONAL UNIT INFORMATION:

West sheet

ROCKTYPE/S: **sand; silt; clay or mud; gravel**

GEOLOGY SYMBOL: **S**

UNIT NAME: **Silurian Formations, including Decatur Limestone, Brownsport Group (Lobelville Formation, Bob Limestone, Beech River Formation), Wayne Group (Dixon Formation, Lego Formation, Waldron Shale, Laurel Limestone, Osgood Formation) and Brassfield Limestone**

UNIT AGE: **Silurian**

UNIT DESCRIPTION:

Silurian Formations - A complete section of Silurian formations is not common because of pre-Chattanooga and/or pre-Cretaceous erosion. Where preserved, Silurian formations are remarkably uniform in thickness and are characteristically light olive-gray to greenish-gray with variable reddish-brown color in some area;. Decatur Limestone - Thick-bedded,

GEOLOGY Report

medium- to coarse-grained limestone, gray with reddish-brown grains. Thickness 0 to 70 feet; Brownsport Group which includes 1) Lobelville Formation - Shale with thin beds of limestone. Thickness 0 to 40 feet; 2) Bob Limestone - Thick-bedded, medium-grained limestone, locally oolitic. Thickness 0 to 25 feet; and 3) Beech River Formation - Shale with thin beds of limestone. Thickness 0 to 60 feet; Wayne Group which includes: 1) Dixon Formation - Green and reddish-brown argillaceous limestone, shale, and mudstone. Thickness 0 to 40 feet; 2) Lego Limestone - Even-bedded, olive-gray limestone with scattered reddish-brown grains. Thickness 0 to 30 feet; 3) Waldron Shale - Greenish-gray fossiliferous shale. Thickness 0 to 5 feet; 4) Laurel Limestone - Even-bedded, gray limestone with scattered reddish-brown grains. Thickness 0 to 30 feet; 5) Osgood Formation - Greenish- and reddish-gray shale and argillaceous limestone. Thickness 0 to 15 feet.; and Brassfield Limestone - Thin-bedded cherty limestone, locally glauconitic. Thickness 0 to 20 feet.

ADDITIONAL UNIT INFORMATION:

West sheet

ROCKTYPE/S: limestone; shale; mudstone

GEOLOGY SYMBOL: **WATR**

UNIT NAME: **water**

UNIT AGE: **Holocene**

UNIT DESCRIPTION:

water

ADDITIONAL UNIT INFORMATION:

NOT REPORTED

ROCKTYPE/S: **water**

GeoPlus Water Well Report

[GeoLens by GeoSearch](#)

Target Property:

**Ashland City Hwy
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218**

Prepared For:

Barge Design Solutions

Order #: 161884

Job #: 399293

Date: 02/25/2021

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Disclaimer

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Target Property Summary

Target Property Information

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee 37218

Coordinates

Area centroid (-86.883859, 36.2098678)
430 feet above sea level

USGS Quadrangle

Scottsboro, TN

Geographic Coverage Information

County/Parish: Davidson (TN)

ZipCode(s):

Nashville TN: 37209, 37218

Database Radius Summary

FEDERAL LISTING

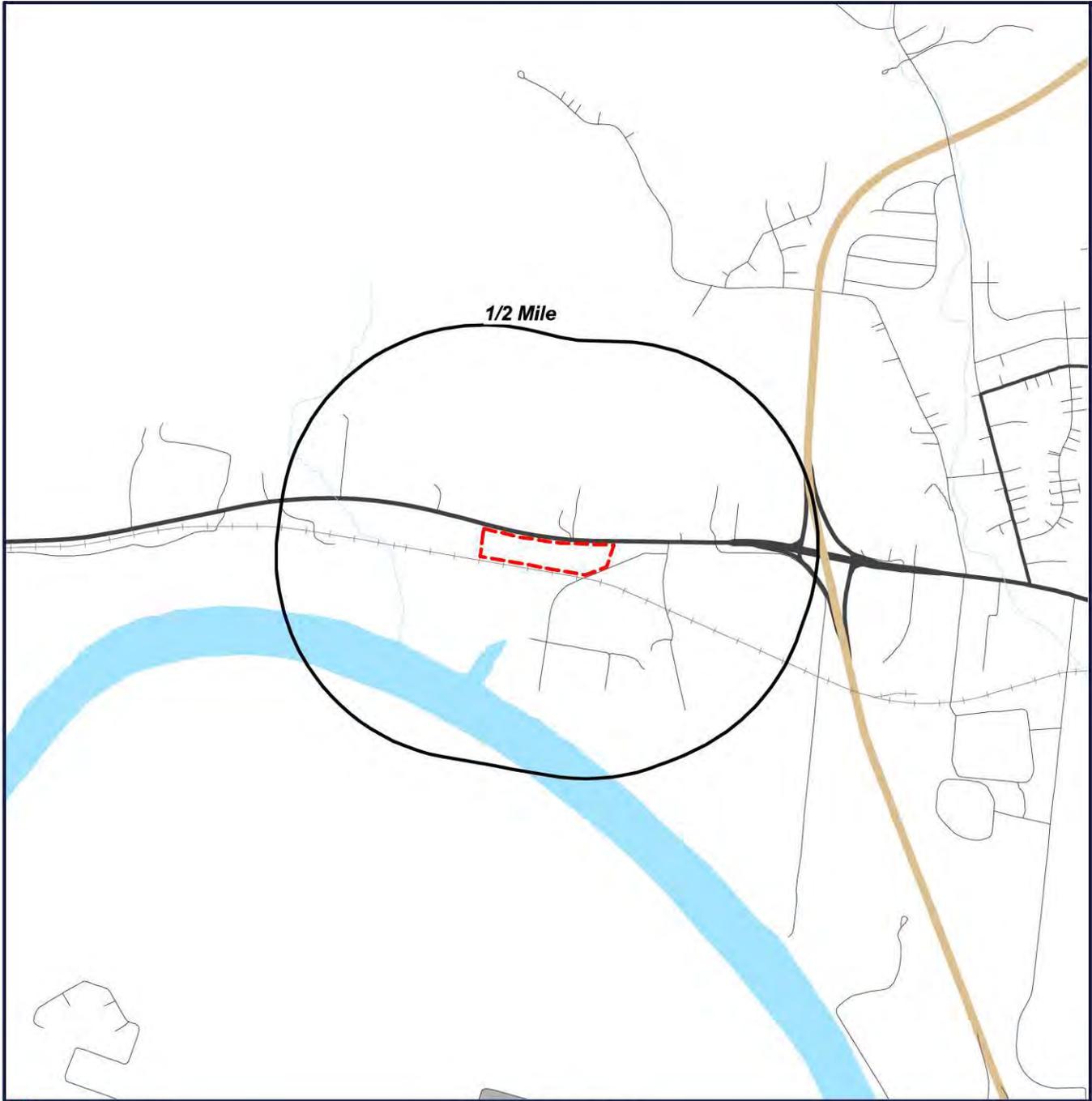
Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
NWIS	0.5000	0	0	0	0	NS	NS	0
SUB-TOTAL		0	0	0	0	0	0	0
TOTAL		0	0	0	0	0	0	0

NOTES:

NS = NOT SEARCHED

TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Waterwell Map



 Target Property (TP)

**Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218**



0' 1000' 2000' 3000'
SCALE: 1" = 2000'

Located Sites Summary

No Records Found.

Site Summary By Database

No Records Found.

Elevation Summary

Elevations are collected from the USGS 3D Elevation Program 1/3 arc-second (approximately 10 meters) layer hosted at the NGTOC. .

Target Property Elevation: 430 ft.

No Records Found.

Environmental Records Definitions - FEDERAL

NWIS

United States Geological Survey National Water Information System

VERSION DATE: 01/02/20

The U.S. Geological Survey (USGS) National Water Information System (NWIS) includes water inventory data originating from all 50 states, plus border and territorial sites, including data from as early as 1899. This database includes selected site types limited to Groundwater Sites and Spring Sites from the 1.5 million plus sites within NWIS. Surface-Water, Atmospheric, and Other Site types are excluded. Disclaimer: Water Data for the Nation is the USGS public web interface to much of the data stored and managed within NWIS. It is not, however, configured to present all NWIS data and users may need to contact local Water Science Centers to obtain some information. NWIS data is updated on a regularly scheduled basis, and current condition data is generally updated upon receipt at local Water Science Centers.

E RecSearch Report

[GeoLens by GeoSearch](#)

Target Property:

**Ashland City Hwy
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218**

Prepared For:

Barge Design Solutions

Order #: 161884

Job #: 399295

Date: 02/25/2021

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<i>Unlocatable Report</i>	See Attachment
<i>Zip Report</i>	See Attachment

Disclaimer

This report was designed by GeoSearch to meet or exceed the records search requirements of the All Appropriate Inquiries Rule (40 CFR § 312.26) and the current version of the ASTM International E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process or, if applicable, the custom requirements requested by the entity that ordered this report. The records and databases of records used to compile this report were collected from various federal, state and local governmental entities. It is the goal of GeoSearch to meet or exceed the 40 CFR § 312.26 and E1527 requirements for updating records by using the best available technology. GeoSearch contacts the appropriate governmental entities on a recurring basis. Depending on the frequency with which a record source or database of records is updated by the governmental entity, the data used to prepare this report may be updated monthly, quarterly, semi-annually, or annually.

The information provided in this report was obtained from a variety of public sources. GeoSearch cannot ensure and makes no warranty or representation as to the accuracy, reliability, quality, errors occurring from data conversion or the customer's interpretation of this report. This report was made by GeoSearch for exclusive use by its clients only. Therefore, this report may not contain sufficient information for other purposes or parties. GeoSearch and its partners, employees, officers And independent contractors cannot be held liable For actual, incidental, consequential, special or exemplary damages suffered by a customer resulting directly or indirectly from any information provided by GeoSearch.

Target Property Summary

Target Property Information

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee 37218

Coordinates

Area centroid (-86.883859, 36.2098678)
430 feet above sea level

USGS Quadrangle

Scottsboro, TN

Geographic Coverage Information

County/Parish: Davidson (TN)

ZipCode(s):

Nashville TN: 37209, 37218

Database Summary

FEDERAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSTN	0	0	TP/AP
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	EC	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	LUCIS	0	0	TP/AP
RCRA SITES WITH CONTROLS	RCRASC	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR	RCRAGR04	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR	RCRANGR04	0	0	0.1250
BROWNFIELDS MANAGEMENT SYSTEM	BF	0	0	0.5000
DELISTED NATIONAL PRIORITIES LIST	DNPL	0	0	0.5000
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	NLRRCRAT	0	0	0.5000
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	RCRAT	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM	SEMS	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM ARCHIVED SITE INVENTORY	SEMSARCH	0	0	0.5000
NATIONAL PRIORITIES LIST	NPL	0	0	1.0000
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	NLRRCRAC	0	0	1.0000
PROPOSED NATIONAL PRIORITIES LIST	PNPL	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	RCRAC	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	RCRASUBC	0	0	1.0000
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	AIRSAFS	0	0	TP/AP
BIENNIAL REPORTING SYSTEM	BRS	0	0	TP/AP
CERCLIS LIENS	SFLIENS	0	0	TP/AP
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	TP/AP
EPA DOCKET DATA	DOCKETS	0	0	TP/AP
ENFORCEMENT AND COMPLIANCE HISTORY INFORMATION	ECHOR04	0	0	TP/AP
FACILITY REGISTRY SYSTEM	FRSTN	0	0	TP/AP

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR04	0	0	TP/AP
HAZARDOUS WASTE COMPLIANCE DOCKET FACILITIES	HWCD	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM (FORMERLY DOCKETS)	ICIS	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	ICISNPDES	0	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	MLTS	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	NPDESR04	0	0	TP/AP
PCB ACTIVITY DATABASE SYSTEM	PADS	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	PCSR04	0	0	TP/AP
SEMS LIEN ON PROPERTY	SEMCLIENS	0	0	TP/AP
SSEHRI PFAS CONTAMINATION SITES	SSEHRIPFAS	0	0	TP/AP
SECTION SEVEN TRACKING SYSTEM	SSTS	0	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	TSCA	0	0	TP/AP
TOXICS RELEASE INVENTORY	TRI	0	0	TP/AP
ALTERNATIVE FUELING STATIONS	ALTFUELS	0	0	0.2500
FEMA OWNED STORAGE TANKS	FEMAUST	0	0	0.2500
HISTORICAL GAS STATIONS	HISTPST	0	0	0.2500
INTEGRATED COMPLIANCE INFORMATION SYSTEM DRYCLEANERS	ICISCLEANERS	0	0	0.2500
MINE SAFETY AND HEALTH ADMINISTRATION MASTER INDEX FILE	MSHA	0	0	0.2500
MINERAL RESOURCE DATA SYSTEM	MRDS	0	0	0.2500
OPEN DUMP INVENTORY	ODI	0	0	0.5000
SURFACE MINING CONTROL AND RECLAMATION ACT SITES	SMCRA	0	0	0.5000
URANIUM MILL TAILINGS RADIATION CONTROL ACT SITES	USUMTRCA	0	0	0.5000
DEPARTMENT OF DEFENSE SITES	DOD	0	0	1.0000
FORMER MILITARY NIKE MISSILE SITES	NMS	0	0	1.0000
FORMERLY USED DEFENSE SITES	FUDS	0	0	1.0000
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM	FUSRAP	0	0	1.0000
RECORD OF DECISION SYSTEM	RODS	0	0	1.0000
SUB-TOTAL		0	0	

Database Summary

STATE (TN) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INSTITUTIONAL / ENGINEERING CONTROLS REGISTRY	ICEC	0	0	TP/AP
REGISTERED UNDERGROUND STORAGE TANKS	RST	0	0	0.2500
DELISTED PROMULGATED SITES	DELISTEDPS	0	0	0.5000
LANDFILL AND SOLID WASTE DISPOSAL SITES	LFSWDS	3	0	0.5000
LEAKING UNDERGROUND STORAGE TANKS	LST	0	0	0.5000
STATE REMEDIATION SITES	SRS	0	0	0.5000
VOLUNTARY CLEANUP AND BROWNFIELD SITES	VCPBF	0	0	0.5000
PROMULGATED INACTIVE HAZARDOUS WASTE SITES	PIHWS	0	0	1.0000

SUB-TOTAL		3	0	
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Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
CLANDESTINE METHAMPHETAMINE LABS	CDL	0	0	TP/AP
STATEWIDE PETROLEUM INCIDENT LOGGING SECTION SITES	SPILS	0	0	TP/AP
REGISTERED DRYCLEANING FACILITIES	CLEANERS	0	0	0.2500

SUB-TOTAL		0	0	
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Database Summary

TRIBAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	USTR04	0	0	0.2500
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	LUSTR04	0	0	0.5000
OPEN DUMP INVENTORY ON TRIBAL LANDS	ODINDIAN	0	0	0.5000

SUB-TOTAL		0	0	
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Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INDIAN RESERVATIONS	INDIANRES	0	0	1.0000

SUB-TOTAL		0	0	
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TOTAL		3	0	
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Database Radius Summary

FEDERAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRSAFS	0.0200	0	NS	NS	NS	NS	NS	0
BRS	0.0200	0	NS	NS	NS	NS	NS	0
CDL	0.0200	0	NS	NS	NS	NS	NS	0
DOCKETS	0.0200	0	NS	NS	NS	NS	NS	0
EC	0.0200	0	NS	NS	NS	NS	NS	0
ECHOR04	0.0200	0	NS	NS	NS	NS	NS	0
ERNSTN	0.0200	0	NS	NS	NS	NS	NS	0
FRSTN	0.0200	0	NS	NS	NS	NS	NS	0
HMIRSR04	0.0200	0	NS	NS	NS	NS	NS	0
HWCD	0.0200	0	NS	NS	NS	NS	NS	0
ICIS	0.0200	0	NS	NS	NS	NS	NS	0
ICISNPDES	0.0200	0	NS	NS	NS	NS	NS	0
LUCIS	0.0200	0	NS	NS	NS	NS	NS	0
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
NPDES04	0.0200	0	NS	NS	NS	NS	NS	0
PADS	0.0200	0	NS	NS	NS	NS	NS	0
PCSR04	0.0200	0	NS	NS	NS	NS	NS	0
RCRASC	0.0200	0	NS	NS	NS	NS	NS	0
SEMSLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SSEHRIPFAS	0.0200	0	NS	NS	NS	NS	NS	0
SSTS	0.0200	0	NS	NS	NS	NS	NS	0
TRI	0.0200	0	NS	NS	NS	NS	NS	0
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
RCRAGR04	0.1250	0	0	NS	NS	NS	NS	0
RCRANGR04	0.1250	0	0	NS	NS	NS	NS	0
ALTFUELS	0.2500	0	0	0	NS	NS	NS	0
FEMAUST	0.2500	0	0	0	NS	NS	NS	0
HISTPST	0.2500	0	0	0	NS	NS	NS	0
ICISCLEANERS	0.2500	0	0	0	NS	NS	NS	0
MRDS	0.2500	0	0	0	NS	NS	NS	0
MSHA	0.2500	0	0	0	NS	NS	NS	0
BF	0.5000	0	0	0	0	NS	NS	0
DNPL	0.5000	0	0	0	0	NS	NS	0
NLRRCRAT	0.5000	0	0	0	0	NS	NS	0

Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
ODI	0.5000	0	0	0	0	NS	NS	0
RCRAT	0.5000	0	0	0	0	NS	NS	0
SEMS	0.5000	0	0	0	0	NS	NS	0
SEMSARCH	0.5000	0	0	0	0	NS	NS	0
SMCRA	0.5000	0	0	0	0	NS	NS	0
USUMTRCA	0.5000	0	0	0	0	NS	NS	0
DOD	1.0000	0	0	0	0	0	NS	0
FUDS	1.0000	0	0	0	0	0	NS	0
FUSRAP	1.0000	0	0	0	0	0	NS	0
NLRRCRAC	1.0000	0	0	0	0	0	NS	0
NMS	1.0000	0	0	0	0	0	NS	0
NPL	1.0000	0	0	0	0	0	NS	0
PNPL	1.0000	0	0	0	0	0	NS	0
RCRAC	1.0000	0	0	0	0	0	NS	0
RCRASUBC	1.0000	0	0	0	0	0	NS	0
RODS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0

Database Radius Summary

STATE (TN) LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
CDL	0.0200	0	NS	NS	NS	NS	NS	0
ICEC	0.0200	0	NS	NS	NS	NS	NS	0
SPILS	0.0200	0	NS	NS	NS	NS	NS	0
CLEANERS	0.2500	0	0	0	NS	NS	NS	0
RST	0.2500	0	0	0	NS	NS	NS	0
DELISTEDPS	0.5000	0	0	0	0	NS	NS	0
LFSWDS	0.5000	0	0	0	3	NS	NS	3
LST	0.5000	0	0	0	0	NS	NS	0
SRS	0.5000	0	0	0	0	NS	NS	0
VCPBF	0.5000	0	0	0	0	NS	NS	0
PIHWS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	3	0	0	3

Database Radius Summary

TRIBAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
USTR04	0.2500	0	0	0	NS	NS	NS	0
LUSTR04	0.5000	0	0	0	0	NS	NS	0
ODINDIAN	0.5000	0	0	0	0	NS	NS	0
INDIANRES	1.0000	0	0	0	0	0	NS	0

SUB-TOTAL		0						
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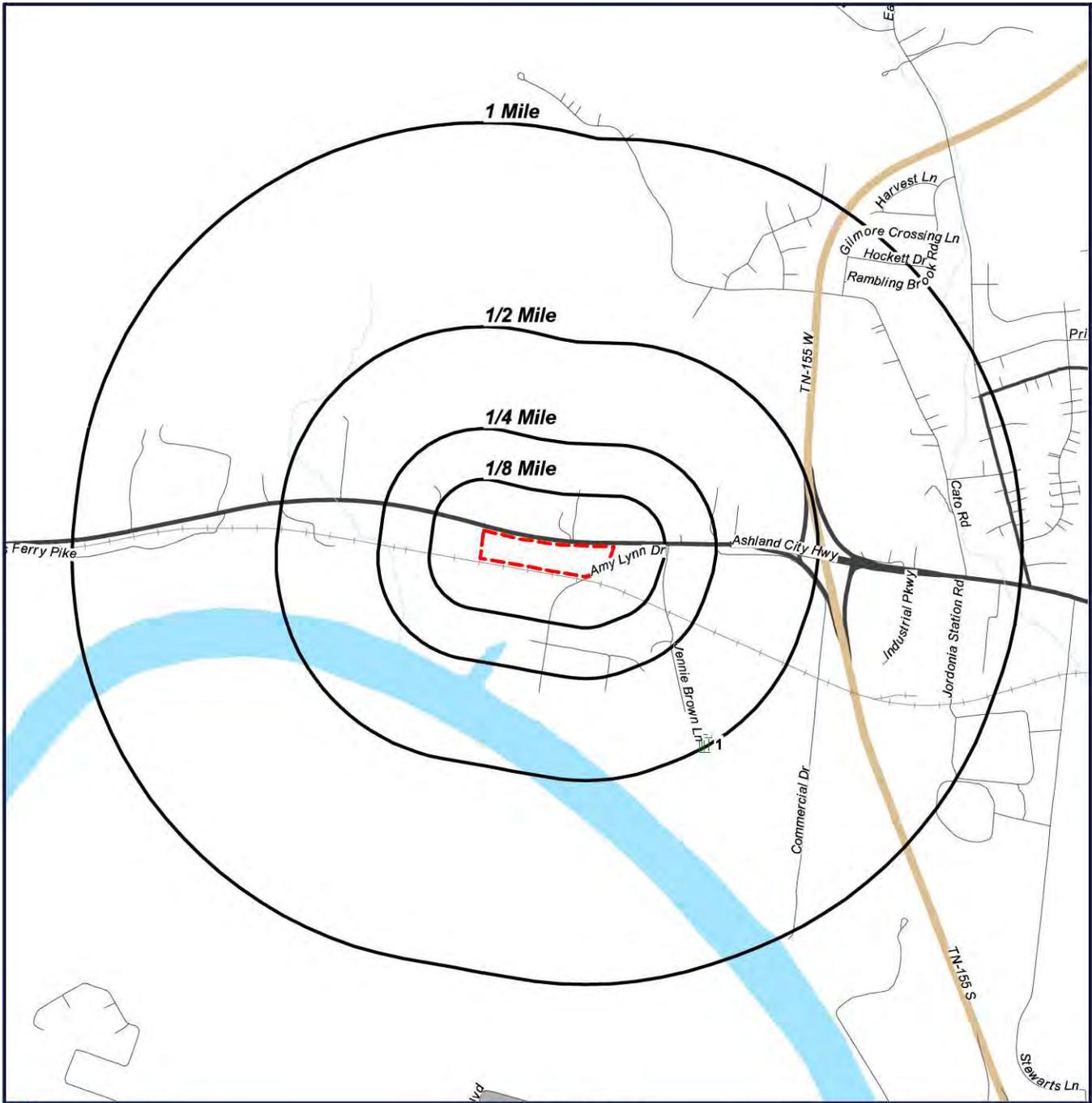
TOTAL		0	0	0	3	0	0	3
--------------	--	----------	----------	----------	----------	----------	----------	----------

NOTES:

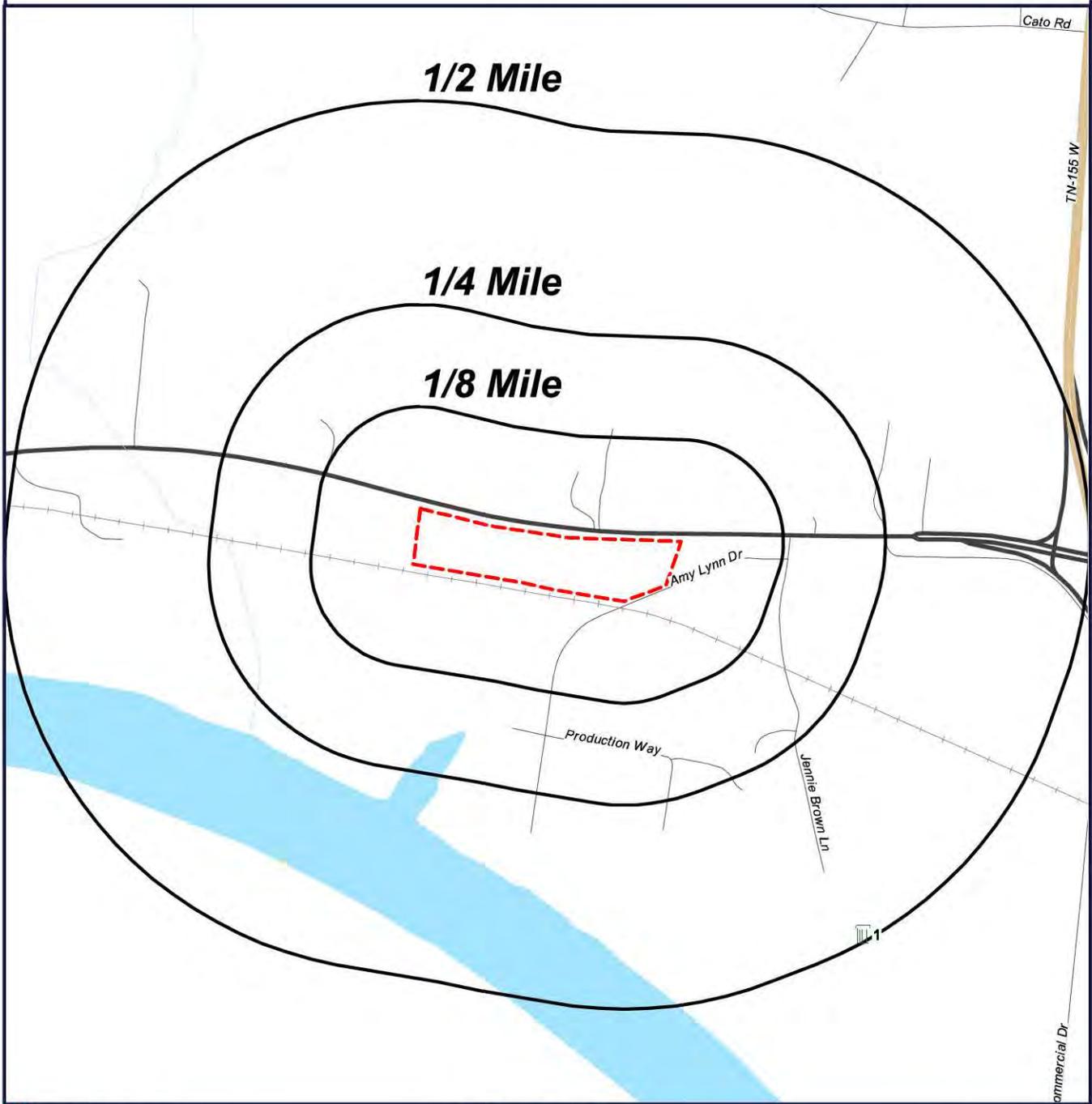
NS = NOT SEARCHED

TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Radius Map 1

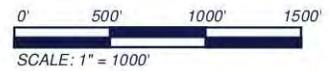


Radius Map 2



-  Target Property (TP)
-  LFSWDS

Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218

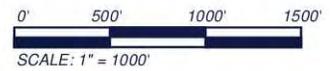


Ortho Map

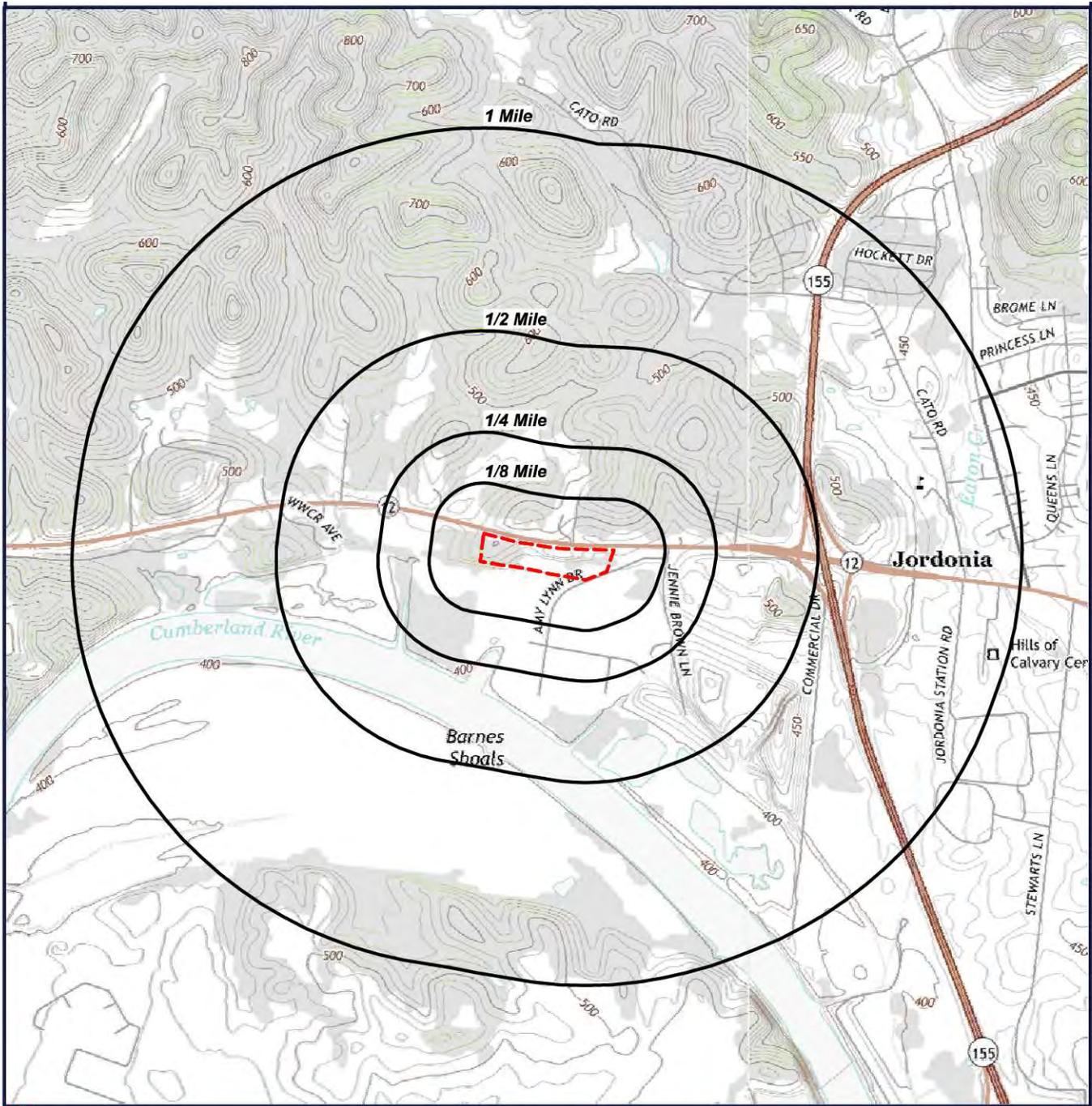


- Target Property (TP)
- LFSWDS

Quadrangle(s):
Scottsboro
Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218



Topographic Map



 Target Property (TP)

Quadrangle(s):
Scottsboro
Source: USGS,
04/23/2013
Ashland City Hwy
4601 Ashland City Hwy
Nashville, Tennessee
37218



0' 1000' 2000' 3000'
SCALE: 1" = 2000'

Located Sites Summary

NOTE: Standard environmental records are displayed in **bold**.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address	PAGE #
1	LFSWDS	DML190000032	Higher (431 ft.)	0.491 mi. SE (2592 ft.)	SOUTHERN SERVICES LANDFILL	4651 AMY LYNN DRIVE, NASHVILLE, TN	17
1	LFSWDS	SWP190001161	Higher (431 ft.)	0.491 mi. SE (2592 ft.)	SOUTHERN SERVICES	4651 AMY LYNN DRIVE, NASHVILLE, TN	18
1	LFSWDS	SWP190001445	Higher (431 ft.)	0.491 mi. SE (2592 ft.)	MIDDLE TENNESSEE ECO PARK: C & D RECYCLING CENTER	4651 AMY LYNN DRIVE, NASHVILLE, TN	19

Site Summary By Database

NOTE: Standard environmental records are displayed in **bold**.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address
1	LFSWDS	DML190000032	Higher (431 ft.)	0.491 mi. SE (2592 ft.)	SOUTHERN SERVICES LANDFILL	4651 AMY LYNN DRIVE, NASHVILLE, TN
1	LFSWDS	SWP190001161	Higher (431 ft.)	0.491 mi. SE (2592 ft.)	SOUTHERN SERVICES	4651 AMY LYNN DRIVE, NASHVILLE, TN
1	LFSWDS	SWP190001445	Higher (431 ft.)	0.491 mi. SE (2592 ft.)	MIDDLE TENNESSEE ECO PARK: C & D RECYCLING CENTER	4651 AMY LYNN DRIVE, NASHVILLE, TN

Elevation Summary

Elevations are collected from the USGS 3D Elevation Program 1/3 arc-second (approximately 10 meters) layer hosted at the NGTOC. .

Target Property Elevation: 430 ft.

NOTE: Standard environmental records are displayed in **bold**.

EQUAL/HIGHER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
1	LFSWDS	431 ft.	SOUTHERN SERVICES LANDFILL	4651 AMY LYNN DRIVE, NASHVILLE, TN	17
1	LFSWDS	431 ft.	SOUTHERN SERVICES	4651 AMY LYNN DRIVE, NASHVILLE, TN	18
1	LFSWDS	431 ft.	MIDDLE TENNESSEE ECO PARK: C & D RECYCLING CENTER	4651 AMY LYNN DRIVE, NASHVILLE, TN	19

LOWER ELEVATION

No Records Found

Landfill and Solid Waste Disposal Sites (LFSWDS)

[MAP ID# 1](#)

Distance from Property: 0.491 mi. (2,592 ft.) SE
Elevation: 431 ft. (Higher than TP)

FACILITY INFORMATION

PERMIT NUMBER: **DML190000032**

FACILITY NAME: **SOUTHERN SERVICES LANDFILL**

ADDRESS: **4651 AMY LYNN DRIVE
NASHVILLE, TN**

COUNTY: **DAVIDSON**

PERMITTEE NAME: **WASTE MANAGEMENT, INC. OF TENNESSEE**

PERMIT TYPE: **CLASS III**

STATUS: **ACTIVE**

ISSUANCE DATE: **DEC-02-1992**

[Back to Report Summary](#)

Landfill and Solid Waste Disposal Sites (LFSWDS)

[MAP ID# 1](#)

Distance from Property: 0.491 mi. (2,592 ft.) SE
Elevation: 431 ft. (Higher than TP)

FACILITY INFORMATION

PERMIT NUMBER: **SWP190001161**

FACILITY NAME: **SOUTHERN SERVICES**

ADDRESS: **4651 AMY LYNN DRIVE**
NASHVILLE, TN

COUNTY: **DAVIDSON**

PERMITTEE NAME: **MR. RICHARD ADAMS SR**

PERMIT TYPE: **PROCESSING**

STATUS: **INACTIVE**

ISSUANCE DATE: **DEC-13-1993**

[Back to Report Summary](#)

Landfill and Solid Waste Disposal Sites (LFSWDS)

[MAP ID# 1](#)

Distance from Property: 0.491 mi. (2,592 ft.) SE
Elevation: 431 ft. (Higher than TP)

FACILITY INFORMATION

PERMIT NUMBER: **SWP190001445**

FACILITY NAME: **MIDDLE TENNESSEE ECO PARK: C & D RECYCLING CENTER**

ADDRESS: **4651 AMY LYNN DRIVE**
NASHVILLE, TN

COUNTY: **DAVIDSON**

PERMITTEE NAME: **WM MIDDLE TN ENVIRONMENTAL CENTER, LLC**

PERMIT TYPE: **PROCESSING**

STATUS: **ACTIVE**

ISSUANCE DATE: **APR-21-2011**

[Back to Report Summary](#)

Unlocated Sites Summary

This list contains sites that could not be mapped due to limited or incomplete address information.

No Records Found

Environmental Records Definitions - FEDERAL

AIRSAFS Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

The United States Environmental Protection Agency (EPA) modified the Aerometric Information Retrieval System (AIRS) to a database that exclusively tracks the compliance of stationary sources of air pollution with EPA regulations: the Air Facility Subsystem (AFS). Since this change in 2001, the management of the AIRS/AFS database was assigned to EPA's Office of Enforcement and Compliance Assurance. Enforcement and Compliance History Online (ECHO) Clean Air Act data from AFS are frozen and reflect data as of October 17, 2014, the EPA retired this system for Clean Air Act stationary sources.

ALTFUELS Alternative Fueling Stations

VERSION DATE: 10/28/20

Nationwide list of alternative fueling stations made available by the U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Bio-diesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE).

BF Brownfields Management System

VERSION DATE: 01/11/21

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The United States Environmental Protection Agency maintains this database to track activities in the various brown field grant programs including grantee assessment, site cleanup and site redevelopment. This database included tribal brownfield sites.

BRS Biennial Reporting System

VERSION DATE: 12/31/17

The United States Environmental Protection Agency (EPA), in cooperation with the States, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The Biennial Report captures detailed data on the generation of hazardous waste from large quantity generators and data on waste management practices from treatment, storage and disposal facilities. Currently, the EPA states that data collected between 1991 and 1997 was originally a part of the defunct Biennial Reporting System and is now incorporated into the RCRAInfo data system.

CDL Clandestine Drug Laboratory Locations

VERSION DATE: 06/17/20

Environmental Records Definitions - FEDERAL

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments. The Department does not establish, implement, enforce, or certify compliance with clean-up or remediation standards for contaminated sites; the public should contact a state or local health department or environmental protection agency for that information.

DNPL Delisted National Priorities List

VERSION DATE: 11/20/20

This database includes sites from the United States Environmental Protection Agency's Final National Priorities List (NPL) where remedies have proven to be satisfactory or sites where the original analyses were inaccurate, and the site is no longer appropriate for inclusion on the NPL, and final publication in the Federal Register has occurred.

DOCKETS EPA Docket Data

VERSION DATE: 12/22/05

The United States Environmental Protection Agency Docket data lists Civil Case Defendants, filing dates as far back as 1971, laws broken including section, violations that occurred, pollutants involved, penalties assessed and superfund awards by facility and location. Please refer to ICIS database as source of current data.

DOD Department of Defense Sites

VERSION DATE: 12/01/14

This information originates from the National Atlas of the United States Federal Lands data, which includes lands owned or administered by the Federal government. Army DOD, Army Corps of Engineers DOD, Air Force DOD, Navy DOD and Marine DOD areas of 640 acres or more are included.

EC Federal Engineering Institutional Control Sites

VERSION DATE: 11/23/20

This database includes site locations where Engineering and/or Institutional Controls have been identified as part of a selected remedy for the site as defined by United States Environmental Protection Agency official remedy decision documents. The data displays remedy component information for Superfund decision documents issued in fiscal years 1982-2017, and it includes final and deleted NPL sites as well as sites with a Superfund Alternative Approach (SAA) agreement in place. The only sites included that are not on the NPL, proposed for NPL, or removed from proposed NPL, are those with an SAA Agreement in place. A site listing does not indicate that the institutional and engineering controls are currently in place nor will be in place once the remedy is complete; it only indicates that the decision to include either of them in the remedy is documented as of the completed date of the document. Institutional controls are actions, such as legal controls, that help minimize the

Environmental Records Definitions - FEDERAL

potential for human exposure to contamination by ensuring appropriate land or resource use. Engineering controls include caps, barriers, or other device engineering to prevent access, exposure, or continued migration of contamination.

ECHOR04 Enforcement and Compliance History Information

VERSION DATE: 11/28/20

The U.S. Environmental Protection Agency's Enforcement and Compliance History Online (ECHO) database, provides compliance and enforcement information for facilities nationwide. This database includes facilities regulated as Clean Air Act stationary sources, Clean Water Act direct dischargers, Resource Conservation and Recovery Act hazardous waste handlers, Safe Drinking Water Act public water systems along with other data, such as Toxics Release Inventory releases.

ERNSTN Emergency Response Notification System

VERSION DATE: 12/27/20

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

FEMAUST FEMA Owned Storage Tanks

VERSION DATE: 12/01/16

This is a listing of FEMA owned underground and aboveground storage tank sites. For security reasons, address information is not released to the public according to the U.S. Department of Homeland Security.

FRSTN Facility Registry System

VERSION DATE: 10/02/20

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

FUDS Formerly Used Defense Sites

VERSION DATE: 12/31/18

The Formerly Used Defense Sites (FUDS) inventory includes properties previously owned by or leased to the United States and under Secretary of Defense Jurisdiction, as well as Munitions Response Areas (MRAs). The remediation of these properties is the responsibility of the Department of Defense. This data is provided by the U.S. Army Corps of Engineers (USACE), the boundaries/polygon data are based on preliminary findings and not

Environmental Records Definitions - FEDERAL

all properties currently have polygon data available. **DISCLAIMER:** This data represents the results of data collection/processing for a specific USACE activity and is in no way to be considered comprehensive or to be used in any legal or official capacity as presented on this site. While the USACE has made a reasonable effort to insure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation or guaranty, either expressed or implied, as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein. For additional information on Formerly Used Defense Sites please contact the USACE Public Affairs Office at (202) 528-4285.

FUSRAP Formerly Utilized Sites Remedial Action Program

VERSION DATE: 03/04/17

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

HISTPST Historical Gas Stations

VERSION DATE: NR

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

HMIRSR04 Hazardous Materials Incident Reporting System

VERSION DATE: 10/27/20

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 4. This region includes the following states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.

HWCD Hazardous Waste Compliance Docket Facilities

VERSION DATE: 10/29/20

This list of the Federal Agency Hazardous Waste Compliance Docket Facilities is maintained by the United States Environmental Protection Agency (EPA). According to the EPA, Section 120(c) of CERCLA requires EPA to establish a listing, known as the Federal Facility Hazardous Waste Compliance Docket (Docket), of Federal facilities which are managing or have managed hazardous waste; or have had a release of hazardous waste. Thus, the Docket identifies all Federal facilities that must be evaluated to determine whether they pose a risk to human health and the environment and it makes this information available to the public. In order for the Docket to remain current and accurate it requires periodic updating.

Environmental Records Definitions - FEDERAL

ICIS Integrated Compliance Information System (formerly DOCKETS)

VERSION DATE: 09/19/20

ICIS is a case activity tracking and management system for civil, judicial, and administrative federal Environmental Protection Agency enforcement cases. ICIS contains information on federal administrative and federal judicial cases under the following environmental statutes: the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act - Section 313, the Toxic Substances Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Safe Drinking Water Act, and the Marine Protection, Research, and Sanctuaries Act.

ICISCLEANERS Integrated Compliance Information System Drycleaners

VERSION DATE: 09/19/20

This is a listing of drycleaner facilities from the Integrated Compliance Information System (ICIS). The U.S. Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments. The following Primary SIC Codes are included in this data: 7211, 7212, 7213, 7215, 7216, 7217, 7218, and/or 7219; the following Primary NAICS Codes are included in this data: 812320, 812331, and/or 812332.

ICISNPDES Integrated Compliance Information System National Pollutant Discharge Elimination System

VERSION DATE: 04/26/20

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. This database is provided by the U.S. Environmental Protection Agency.

LUCIS Land Use Control Information System

VERSION DATE: 09/01/06

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

MLTS Material Licensing Tracking System

VERSION DATE: 06/29/17

MLTS is a list of approximately 8,100 sites which have or use radioactive materials subject to the United States Nuclear Regulatory Commission (NRC) licensing requirements. Disclaimer: Due to agency regulations and policies, this database contains applicant/licensee location information which may or may not be related to the physical location per MLTS site.

Environmental Records Definitions - FEDERAL

MRDS Mineral Resource Data System

VERSION DATE: 03/15/16

MRDS (Mineral Resource Data System) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps. A few updates last occurred 2015 and early 2016 for select mine site area/s.

MSHA Mine Safety and Health Administration Master Index File

VERSION DATE: 08/07/20

The Mine dataset lists all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970. It includes such information as the current status of each mine (Active, Abandoned, NonProducing, etc.), the current owner and operating company, commodity codes and physical attributes of the mine. Mine ID is the unique key for this data. This information is provided by the United States Department of Labor - Mine Safety and Health Administration (MSHA).

NLRRCRAC No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 12/14/20

This database includes RCRA Corrective Action facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements.

NLRRCRAT No Longer Regulated RCRA Non-CORRACTS TSD Facilities

VERSION DATE: 12/14/20

This database includes RCRA Non-Corrective Action TSD facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly treated, stored or disposed of hazardous waste.

NMS Former Military Nike Missile Sites

VERSION DATE: 12/01/84

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline,

Environmental Records Definitions - FEDERAL

heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

NPDES04 National Pollutant Discharge Elimination System

VERSION DATE: 04/01/07

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The NPDES database was collected from the U.S. Environmental Protection Agency (EPA) from December 2002 through April 2007. Refer to the ICIS and/or ICIS-NPDES database as source of current data. This database includes permitted facilities located in EPA Region 4. This region includes the following states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.

NPL National Priorities List

VERSION DATE: 11/20/20

This database includes United States Environmental Protection Agency (EPA) National Priorities List sites that fall under the EPA's Superfund program, established to fund the cleanup of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action.

ODI Open Dump Inventory

VERSION DATE: 06/01/85

The open dump inventory was published by the United States Environmental Protection Agency. An "open dump" is defined as a facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944) and which is not a facility for disposal of hazardous waste. This inventory has not been updated since June 1985.

PADS PCB Activity Database System

VERSION DATE: 11/19/20

PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of Polychlorinated Biphenyls (PCB) who are required to notify the U.S. Environmental Protection Agency of such activities.

PCSR04 Permit Compliance System

VERSION DATE: 08/01/12

The historic Permit Compliance System tracked enforcement status and permit compliance of facilities controlled

Environmental Records Definitions - FEDERAL

by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act. This database includes permitted facilities located in EPA Region 4 states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee. This system has since been modernized by United States Environmental Protection Agency and is now integrated into the Integrated Compliance Information System (ICIS). Please refer to the ICIS database as the current source for this data.

PNPL Proposed National Priorities List

VERSION DATE: 11/20/20

This database contains sites proposed to be included on the National Priorities List (NPL) in the Federal Register. The United States Environmental Protection Agency investigates these sites to determine if they may present long-term threats to public health or the environment.

RCRAC Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 12/14/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with corrective action activity.

RCRAGR04 Resource Conservation & Recovery Act - Generator

VERSION DATE: 12/14/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities currently generating hazardous waste. EPA Region 4 includes the following states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.

RCRANGR04 Resource Conservation & Recovery Act - Non-Generator

VERSION DATE: 12/14/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities classified as non-generators. Non-Generators do not presently generate hazardous waste. EPA

Environmental Records Definitions - FEDERAL

Region 4 includes the following states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.

RCRASC RCRA Sites with Controls

VERSION DATE: 11/17/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with institutional controls in place.

RCRASUBC Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 12/14/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities subject to corrective actions.

RCRAT Resource Conservation & Recovery Act - Non-CORRACTS Treatment, Storage & Disposal Facilities

VERSION DATE: 12/14/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities recognized as hazardous waste treatment, storage, and disposal sites (TSD).

RODS Record of Decision System

VERSION DATE: 09/21/20

These decision documents maintained by the United States Environmental Protection Agency describe the chosen remedy for NPL (Superfund) site remediation. They also include site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, the contaminants present, and scope and role of response action.

Environmental Records Definitions - FEDERAL

SEMS Superfund Enterprise Management System

VERSION DATE: 11/20/20

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs.

SEMSARCH Superfund Enterprise Management System Archived Site Inventory

VERSION DATE: 11/20/20

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System Archived Site Inventory (List 8R Archived) replaced the CERCLIS NFRAP reporting system in 2015. This listing reflects sites at which the EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program.

SEMCLIENS SEMS Lien on Property

VERSION DATE: 06/22/20

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs. This is a listing of SEMS sites with a lien on the property.

SFLIENS CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete. Please refer to the SEMCLIENS database as source of current data.

SMCRA Surface Mining Control and Reclamation Act Sites

VERSION DATE: 12/18/20

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of

Environmental Records Definitions - FEDERAL

Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

SSEHRIPFAS

SSEHRI PFAS Contamination Sites

VERSION DATE: 12/12/19

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Please access the following source link for the most current information:
<https://pfasproject.com/pfas-contamination-site-tracker/>

SSTS

Section Seven Tracking System

VERSION DATE: 08/04/20

The United States Environmental Protection Agency tracks information on pesticide establishments through the Section Seven Tracking System (SSTS). SSTS records the registration of new establishments and records pesticide production at each establishment. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that production of pesticides or devices be conducted in a registered pesticide-producing or device-producing establishment. "Production" includes formulation, packaging, repackaging, and relabeling. For this database, the Product Information is only available for establishments up through 2014 or prior years, product details are no longer released by the EPA within the current SSTS non-Confidential Business Information data.

TRI

Toxics Release Inventory

VERSION DATE: 12/31/18

The Toxics Release Inventory, provided by the United States Environmental Protection Agency, includes data on toxic chemical releases and waste management activities from certain industries as well as federal and tribal facilities. This inventory contains information about the types and amounts of toxic chemicals that are released each year to the air, water, and land as well as information on the quantities of toxic chemicals sent to other facilities for further waste management.

Environmental Records Definitions - FEDERAL

TSCA Toxic Substance Control Act Inventory

VERSION DATE: 12/31/16

The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure that chemicals manufactured, imported, processed, or distributed in commerce, or used or disposed of in the United States do not pose any unreasonable risks to human health or the environment. TSCA section 8(b) provides the United States Environmental Protection Agency (EPA) authority to "compile, keep current, and publish a list of each chemical substance that is manufactured or processed in the United States." This TSCA Chemical Substance Inventory contains non-confidential information on the production amount of toxic chemicals from each manufacturer and importer site. The EPA has collected Chemical Data Reporting (CDR) data since in 1986 (as Inventory Update Reporting). Collections occur approximately every four years and reporting requirements changed from collection to collection.

USUMTRCA Uranium Mill Tailings Radiation Control Act Sites

VERSION DATE: 03/04/17

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

Environmental Records Definitions - STATE (TN)

CDL Clandestine Methamphetamine Labs

VERSION DATE: 07/01/20

This Registry of Methamphetamine Contaminated Properties is maintained by the Department of Environment and Conservation. The registry includes properties reported by a law enforcement agency that have been under order of quarantine for at least sixty days because of potentially hazardous residual contamination that pose a threat to human health and render a property 'Unsafe for Human Use.'

CLEANERS Registered Drycleaning Facilities

VERSION DATE: 06/24/20

The Department of Environment and Conservation provides this list of Registered Drycleaning Facilities.

DELISTEDPS Delisted Promulgated Sites

VERSION DATE: 01/11/21

These sites have been deleted from the Department of Environment and Conservation's (TDEC) Inactive Hazardous Substance Sites list. According to the TDEC, in order for a promulgated site to be removed from the List, the following shall have occurred: (a) The hazardous substances which posed or may have posed a threat to human health or the environment have to the satisfaction of the Commissioner been removed/stabilized or determined to no longer pose a threat, (b) All relevant site characteristics, including, but not limited to, migration pathways, have been evaluated and either no longer pose a threat to human health or the environment, or have been remediated or any such threat is being controlled by other means, such as institutional controls, to the satisfaction of the Commissioner, (c) The site will require no long term monitoring and maintenance activities, or financial assurance for the costs of these activities has been established in a form, amount, and manner acceptable to the Commissioner, (d) All monitoring wells, etc., that serve as potential sources or routes for future contamination have been properly abandoned, protected, or otherwise accounted for, and (e) All state cost recovery issues have been resolved to the satisfaction of the Commissioner.

ICEC Institutional / Engineering Controls Registry

VERSION DATE: 01/10/21

The Department of Environment and Conservation (TDEC) provides this registry of sites with institutional controls in place. According to the TDEC, in cases where the cleanup does not remove or address all of the contamination at the property to the most stringent of standards (e.g., for residential or unrestricted use), Institutional Controls (ICs) may be required as part of the cleanup. ICs are legally enforceable restrictions, conditions, or controls that limit or prevent the use of the property, ground water, or surface water so that future exposure to contamination can be prevented or minimized. In Tennessee, ICs are implemented as a Notice of Land Use Restrictions. ICs can also be used in conjunction with engineering controls (ECs). ECs are constructed parts of a cleanup that act to cover (i.e. "cap") or limit exposure to residual contamination at the property.

Environmental Records Definitions - STATE (TN)

LFSWDS Landfill and Solid Waste Disposal Sites

VERSION DATE: 08/03/20

The Department of Environment and Conservation provides this list of permitted solid waste management facilities.

LST Leaking Underground Storage Tanks

VERSION DATE: 11/30/20

This leaking underground storage tank database is provided by the Department of Environment and Conservation. The database includes details on all facilities where any type of environment related activity has occurred due to a tank closure, a suspected release or a confirmed release.

PIHWS Promulgated Inactive Hazardous Waste Sites

VERSION DATE: 01/11/21

The Promulgated Sites list consists of inactive hazardous substance sites regulated by the Department of Environment and Conservation's (TDEC) Division of Remediation. These sites, under Tennessee's Chapter 1200-1-13 and rules issued by the Solid Waste Board under the Authority of Part 2 of the "Hazardous Waste Management Act" (T.C.A. §68-212-201 et seq.), are inactive and pose or may reasonably be anticipated to pose a danger to public health, safety, or the environment as a result of the presence of a hazardous substance.

RST Registered Underground Storage Tanks

VERSION DATE: 12/30/20

This underground storage tank database is provided by the Department of Environment and Conservation. The mission of the Division of Underground Storage Tanks is to protect human health and environment by preventing future petroleum underground storage tank releases and remediating existing petroleum underground storage tank contamination.

SPILS Statewide Petroleum Incident Logging Section Sites

VERSION DATE: 07/29/20

SPILS is a new program within the Tennessee Department of Environment and Conservation Division of Solid Waste Management (DSWM). This program logs incidents along Tennessee's roadways where a reportable quantity of petroleum products is released to the environment, ensuring that appropriate cleanup standards are applied, remediation activities are completed, and final reports detailing the response are received and reviewed. Once an incident has been remediated, SPILS will issue a closure letter for the Responsible Party's file.

SRS State Remediation Sites

VERSION DATE: 01/11/21

Environmental Records Definitions - STATE (TN)

The State Remediation Program (SRP) was established in 1994 within the Division of Solid Waste Management of the Department of Environment and Conservation for the purpose of providing owners, prospective purchasers and other interested parties the means to voluntarily investigate, clean up or monitor contaminated sites not regulated under RCRA, CERCLA or the Tennessee Division of Underground Tanks. The goal of the program is to provide fair, comprehensive and consistent regulation of the investigation and remediation of contaminated sites in a timely and cost effective manner consistent with other State and Federal programs. This list includes both active and inactive program sites.

VCPBF Voluntary Cleanup and Brownfield Sites

VERSION DATE: 01/10/21

This list of Voluntary Cleanup Oversight and Assistance Program (VOAP) sites, which also includes Brownfield sites, is provided by the Department of Environment and Conservation. The VOAP offers people the opportunity to work proactively with state government to address necessary cleanup of a property to return it to productive use. In return for their efforts, participants can receive a No Further Action letter and a release of liability for areas where investigation and cleanup is conducted.

Environmental Records Definitions - TRIBAL

INDIANRES

Indian Reservations

VERSION DATE: 09/27/17

This database is extracted from select geographic and cartographic information from the U.S. Census Bureau. The Bureau of Indian Affairs (BIA) within the U.S. Department of the Interior (DOI) provides the list of federally recognized tribes. The American Indian/Alaska Native/Native Hawaiian (AIANNH) Areas includes the following legal entities: federally recognized American Indian reservations and off-reservation trust land areas, state-recognized American Indian reservations, and Hawaiian home lands (HHLs). The boundaries for federally recognized American Indian reservations and off-reservation trust lands are as of January 2017. The boundaries for state-recognized American Indian reservations and for state designated tribal statistical areas were delineated by state governor-appointed liaisons for the 2010 Census through the State American Indian Reservation Program and Tribal Statistical Areas Program respectively.

LUSTR04

Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/02/20

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 4. Region 4 includes the following states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.

ODINDIAN

Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

This Indian Health Service database contains information about facilities and sites on tribal lands where solid waste is disposed of, which are not sanitary landfills or hazardous waste disposal facilities, and which meet the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944).

USTR04

Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/02/20

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 4. Region 4 includes the following states: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.

Appendix I
Landfill Inspection Report

**TENNESSEE DIVISION OF SOLID WASTE MANAGEMENT
CLASS III FACILITY INSPECTION CHECKLIST***

**CLASS III
FACILITY**

SITE	DATE	TIME	WEATHER
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EFO

*SEE DISCLAIMER ON LAST PAGE

VIOLATION	REGULATION	OBSERVATION
		NVO AOC V1 V2

6 BUFFER ZONE STANDARDS FOR SITING LANDFILLS

8310	BUFFER ZONE STANDARD VIOLATED	0400-11-01-.04(3)(a)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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COMMENTS			
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5 COMMUNICATIONS

8130	NO COMMUNICATION DEVICES	0400-11-01-.04(2)(f)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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COMMENTS			
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7 COVER MATERIAL

8160	UNAVAILABILITY OF COVER MATERIAL.	0400-11-01-.04(2)(h)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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COMMENTS			
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11 DEAD ANIMALS

8250	DEAD ANIMALS IMPROPERLY HANDLED	0400-11-01-.04(2)(k)5.(ii) (I-III)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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COMMENTS			
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9 DUST CONTROL

8190	INADEQUATE DUST CONTROL	0400-11-01-.04(2)(j)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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COMMENTS			
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19 DUTY TO PROVIDE INFORMATION

8530	UNSATISFACTORY RECORDS OR REPORTS	0400-11-01-.02(5)(a)7 TCA 68-211-862(a)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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COMMENTS			
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8590	PERMITS, PLANS, OPERATING MANUAL NOT AVAILABLE	0400-11-01-.02(5)(a)(7)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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COMMENTS			
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VIOLATION		REGULATION	OBSERVATION			
			NVO	AOC	V1	V2
2 FIRE SAFETY						
8080	EVIDENCE OF OPEN BURNING	0400-11-01-.04(2)(c)1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8090	INADEQUATE FIRE PROTECTION	0400-11-01-.04(2)(c)2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
1 GENERAL FACILITY STANDARDS						
8010	INADEQUATE VECTOR CONTROL	0400-11-01-.04(2)(a)1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8020	ACCESS NOT LIMITED TO OPERATING HOURS	0400-11-01-.04(2)(a)4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8030	INADEQUATE ARTIFICIAL OR NATURAL BARRIER	0400-11-01-.04(2)(b)1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8040	INADEQUATE INFORMATION SIGNS	0400-11-01-.04(2)(b)2 TCA 68-211-703(h)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8050	UNSATISFACTORY ACCESS ROAD(S)/PARKING AREA(S)	0400-11-01-.04(2)(b)3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8070	UNAPPROVED SALVAGING OF WASTE	0400-11-01-.04(2)(b)6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
3 LITTER CONTROL						
8110	UNSATISFACTORY LITTER CONTROL	0400-11-01-.04(2)(d)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
6 OPERATING EQUIPMENT						

VIOLATION		REGULATION	OBSERVATION			
			NVO	AOC	V1	V2
6 OPERATING EQUIPMENT						
8140	INADEQUATE OPERATING EQUIPMENT	0400-11-01-.04(2)(g)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8150	UNAVAILABILITY OF BACKUP EQUIPMENT	0400-11-01-.04(2)(g)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
12 OVERALL PERFORMANCE STANDARD						
8270	WASHOUT OF SOLID WASTE	0400-11-01-.04(2)(a)(3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8350	LEACHATE OBSERVED AT THE SITE	0400-11-01-.04(2)(a)(3) 0400-11-01-.04(4)(a)6,	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8360	LEACHATE ENTERING RUN-OFF	0400-11-01-.04(2)(a)(3) 0400-11-01-.04(4)(a)6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8370	LEACHATE ENTERING A WATER COURSE	0400-11-01-.04(2)(a)(3) 0400-11-01-.04(4)(a)6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8490	EXCESSIVE POOLING OF WATER	0400-11-01-.04 (2)(a)3 0400-11-01-.04(8)(c)4(iii)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8520	DUMPING OF WASTE INTO WATER	0400-11-01-.04 (2)(a)3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
13 PERMANENT BENCHMARK						
8280	NO PERMANENT BENCHMARK	0400-11-01-.04(2)(o)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
4 PERSONNEL SERVICES						

*SEE DISCLAIMER ON LAST PAGE

VIOLATION		REGULATION	OBSERVATION			
			NVO	AOC	V1	V2
4 PERSONNEL SERVICES						
8120	INADEQUATE EMPLOYEE FACILITIES	0400-11-01-.04(2)(e)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
10 PROPER OPERATION AND MAINTENANCE						
8540	GROUNDWATER MONITORING SYSTEM IMPROPERLY MAINTAINED	0400-11-01-.02(5)(a)4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
14 RANDOM INSPECTION PROGRAM						
8290	INADEQUATE RANDOM INSPECTION PROGRAM	0400-11-01-.04(2)(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8 RUN-ON, RUN-OFF, AND EROSION CONTROL						
8170	INADEQUATE MAINTENANCE OF RUN-ON/RUN-OFF SYSTEM(S)	0400-11-01-.04(2)(i)1-5 0400-11-01-.04(8)(c)4(i)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8180	INADEQUATE EROSION CONTROL	0400-11-01-.04(2)(i)6 0400-11-01-.04(8)(c)4(ii)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
15 SPECIAL WASTE APPROVAL PROCESS						
8300	MISHANDLING OF SPECIAL WASTE	0400-11-01-.01(4)(d)1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
12 UNLAWFUL METHODS OF DISPOSAL						
8570	OPERATION DOES NOT CORRESPOND WITH ENGINEERING PLANS (EVALUATE AND RECORD THE APPROXIMATE INTERIOR AND EXTERIOR SLOPE OF THE LANDFILL)	TCA 68-211-104(3) TCA 68-211-105(b)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8580	OPERATION DOES NOT CORRESPOND WITH PERMIT CONDITIONS	TCA 68-211-104(3) 0400-11-01-.02(5)(a)(1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
18 WASTE HANDLING AND COVER STANDARDS						

VIOLATION		REGULATION	OBSERVATION			
			NVO	AOC	V1	V2
8 WASTE HANDLING AND COVER STANDARDS						
8460	UNSATISFACTORY INITIAL COVER	0400-11-01-.04(6)(a)3 0400-11-01-.04(6)(a)5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8480	UNSATISFACTORY FINAL COVER	0400-11-01-.04(6)(a)6 0400-11-01-.04(8)(c)4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8510	UNSATISFACTORY STABILIZATION OF COVER	0400-11-01-.04(6)(a)5,6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
10 WASTE RESTRICTIONS						
8210	UNAUTHORIZED WASTE ACCEPTED	0400-11-01-.04(2)(k)1 0400-11-01-.04(2)(k)6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8220	UNAPPROVED SPECIAL WASTE ACCEPTED	0400-11-01-.01(4)(b) 0400-11-01-.01(4)(c)5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8230	TIRES IMPROPERLY HANDLED	0400-11-01-.04(2)(k)3.(i)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						
8240	MEDICAL WASTE IMPROPERLY HANDLED	0400-11-01-.04(2)(k)4.(i-iv)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMMENTS						

LEACHETE LEVELS

Inspector Name _____

**Disclaimer: The information contained in these documents (checklists/notes, etc.) is not intended to be all inclusive and is subject to change. These documents are intended solely for use by DSWM staff. These documents are not a substitute for evaluation of compliance in accordance with applicable laws and regulations. These documents are not intended for, nor can they be relied upon, to create any rights, substantive or procedural, enforceable or useable by any party in litigation with the State of Tennessee or its employees.*

Additional Comments

Appendix J
Previous Phase I ESA
Report



PHASE I

PRELIMINARY PROPERTY ENVIRONMENTAL LIABILITY RISK ASSESSMENT

December 09, 2020

REPORT COVER PAGE

**Bell Equipment Yard @Hailey's Harbor Property
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218**

Map 68, Parcel 29

PREPARED FOR

Jeff Tinsley

Bell and Associates Construction, LLC

PREPARED BY

**KEY ENVIRONMENTAL
P O BOX 120271
NASHVILLE, TENNESSEE 37212-0271**



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EXECUTIVE SUMMARY

Darek Bell, Owner retained Key Environmental (Key) to conduct an environmental assessment of the property located at 4601 Ashland City Hwy in Nashville, Davidson County, Tennessee.

The overall objective of the environmental assessment was to provide an independent, professional opinion regarding the potential environmental liabilities, if any, associated with the site. Key understands that Mr. Bell requested the assessment to document the current environmental status of the site prior to closing a transaction involving the site.

Key's environmental assessment of the property included four components:

- A Phase I Environmental Risk Assessment.
- A Limited Environmental Compliance Review
- A Disposal Facility Review
- Vapor Encroachment Screening

Based on the results of the environmental site assessment, substantial environmental contamination liabilities are not present at the site based on visual inspection and document review. Significant potential liabilities associated with environmental compliance issues were not observed other than those stated.



Environmental Compliance Liabilities

Key did not identify environmental compliance issues associated with current activities at the subject site.

Environmental Contamination Liabilities

Key did not identify potential contamination liabilities at the site based on a visual inspection and other review.

It is not the purpose of the ERA to determine the degree and/or extent of contamination at the subject property or if in fact contamination exists at all. This would require sampling of receptors and subsequent laboratory analysis.

Potential Offsite Contamination

Based on existing information, offsite contamination, caused by past onsite activities, is unlikely.

Offsite Disposal Facility Issues

Based on existing information, the property does not have potential liabilities associated with the historical use of offsite waste disposal facilities.



Vapor Encroachment (E-2600-10)

Based on existing information, the property does not have potential vapor encroachment liabilities associated with the property. (see completed E 2600-10 Questionnaire in the exhibits)

Other Potential Concerns

No other significant potential concerns (Non-CERCLA Issues) were observed on site or in the immediate area.



INTRODUCTION AND APPROACH

Bell Equipment Yard@ Hailey's Harbor Property

Key Environmental completed a preliminary property environmental liability risk assessment of the property located on 4601 Ashland City Hwy in Nashville, Davidson County, Tennessee. The assessment included a visual field reconnaissance survey (subject property and adjoining properties), a review of site history, an examination of aerial photographs and a review of the records of various governmental regulatory agencies. The investigation was conducted at the request of Darek Bell, representing himself and Bell Equipment Yard@ Hailey's Harbor.

Key Environmental (Key) was retained to conduct an environmental assessment at a site in Nashville, Davidson County, Tennessee consisting of one (1) parcel of land. The scope of services provided by Key is described in the American Society for Testing Materials (ASTM) Practice E 1527-13, and Vapor Encroachment Screening (ASTM) Practice E 2600-10.

Purpose

The purpose of the investigation was to identify and evaluate environmental exposures and potential contamination associated with present or past activities at the site and adjacent properties based upon the scope of work. The report follows current ASTM Standards of Practices for Environmental impact on the site. The overall objective of the environmental assessment was to provide an independent, professional opinion regarding the potential environmental liabilities, if any, associated with the site. Key understands that the environmental assessment is to be for the benefit of Bell and Associates Construction, LLC, and for documentation of the site's environmental status prior to the closing of a transaction involving the property.



Detailed Scope-of-Services

Key's environmental assessment of the property included four components:

- A Phase I environmental site assessment
- An environmental compliance assessment
- A disposal facility review
- Vapor Encroachment Screening

The Phase I environmental site assessment was conducted in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”, and (ASTM) Practice E 2600-10, “Standard of Practice for Vapor Encroachment Screening”. The objective of the assessment was to provide an independent, professional opinion regarding the recognized environmental conditions, if any, associated with the site. According to ASTM Practice E1527-13, Section 1.1.1, the term “recognized environmental conditions” means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release into structures on the property or into the ground, groundwater, or surface water of the property.

As part of the Phase I environmental assessment, Key conducted an investigative visual inspection of the property on December 03, 2020.



During the site walkthrough, Key representatives took photographs of the site and adjacent properties. These photographs are provided in the Exhibits section of this report.

The Phase I - Environmental Site Assessment of the facility also included the following tasks:

A review of pertinent agency records for evidence of present and historical use of the facility and adjacent properties.

Interviews with local government officials were conducted as a part of our review.

Evaluations of other information gathered during the development of this report, as a part of our review.

As a part of the environmental assessment, Key also evaluated all environmental investigations and other records, if provided, by the owner of the property.

The environmental compliance and site assessments were conducted to identify potential material noncompliance issues or contamination issues at the subject. No material noncompliance issues or contamination issues associated with the facility were found.

There are no hazardous disposal facilities affiliated or associated with the subject property to evaluate as part of the environmental status of the subject property.



Significant Assumptions

No significant assumptions were made as part of the Phase I Environmental Site Assessment completed for the subject property.

Limitations and Exceptions

The environmental assessment was conducted in conformance with ASTM Practice E 1527-13 AAI, and ASTM Practice 2600-10. The information required to complete the environmental assessment was primarily obtained from (1) Key's site inspection, (2) interviews with people having knowledge of the site, (3) an evaluation of information and facility records provided by the site owner, if any, (4) a review of a commercial database of federal and state records, and (5) other sources, as follows:

A Key Environmental representative reviewed aerial photographs, for the subject property, which were available for the subject site at the Metro Mapping and Planning office and on-line services.

A Key Environmental representative reviewed files and property records at the Davidson County Tax Assessors and the Register of Deeds offices.

Review of other information necessary and appropriate to make the statements and reach the conclusions set forth herein.



Special Terms and Conditions

Any information, to the extent that it was relied on to form our opinion, was assumed to be complete and correct. Key cannot be responsible for the quality or content of information from other sources.

User Reliance

The information and opinions rendered in this report are exclusively for used for the benefit of Darek Bell, Bell Equipment Yard @Hailey's Harbor. Key will not distribute or publish this report without consent of the owners of the report, except as required by law or court order. All services provided, in completing this project, used that degree of care and skill ordinarily exercised by and consistent with the standards of competent practicing Qualified Environmental Professionals. No other warranty, expressed or implied, is made beyond the scope of work conducted by Key.



SITE DESCRIPTION

Current Use of the Property

Bell Equipment Construction building and equipment is located on the subject property.

A tax map of the subject site is in the exhibits. The client did not provide a legal description.

Site and Vicinity General Characteristics

The site is in fair condition. The occupants stated they would be cleaning up the site prior to closing the transaction.

Former Use of the Property

The property was originally undeveloped.

Conditions of the Property

Hazardous materials are not consumed in large quantities at the subject property at this time. There was no visual evidence of soil contamination or distressed vegetation was observed during our site inspection.

No unlabeled drums or containers are currently on the subject property. There are no unidentified substances or containers on the subject property. There are no physical indications of potential environmental liabilities associated with the property.



**Description of Structures, Roads, Other Improvements on the Site
(including heating/cooling system, sewage disposal, source of potable water)**

Nashville Electric Service will provide electricity to the subject site. Nashville Gas provides natural gas to the area. The City of Nashville provides water and sewer.

There is no wastewater generated at the subject property. The offices of the Tennessee Department of Environment and Conservation; Water Quality Division was contacted as part of our review. No NPDES permits have been issued for the subject property. The site discharges to City of Nashville POTW. There are no sumps, pits, drywells or catch basins located on the property. The water services for the area does screen for lead in drinking water and follow standards set forth by the EPA. The property is on septic. The field is between the building and the river.



Current Uses of the Adjoining Properties

Key observed adjacent properties (from the subject site and public access areas) during the site walkthrough to evaluate the potential environmental risk these properties may pose to the site. The area is made up of industrial, and undeveloped land.

Based on Key's observations during the site walkthrough, exterior activities and conditions on adjacent properties do not appear to pose a direct environmental risk to the site. None of the adjoining properties appear to have adversely impacted the subject. According to historical review of site and aerial maps the prior uses of the surrounding properties are residential and mixed-use commercial.

General / Site Buildings and Grounds

There is a total of 13.19 acres of land. The building on the property were built in 2007. There are tires and debris in and around the building located on the property. Key was told that all debris is to be removed from the property prior to closing.



USER PROVIDED INFORMATION

(A User Questionnaire was completed for the subject property)

Title Records

The property owners did not provide title records.

Environmental Liens or Activity and Use Limitations

See User Questionnaire

Based on Key's review, NPL or State of Tennessee environmental liens have not been recorded against the subject site.

Specialized Knowledge

Key has no specialized knowledge about the property.

Commonly Known or Reasonably Ascertainable Information

Key reviewed all known or reasonably ascertainable information in regards to the subject property.

Valuation Reduction for Environmental Issues

Key has no knowledge of any environmental issues in regards to the property.

Owner, Property Manager, and Occupant Information

Current: Bell and Associates Construction

Occupant: Same



Reasons for Performing Phase I and Vapor Encroachment Screening

The reason for the Phase I and Vapor Encroachment Screening- is to provide documentation about the environmental status of the subject property prior to a closing of a transaction concerning the property. There were "no recognized environmental conditions" indicated in Phase I or Vapor Encroachment Screening for the subject property, other than the tires and debris to be removed and cleaned up.

Other

None.



RECORDS REVIEW

To further evaluate potential environmental risks associated with the subject site, Key conducted a review of records obtained from a number of federal, state and local agency sources. A summary of the results of this review is provided below.

Standard Environmental Record Sources

Key reviewed available government database information contained in a GeoSearch Technology Corporation Radius Search to evaluate the subject property and any listed sites within ASTM- and AAI (All Appropriate Inquiry) recommended search distances, which could potentially impact the property (see attached document). Databases reviewed and the sites identified are provided in the GeoSearch Report.



CERCLIS Review

Environmental Protection Agency - CERCLIS list of potential hazardous waste sites in Tennessee.

The following records and lists were also a part of our review:

Federal NPL	1.00 mile
CERCLA/Active & Archive	.50 mile
NFRAP	.25 mile
Federal RCRA TSD Facilities	.50 mile
Federal RCRA COR	1.00 mile
Federal RCRA generators	.25 mile
Federal RCRA NLR	.25 mile
Federal ERNS	.15 mile
NPDES	.25 mile
FINDS	.25 mile
TRIS	.25 mile
State Sites	1.00 mile
Spills-1990	.25 mile
Spills-1980	.25 mile
SWL	.50 mile
Permits	.25 mile
State Registered UST list	.25 mile
State Registered LUST list	.50 mile
State Wells	.50 mile
Aquifers	.50 mile
ACEC	.50 mile
Wetlands	.50 mile
Floodplains	.50 mile
Nuclear Permits	.50 mile
Historic/Landmark	.50 mile
Federal Land Use	.50 mile
Federal Wells	.50 mile
HMIRS	.25 mile
NCDB	.25 mile
PADS	.25 mile
Brownfield	.25 mile
Towers	.25 mile
Soils	.25 mile
Receptors	.25 mile
Releases (Air/Water)	.25 mile

**NO CONCERNS NOTED FOR THE SUBJECT OR CONTIGUOUS PROPERTIES
IN ANY OF THE AFOREMENTIONED FILES OR LISTS**



Underground Storage Tanks (UST'S)

Tennessee Department of Environment and Conservation, Division of Underground Storage Tanks was contacted. There are no registered tanks on the subject property. There are no active underground leaking tanks currently reported within 1/2 mile of the subject property. A Key Environmental representative personally reviewed the files pertaining to UST's and LUST's in Davidson County at the UST office as part of our review. No potential or existing problems were noted in our review of the files. Below is a list of sites in the immediate area that are registered with the State of Tennessee.

FACILITY ID	FACILITY NAME	FACILITY ADDRESS	STATUS
--------------------	----------------------	-------------------------	---------------

NO Registered tanks in the area.

(C.C. = Case Closed)

(C.I.U. = Currently In Use)

(C.M. = Currently Monitoring)

(T.O.U. = Temporarily Out of Use)

(P.O.U. = Permanently Out of Use)

(L = There is a leaking file for the file for the facility ID listed. This does not mean that the facility has an active leak or has an ongoing problem. There may have been some soil or water contamination when the tanks were removed or replaced. The contamination may have been cleaned up, but the facility will forever have a leaking file and show as a LUST on the databases. If there was a major leak, the databases will still show as a LUST, (leaking underground storage tank). The files will have to be individually reviewed to determine if there should be any concern or adverse effect to the subject property).



AST's

There is a split tank AST's (aboveground storage tanks) located on the property. The AST has double wall containment and is sitting in a concrete contained area.

Solid Waste Management

Tennessee Department of Environment and Conservation - Division of Solid Waste Management files and known site list was reviewed. A Key representative reviewed the files of the Division of Solid Waste Management Enforcement Section. Key found no current record of problems at the site or with the contiguous properties that would adversely affect the subject property.

Additional Environmental Record Sources

None

Physical Setting Sources/ Topography and Climatology

Key's review of the United States Geological Survey (USGS) Topographic Map, Scottsboro Quadrangle Map revealed the surface elevation at the site to be approximately 432 feet above sea level. The site has no major surface or drainage features. Ultimate drainage in the site area is to the Cumberland River just south of the subject property. Annual rainfall is +/- 50-55 inches. Prevailing wind is from the south.



Hydrogeology/Geology

No site-specific hydro-geologic data was gathered during the investigation. The site is located in the Central Basin according to the West-Central sheet of the Geologic Map of Tennessee. The Geologic Map for the Scottsboro Quadrangle was also reviewed. The Scottsboro Quadrangle Map indicates the site is underlain by limestone. (See Description Below) Water is provided to the site by the City of Nashville. The property is on septic. septic field is between the building and the river. No adverse geologic conditions were noted during the review of the topographic and geologic maps for the site area. The average depth of the ground water is unknown for the subject property. There are no specific groundwater studies have been completed for Davidson County at this time. The only studies, which have been completed, are those for individual sites for individual owners.

Olcy

Leipers and Catheys Formations

Limestone, argillaceous, nodular and shaly, medium dark-gray to brownish-gray, thin-bedded, fossiliferous; limestone, dark-gray (weathers pale yellowish-brown), fine-grained, thin- to medium-bedded; and limestone, bioclastic, medium light-gray to brownish-gray, coarse-grained, medium-bedded, crossbedded, contains brown phosphate pellets (weathers to brown phosphatic residuum).



Soils/Flood Information

It appears that the soils in the area are of the Barfield-Rock outcrop complex (BbE) . The frequency of flooding according to the Davidson County Soil Survey is none for the soils mentioned. The description of soils will follow. The flood maps for the subject area were also reviewed. According to Community-Panel Number 47037C0209H dated 04/05/17 indicated that the major portion of the property is not located in an area subject to flooding. A copy of the flood map will not be included in this report as an exhibit.

BbE—Barfield-Rock outcrop complex, 20 to 35 percent slopes. This map unit consists of shallow, well drained Barfield soils and outcrops of limestone rock. This unit is on uplands in the Nashville Basin. Areas are 10 to 100 acres.

Barfield soils make up about 50 to 70 percent of each mapped area. Typically, the surface layer is very dark grayish brown silty clay loam about 8 inches thick. The subsoil is very dark grayish brown and brown, firm clay to a depth of 15 inches. Below this is hard limestone bedrock. In a few places the surface layer is silty clay.

Rock outcrop makes up about 20 to 45 percent of each mapped area. The rock is hard limestone bedrock.

Barfield soils range from neutral in the upper part to mildly alkaline in the lower part. Natural fertility is medium. Permeability is moderately slow, and the available water capacity is very low. The shrink-swell potential is high.



Historical Use Information on the Property

According to a survey the directory search the site was undeveloped as residential property. (see the directory search section of this report under site description)

Historical Use Information on Adjoining Properties

According to the Directory Search was of little value as research for this report.

Aerial Photography

A Key Environmental representative reviewed aerial photographs, for this part of Davidson County, which were available for the subject site at the Metro Mapping and Planning Office located at the Howard School building on their online services. The dates of the maps available for review were 1959, 1963, 1974, 1983, 1996, 2006, 2010, 2014, 2018. Aerial maps are included as an exhibit in this report. No potential environmental problems were noted in our review of the aerial maps. The review did not indicate the use, storage or handling of hazardous substances or petroleum that would adversely affect the subject property other than those being maintained and regulated by current local, state and federal regulations and law.



Disposal Facility Review

Tennessee Department of Environment and Conservation - Division of Solid Waste Management files and known site list was reviewed. A Key representative reviewed the files of the Division of Solid Waste Management Enforcement Section. Key found no current record of problems at the site or with the contiguous properties that would adversely affect the subject property.



PROPERTY AND TAX RECORDS

Ownership Summary / Chain of Title

Key personnel completed a deed search for the subject property.

Deed Search, Map 68, Parcel 29

Deed Book	Page	Description	Date
2019612	56471	Bell and Associates Construction	06/11/2019 - Present
20010313	2400	Ponddigger Properties, LLC	03/12/2001 -
8272	12	Hailey's Harborm Inc	12/14/1990-
4822	08	W.L. Hailey Company, Inc.	05/29/1974-



ADDITIONAL PROPERTY USE & OWNERSHIP RESEARCH

Directory Search

A directory search of the property and surrounding properties was of no value and did not give information related to the property.



SITE RECONNAISSANCE

Methodology and Limiting Conditions

At the time of the site visit, Key visually observed the subject site and adjacent properties for signs of potential contamination.

General Site Setting

Elevations are rolling and flat topography. The area is made up of undeveloped, industrial properties.

Exterior Observations

No evidence of environmental distress was observed.

During the site visit, Key inspected the subject site to identify potential UST and AST systems. No evidence of Uses (fill ports, vent pipes, etc.) or AST's was observed.

During the site visit, the site was inspected for the presence of liquid-cooled electrical units (transformers and capacitors). Such units are of possible concern because they may be potential sources of polychlorinated biphenyls (PCBs). PCB units may subject the owner/operator to various regulatory requirements under the Toxic Substances Control Act (TSCA). The release of PCB fluids or their combustion products (in the event of a spill or fire) are potential environmental liabilities and may require costly remediation. Nashville Electric Service was contacted on as part of our review. Nashville Electric Service has no record or knowledge of any leaks or spills of PCB - containing transformers on or near the subject property. Transformers are considered to contain PCB's unless physically tested. N.E.S. is responsible for PCB cleanup if a spill should occur in one of their transformers.



During the site visit, Key did not observe indications of current or past onsite disposal of wastes (stressed vegetation, etc.)

Interior Observations

There was in disrepair. Key was told by those onsite that the property would be cleaned up before closing.



NON-CERCLA ISSUES

Asbestos Containing Material (ACM)

Due to the age of the structures (2007), it is highly unlikely that ACM's were used in the construction (flooring, ceilings, roofing materials). If ACM's are present in the construction, they would not present a threat to human health or the environment in their current condition or as long as they are properly maintained. If additional renovation or demolition of potential ACM's is contemplated an asbestos survey is always recommended. If the site is determined to have asbestos and should demolition of the structure or renovation involving ACM's be contemplated, current federal, state and local laws should be observed. A qualified contractor should conduct asbestos abatement activities. An asbestos evaluation was not requested.

Lead-Based Paint (LBP)

Due to the age of the building(s), it is unlikely that lead-based paint is or was used on the property. Any peeling or chipping areas should be addressed and or properly reedited if deemed to contain lead-based paint. If demolition of potential or suspect areas that may have used LBP is contemplated, lead-based paint testing is suggested. If the site is determined to have lead-based paint and should demolition of the structure or renovation involving LBP be contemplated, current, Federal, State and local laws and regulations should be observed. Lead abatement activities should be conducted by a qualified contractor. Lead-based paint testing was not requested.



Radon Gas

Radon is a naturally occurring radioactive gas formed by the decay of uranium in bedrock and soil. The adverse health effects associated with radon gas depend on various factors, such as the concentration of the gas and duration of exposure. The concentration of radon gas in a building depends on subsurface soil conditions, the integrity of the building's foundation, and the building's ventilation system. The formation of radon gas in consequential concentrations in the State of Tennessee is usually associated with a particular geologic formation, that being Chattanooga Shale, a black carbonaceous shale, and fissile.

The subject site is located in the Barfield-Rock Complex (BbE). According to the Scottsboro Quadrangle (GM 308-NW) the site is underlain by limestone.

According to the EPA/State Residential Radon Survey conducted in 1987, the average count for radon in the 37209 zip code area was 4.2 Pico Curies per Liter (pCi/L) in first floor areas. The highest count found was 13.8 pCi/L out of 14 homes tested. USEPA requires action if radon levels exceed 4.00 pCi/L. The EPA considers Davidson County a high risk for radon exposure. The client did not request radon testing.



Molds

Mold is a biological pollutant, a fungi that grows in moist conditions. "Mold is an opportunistic creature that likes wood as its feeding ground, and it also likes wet drywall. There are all kinds of mold with varying levels of potential toxicity. Similarly, people have varying degrees of sensitivity to various types of mold.

Molds are not an issue in this report.



Wetlands

According to the information reviewed and the current definition of the soils and prior property use of the subject, there are no wetlands determinations on the site. The National Wetlands Designation Map for the Scottsboro Quadrangle does not indicate that Wetlands exist on the subject property. These maps are based on an aerial review and are not the only determining source. A qualified wetlands engineer should review the property for the possibility of wetlands.

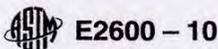
Environmental Compliance Review

Key evaluated operations at the subject site for compliance with applicable federal and State of Tennessee environmental regulations in the following areas: (1) solid and hazardous waste management, (2) Uses, (3) wastewater and storm water discharge, (4) oil and hazardous material storage, (5) air emissions, (6) emergency planning and community right-to-know, and (7) use of PCBs.

Other Issues

There are no other issues.

E 2600-10 Chemicals of Concern



X6. TYPICAL CHEMICALS OF CONCERN FOR THE VAPOR ENCROACHMENT SCREEN

NOTE X6.1—Methane may be of concern to environmental professionals conducting property due diligence because of safety issues related to a potential explosion hazard. However, explosion hazard assessment is beyond the scope of this guide. Petroleum hydrocarbons (such as gasoline,

diesel, fuel oil, kerosene, jet fuel, and so forth) are a subset under chemicals of concern (COC) and are identified in Table X6.1 by the major components. For example, the major components of gasoline would include benzene, xylene, toluene, and ethylbenzene (BTEX).

TABLE X6.1 Chemicals of Concern

Acenaphthene	1,2-Dibromo-3-chloropropane	Methylene chloride
Acetaldehyde	1,2-Dibromoethane (ethylene dibromide)	Methylethylketone (2-butanone)
Acetone	1,3-Dichlorobenzene	Methylisobutylketone
Acetonitrile	1,2-Dichlorobenzene	Methylmethacrylate
Acetophenone	1,4-Dichlorobenzene	2-Methylnaphthalene
Acrolein	Dichlorodifluoromethane	MTBE
Acrylonitrile	1,1-Dichloroethane	m-Xylene
Aldrin	1,2-Dichloroethane	Naphthalene
alpha-HCH (alpha-BCH)	1,1-Dichloroethylene	n-Butylbenzene
Benzaldehyde	1,2-Dichloropropane	Nitrobenzene
Benzene	1,3-Dichloropropene	2-Nitropropane
Benzo(b)fluoranthene	Dieldrin	N-Nitroso-di-n-butylamine
Benzylchloride	Endosulfan	n-Propylbenzene
beta-Chloronaphthale	Epichlorohydrin	o-Nitrotoluene
Biphenyl	Ethyl ether	o-Xylene
Bis(2-chloroethyl)ether	Ethylacetate	p-Xylene
Bis(2-chloroisopropyl)ether	Ethylbenzene	Polychlorinated biphenyls (PCBs)
Bis(chloromethyl)ether	Ethylene oxide	Pyrene
Bromodichloromethane	Ethylmethacrylate	sec-Butylbenzene
Bromoform	Fluorene	Styrene
1,3-Butadiene	Furan	tert-Butylbenzene
Carbon disulfide	gamma-HCH (Lindane)	1,1,1,2-Tetrachloroethane
Carbon tetrachloride	Heptachlor	1,1,2,2-Tetrachloroethane
Chlordane	Hexachloro-1,3-butadiene	Tetrachloroethylene (perchloroethylene)
2-Chloro-1,3-butadiene (chloroprene)	Hexachlorobenzene	Toluene
Chlorobenzene	Hexachlorocyclopentadiene	trans-1,2-Dichloroethylene
1-Chlorobutane	Hexachloroethane	1,1,2-Trichloro-1,2,2-trifluoroethane
Chlorodibromomethane	Hexane	1,2,4-Trichlorobenzene
Chlorodifluoromethane	Hydrogen cyanide	1,1,2-Trichloroethane
Chloroethane (ethyl chloride)	Isobutanol	1,1,1-Trichloroethane
Chloroform	Mercury (elemental)	Trichloroethylene
2-Chlorophenol	Methylacrylonitrile	Trichlorofluoromethane
2-Chloropropane	Methoxychlor	1,2,3-Trichloropropane
Chrysene	Methyl acetate	1,2,4-Trimethylbenzene
cis-1,2-Dichloroethylene	Methyl acrylate	1,3,5-Trimethylbenzene
Crotonaldehyde (2-butenal)	Methyl bromide	Vinyl acetate
Cumene	Methyl chloride (chloromethane)	Vinyl chloride (chloroethene)
DDE	Methylcyclohexane	
Dibenzofuran	Methylene bromide	

The subject property is not impacted by any of the listed chemicals. There are "no recognized environmental conditions related to the subject property. There are no issues to discuss related to the property.



INTERVIEWS

Interview with Owner

Darek Bell was interviewed as a part of our review.

Interview with Site Manager

Brian Choate was interviewed as a part of our review.

Interview with Occupants

See Above

Interview with Local Government Officials

As part of the investigation several government agencies were contacted. The results of these contacts are as follows:

Health/Dumping/Disposal Issues

The Davidson County Health Department was contacted to review their files pertaining to the property. There have not been any reports of illegal dumping, disposal of waste materials or any other environmental health violations on the site. Davidson County has no record or knowledge of any problems that would have an adverse environmental impact on the site.



Metropolitan Nashville Fire Department/Safety Division was contacted as part of our review. The fire department has no records or knowledge of any environmental accidents, spills, illegal dumping or any other environmental problems or concerns with the subject site or the contiguous properties.

PCB's

Nashville Electric Service was contacted on as part of our review. Nashville Electric Service has no record or knowledge of any leaks or spills of PCB - containing transformers on or near the subject property. Transformers are considered to contain PCB's unless physically tested. N.E.S. is responsible for PCB cleanup if a spill should occur in one of their transformers.

During the site visit, the site was inspected for the presence of liquid-cooled electrical units (transformers and capacitors). Such units are of possible concern because they may be potential sources of possible concern because they may be potential sources of polychlorinated biphenyls (PCBs). PCB units may subject the owner/operator to various regulatory requirements under the Toxic Substances Control Act (TSCA). The release of PCB fluids or their combustion products (in the event of a spill or fire) are potential environmental liabilities and may required costly remediation.

Water Quality

The offices of the Tennessee Department of Environment and Conservation; Water Quality Division was contacted as part of our review. No NPDES permit have been issued for the subject property. The property is not on sewer. Septic tanks are located on the property. There are no pits, drywells or catch basins located on the property. The water services for the area does screen for lead in drinking water and follow standards set forth by the EPA.



Interview with Others

The City and County Historical Societies, Library and Archives were contacted.



FINDINGS

Opinion

Based on the site inspection and other review, the subject property, is considered a low environmental risk. The property is in fair condition. Our investigation did not indicate the evidence of concern for “recognized environmental conditions”.

Conclusions/Recommendations

In our opinion, based on the visual inspection, other review and investigation performed in preparation of this report, as of the date of the inspection, the site and improvements appear to be low in environmental risk. The services performed do not indicate the presence of pollutants or other hazardous substances in concentrations considered to be harmful to Public Health or the Environment as defined in the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), except those being managed in accordance with applicable laws and regulations. Based on the contents of the report and the scope of work performed, there is further action necessary on the property. The property should be cleaned up of tires, drums and debris removal from the property. If all clean-up is approved by all parties prior to closing, no other further action is recommended at this time.

Deviations

None.

Additional Services

None requested.



PREVIOUS INVESTIGATIONS

Key was not given any previously prepared environmental reports for review.



QUALIFICATION STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined in 312.10 of 40 CFR 312 and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquires in conformance with the standards and practices set forth in 40 CFR Part 312.



REFERENCES

USGS - Geologic & Topographic Maps (Scottsboro Quad)
FEMA Map - dated 04/05/17(online services)
USDA - NRCS - Soils Survey (Davidson County Soils Book)
TDEC - Endangered Species, UST's, Water Quality (NPDES permit information)
GeoSearch - ASTM & AAI includes radius maps (included in this report)
EPA-NEPA (NEPAssist online services)
Nashville Public Library/Archives
TN Historic Commission
Davidson County Register of Deeds
Davidson County Property Assessor
Metro Nashville Mapping & Planning Office & Online (zoning, tax maps, aerials-1996-2010)
Historic Aerials located in our office(obtained from Metro Nashville Mapping & Planning59,63,74,83,96)
Metro Water Services
Nashville Electric Service
Metro Fire/EMS
Metro Health Department/Environmental
Tennessee Endangered Species Database
National Wetlands Inventory Map (Scottsboro Quad)-office collection-obtained from
TWRA-GISUSGS



KEY ENVIRONMENTAL – E & O INSURANCE CERTIFICATE



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
7/20/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Dealey, Renton & Associates P.O. Box 12675 Oakland CA 94604-2675	CONTACT NAME: PHONE (A/C, No, Ext): 510-465-3090 FAX (A/C, No): 510-452-2193 E-MAIL ADDRESS: dracertificates@dealeyrenton.com	
	License#: 0020739 KEYENV1-01	INSURER(S) AFFORDING COVERAGE NAIC # INSURER A: Century Surety Company 36957 INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES **CERTIFICATE NUMBER:** 2006616007 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:		CCP914090	7/11/2020	7/11/2021	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMPROP AGG \$ 2,000,000 \$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> NON-OWNED AUTOS ONLY					COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$:					EACH OCCURRENCE \$ AGGREGATE \$ \$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A			PER STATUTE OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
A	Professional Liability Contractors Pollution		CCP914090	7/11/2020	7/11/2021	Included in General Liability Limit

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER For Bidding and Information:	CANCELLATION 30 Day Notice of Cancellation SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE <i>Karin Thorp</i>

ACORD 25 (2016/03)

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EXHIBIT I – USER QUESTIONNAIRE

**Bell Equipment Yard @Hailey's Harbor Property
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218**

Map 68, Parcel 29

E 1527-13
USER QUESTIONNAIRE

INTRODUCTION

In order to qualify for one of the *Landowner Liability Protections (LLPs)*³⁵ offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "*Brownfields Amendments*"),³⁶ the *user* must provide the following information (if available) to the *environmental professional*. Failure to provide the information could result in a determination that "*all appropriate inquiry*" is not complete.

(1.) Environmental cleanup liens that are filed or recorded against the site (40CFR 312.25)

Are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law?

YES _____ NO x

(2.) Activity and land use limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).

Are you aware of any AULs, such as engineering controls, land use restrictions or *institutional* controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

YES _____ NO x

(3.) Specialized knowledge or experience of the person seeking to qualify for the LLP (40CFR 312.28).

As the *user* of the *ESA* do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants or the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

YES _____ NO x

(4.) Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

Does the purchase price being paid for this *property* reasonably reflect the fair market value of the property?

YES x NO _____ **Fair Market**

If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

YES _____ NO x

(5.) Commonly known or reasonably ascertainable information about the property (40CFR 312.20).

Are you aware of commonly known or reasonably ascertainable information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as user,

(a.) Do you know the past uses of the property?

YES NO Agricultural/undeveloped

(b.) Do you know the specific chemicals that are present or once were present at the *property*?

YES NO

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

YES NO

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

YES NO

(6.) The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40CFR 312.31).

As the user of this *ESA*, based on your knowledge and experience related to the *property* are there any obvious indicators that point to the presence of likely presence of contamination at the *property*?

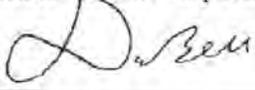
YES NO

(If you answered (Yes) in items 1-6, please write a brief explanation to the side of the question or on a separate page if necessary)

Please sign, date and return this document to Key Environmental (kevenvironmental.mnewpher@gmail.com) or via fax – our fax number is 615-385-9438.

PROJECT NAME & COMPLETE ADDRESS: 4601 Ashland City Highway, Nashville, TN

PRINT NAME: Darek Bell - Owner via phone

SIGN NAME:  DATE: 12/02/2020

3.2.93 **USER** – the party seeking to use Practice E 1527 to complete an *environmental site assessment* of the *property*. A *user* may include, without limitation, a potential purchaser of *property*, a potential tenant of *property*, an *owner* of *property*, a lender, or a *property* manager. The *user* has specific obligations for completing a successful application of this practice as outlined in Section 6 of the ASTM Standard.

X3.1 In addition, certain information should be collected, if available, and provided to the *environmental professional* selected to conduct the Phase I. This information is intended to assist the *environmental professional* but not necessarily required to qualify for one of the *LLPs*. The information includes:

- (a) the reason why the Phase I is required
- (b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc.
- (c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful).
- (d) the scope of service desired for the Phase I (including whether any parties to the *property* transaction may have a required standard scope of services on whether any considerations beyond the requirements of the current ASTM Practice E 1527 are to be considered).
- (e) Identification of all parties who will rely on the Phase I *report*.

3,2,93 **USER** – the party seeking to use Practice E 1527 to complete an *environmental site assessment* of the *property*. A *user* may include, without limitation, a potential purchaser of *property*, a potential tenant of *property*, an *owner* of *property*, a lender, or a *property* manager. The *user* has specific obligations for completing a successful application of this practice as outlined in Section 6 of the ASTM Standard.

X3.1 In addition, certain information should be collected, if available, and provided to the *environmental professional* selected to conduct the Phase I. This information is intended to assist the *environmental professional* but not necessarily required to qualify for one of the *LLPs*. The information includes:

- (a) the reason why the Phase I is required
- (b) the type of *property* and type of *property* transaction, for example, sale, purchase, exchange, etc.
- (c) the complete and correct address for the *property* (a map or other documentation showing *property* location and boundaries is helpful),
- (d) the scope of service desired for the Phase I (including whether any parties to the *property* transaction may have a required standard scope of services on whether any considerations beyond the requirements of Practice E 1527 are to be considered).
- (e) Identification of all parties who will rely on the Phase I *report*.



EXHIBIT II – E 2600-10 QUESTIONNAIRE

E-2600-10 Questionnaire

PROJECT NAME: Bell Equipment Yard @ Hailey's Harbor
 PROPERTY ADDRESS: 4601 Ashland City Hwy
 Nashville, TN 37080

QUESTIONNAIRE COMPLETED BY: Key Environmental
 NAME: M. Newpher
 TITLE: Owner
 ADDRESS: P.O. Box 120271
 CITY/STATE/ZIP: Nash, TN 37212-0271
 TELEPHONE: 615-385-9956
 EMAIL ADDRESS: keyenvironmental.mnewpher@gmail.com

DATE OF RESPONSE: 12/8/20

- 1 Property type
- 2 Are there any buildings/ structures on the property?
- 3 Will buildings/structures be constructed on the property in the future?
- 4 If buildings exist or are proposed, do/will they have elevators?
- 5 Type of level below grade (existing or proposed)?
- 6 Ventilation in level below grade?
- 7 Sump pumps, floor drains, or trenches (existing or proposed)?
- 8 Radon or methane mitigation system installed?
- 9 Heating system type (existing or proposed)?
- 10 Type of fuel energy (existing or proposed)?
- 11 Have there ever been any environmental problems at the property?
- 12 Does/will a gas station or dry cleaner operate anywhere on the property?
- 13 Do any tenants use hazardous chemicals in relatively large quantities on the property?
- 14 Have any tenants ever complained about odors in the building or experienced health-related problems that may have been associated with the building?
- 15 Are the operations (or proposed operations to be performed) on the property OSHA regulated?
- 16 Are there any existing or proposed underground storage tanks (USTs) or above ground storage tanks (ASTs)?
- 17 Are there any sensitive receptors (for example, children, elderly, people in poor health, and so forth) that occupy or will occupy the property?

Commercial Industrial Multi-Tenant Vacant Land
 Yes No Unknown

If yes, type construction
 Yes No Unknown

If yes, type construction
 Yes No Unknown

Full Basement Crawl Space Slab on Grade
 Parking Garage Multi-level
 Yes No Unknown

Yes No Unknown

Yes No Unknown

(CHECK ALL THAT APPLY)
 Hot Air Circulation Electric Baseboard
 Hot Air Radiation Heat Pump
 Hot Water Radiation Wood Stove
 Kerosene Heater Steam Radiation
 Fireplace Coal Furnace
 Radiant Floor Heat Hot Water Circulation
 Fuel Oil Furnace Gas Furnace
 Other

(CHECK ALL THAT APPLY)
 Natural Gas Electric
 Propane Fuel Oil
 Kerosene Wood
 Coal Solar
 Other

Yes No Unknown (non-reported)

If yes, describe
 Yes No Unknown

Yes No Unknown

If yes, describe
 Yes No Unknown

Yes No Unknown

Yes No Unknown

MAP / Parcel ID # 68/29



EXHIBIT III - Property Photographs

**Bell Equipment Yard @Hailey's Harbor Property
4601 Ashland City Hwy
Nashville, Davidson County, Tennessee 37218**

Map 68, Parcel 29



1-View of the front of the building on the property



2-View across the frontage of the building



3- Debris around the building to be removed



4- Revene and debris on the property to be removed and cleaned up



5- Revene and debris on the property to be removed and cleaned up #2



6-View across the property



7- View across property



8- Debris to be cleaned up on the property



9- Propane tank on a concrete pad on the far side of the building



10-Tires and debris that need to be cleaned up and properly disposed



11-View along the side of the building



12-Tank next to the building



13-View of the tank



14-Debris and drums that are to be removed from the property and properly dispose



15-Drums and debris



16-View of tires and debris in the back



17-55 gallon drums that are to be properly disposed



18-View across the property



19-Interior view - no staining on flooring



20- Interior view



21-Street Scene - View E - Amy Lynn Drive (access to the property)



22-Street Scene - Amy Lynn Drive (access to the property) View West



EXHIBIT IV - Maps

Area Map

Site Location Map

Tax Map

Aerial Photograph(s)

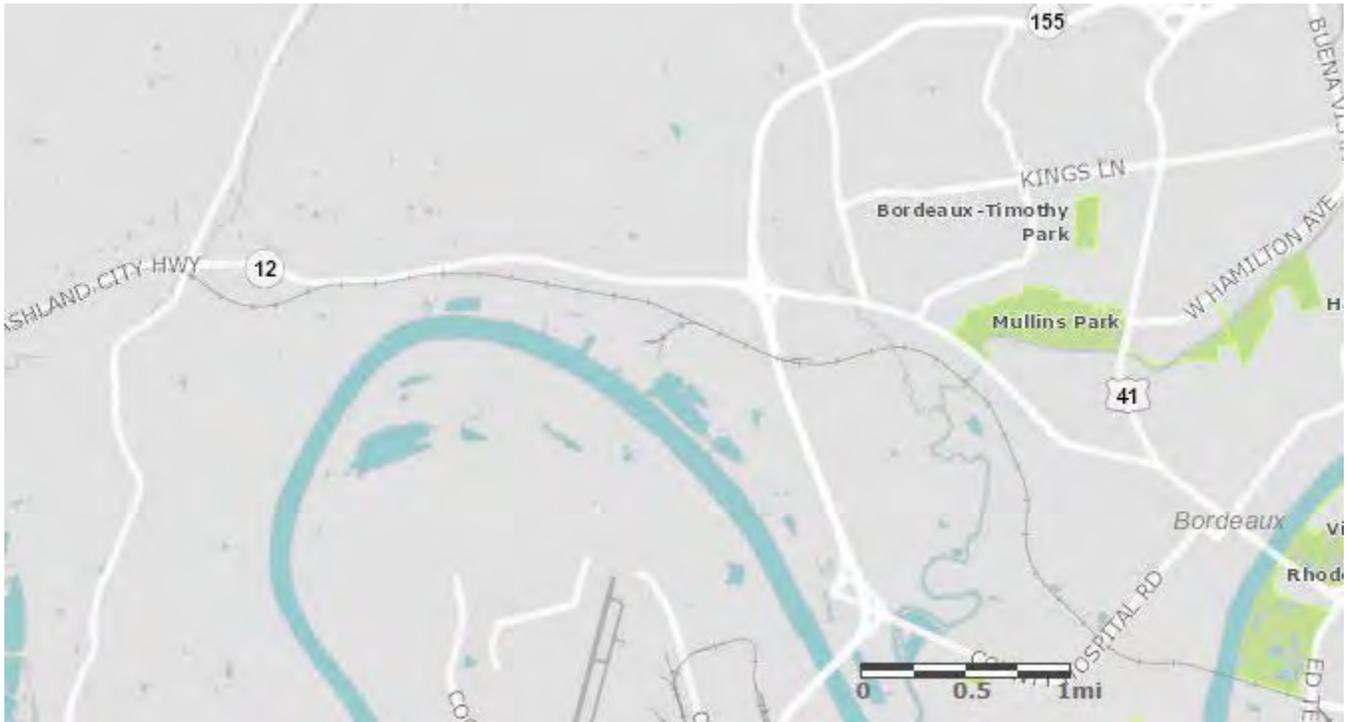
Topographic Map

Geologic Map

Soils Map

Flood Map

AREA MAP



SITE LOCATION MAP



TAX MAP



AERIAL PHOTOGRAPH - 1996



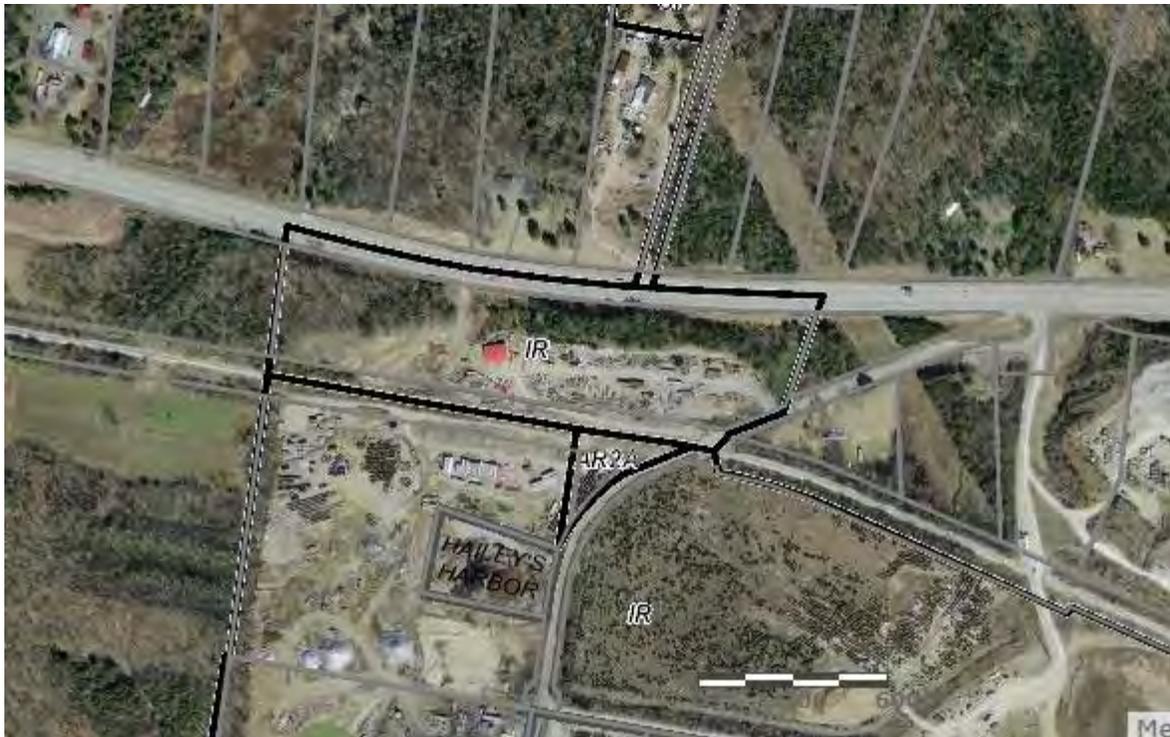
AERIAL PHOTOGRAPH – 2000



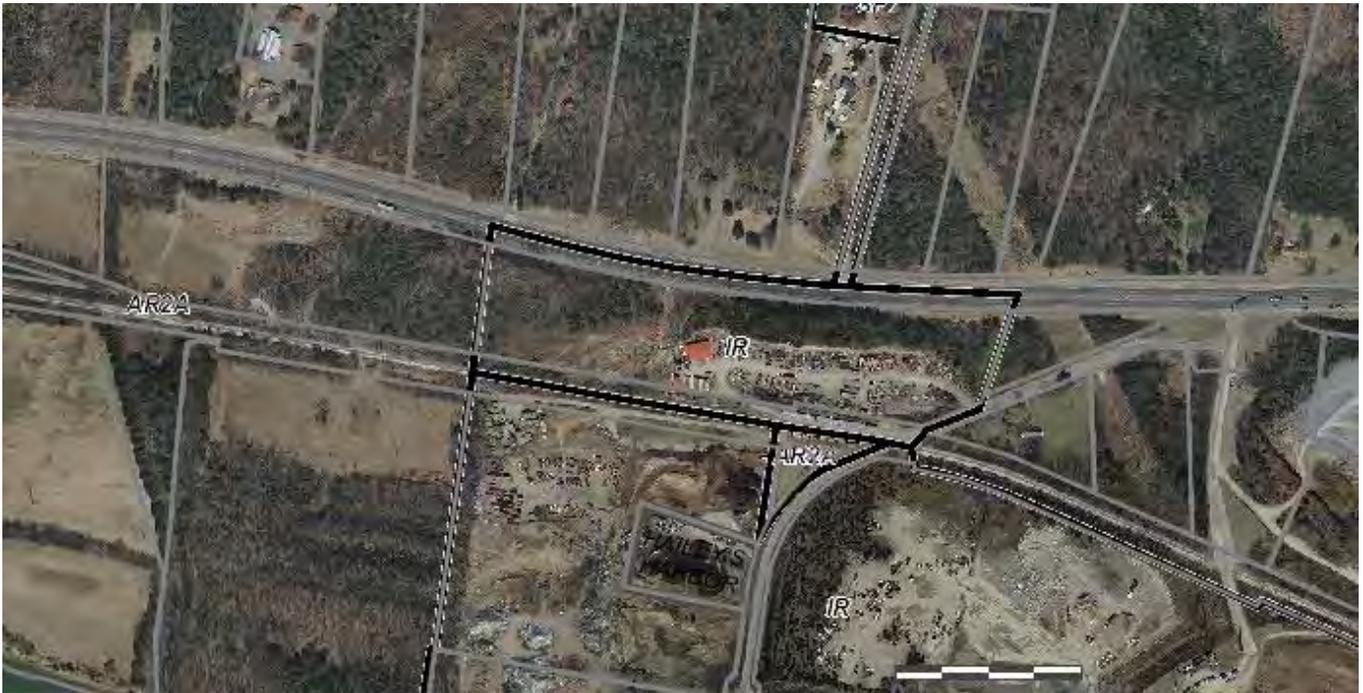
AERIAL PHOTOGRAPH - 2006



AERIAL PHOTOGRAPH - 2010



AERIAL PHOTOGRAPH - 2014

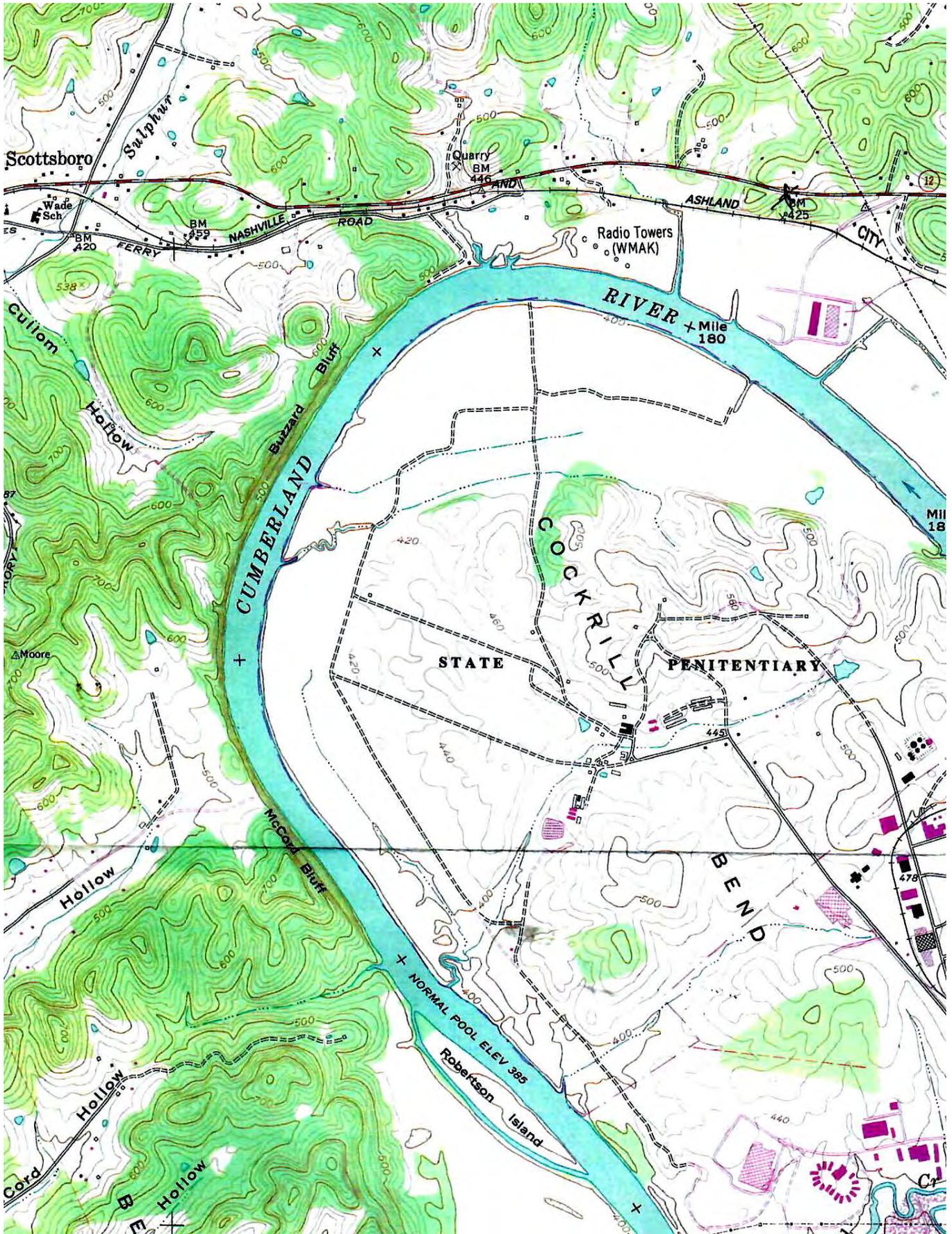


AERIAL PHOTOGRAPH - 2018

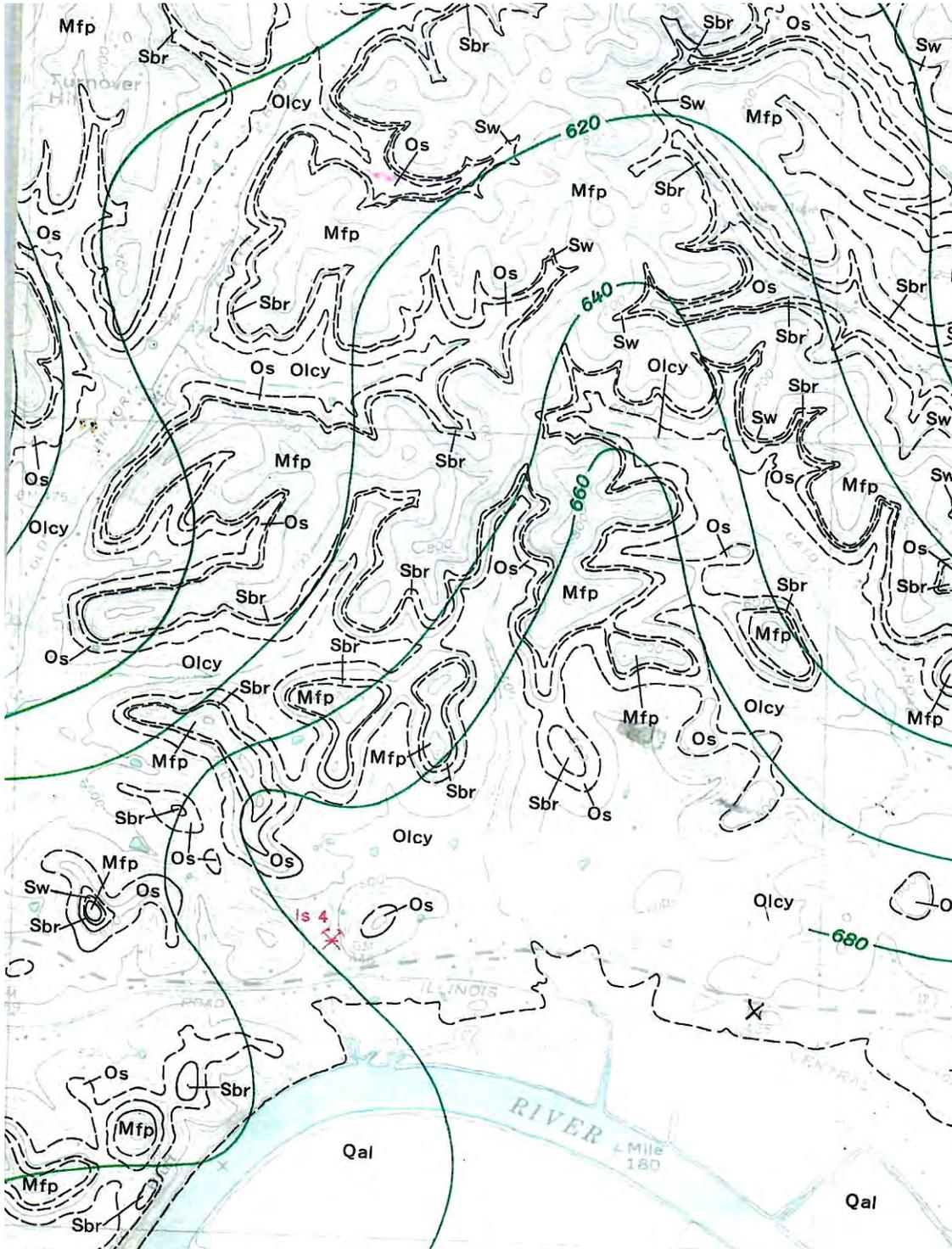




TOPOGRAPHIC MAP



GEOLOGIC MAP



SOILS MAP



FLOOD MAP





EXHIBIT V - RESUME

Melinda M. Newpher
(615) 385-9956
keyenvironmental.mnewpher@gmail.com

Melinda Newpher dba Key Environmental

02/02 – Present

Environmental Consultant/Owner

ASTM Standard Property Environmental Liability Risk Assessments (Phase I, Phase II-(sampling/testing), Transaction Screens and Project Management).

Responsible for client contact, visual inspections, database research, historical research, zoning review, property reviews including geologic, topographic, soils, wetlands and aerials maps, reporting.

Current Designations:

Certified Environmental Manager (CEM)
Certified Environmental Inspector (CEI)
Certified Environmental Specialist (CES)
Certified Environmental Consultant (CEC)
Hazmat Safety Trained
Certified Hazardous Materials Management (CHMM) Trained

Key Environmental Associates, Inc.

11/89 – 12/01

Environmental Consultant

Property Environmental Liability Risk Assessments (Phase I)

Responsible for client contact, visual inspections, database research, historical research, zoning review, property reviews including geologic, topographic, soils and aerials maps sampling (Phase II), reporting, invoicing, bookkeeping and payroll. On-site remediation of hazardous waste (Phase III). Hydro-geological analysis, regulatory compliance and consulting under RCRA, OSHA. Responsible for facilitating projects as well as working in a supervisory capacity on some projects.

Joel Riggs & Company/Better Homes & Gardens

08/84 – 01/90

Residential Real Estate Sales

Bi-Rite of Franklin

07/81 – 08/84

Owner/Operator

Family owned business.
Responsible for payroll, training, audits and accounting.

Commerce Union Bank

01/73 – 08/81

Project Analyst - (11/80 – 08/81)

Responsible for analysis and control of volatile fluctuations of internal accounts resulting in annual savings of a minimum of 30 million dollars. Responsible for the development for training of all of the banks branches and departments to promote cooperation and accountability throughout the organization.

Funds Manager/Trader - (10/76 – 11/80)

Daily management of total bank assets:

- trading overnight funds
- Analysis of daily market position
- Managing personnel in purchasing & selling of affiliate & correspondents funds
- Restructuring procedures for monitoring account analysis & policies of domestic bank accounts resulting in a daily savings of a minimum of 10 – 15 million dollars.
- Management & maintenance of the banks Federal Reserve account as well as domestic bank balances.
- Management of the wire transfer operations and personnel.

Chief Accountant – (11/74 – 10/76)

Assisted controller in all accounting related problems. Managed the cash position. Managed accounts payable and maintained the Federal Reserve requirements. Maintained security portfolio for affiliates, providing training to be performed internally.

Administrator – (01/73 – 11/74)

Responsible for reconciliation of general ledger to the computer operations reports of loans, credit cards, and demand deposits.

MTSU (Middle Tennessee State University)

Auburn University

Hillwood High School



GEO SEARCH RADIUS REPORT

APPENDIX 5 – Hydrologic Determination



May 04, 2021

TDEC Division of Water Resources
Nashville EFO
711 R.S. Gass Boulevard
Nashville, TN 37216

RE: Request for Review and Concurrence of Hydrologic Determination and Verification of Waters of the State for the Nashville Waste Solutions Processing Center, Nashville, Davidson County, Tennessee. Barge Project #3746800

To Whom It May Concern,

Barge Design Solutions, Inc. (Barge) has been retained by Nashville Waste Solutions (NWS) to perform an ecology survey on an approximate 13-acre property for the proposed processing center site, within the parcel number 06800002900 owned by Bell & Associates Construction, LP south of Ashland City Highway and east of Amy Lynn Drive in Nashville, TN for the purpose of identifying the extent of potential waters of the state. Barge is submitting the attached Hydrologic Determination (HD) Report for concurrence with observed features within the project study area. Per the requirements of HD reports, we are seeking treatment under §69-3-108(r).

1.0 PURPOSE

The purpose of the environmental assessment was to determine the extent of potential on-site jurisdictional wetlands and non-wetland waters pursuant to the state and federal rules and regulations. The information provided in the attached HD Package characterizes the existing wetlands, streams, and other non-wetland waters that may be used in an effort to avoid or minimize impacts to identified resources.

1.1 Study Area

The property is located south of Ashland City Highway and east of Amy Lynn Drive in Nashville, Davidson County, Tennessee (Attachment A, Figure 1). This area falls within the Interior Plateau (71) Tennessee ecoregion, and is further categorized into the Outer Nashville Basin (71h) physiographic region of Tennessee. The property is within the Scottsboro topographic quadrangle (Attachment A, Figure 2), and is located within the HUC-12 Cumberland River-Indian Creek (051302020306). This watershed is ultimately located within the HUC-8 Lower Cumberland-Sycamore watershed (05130202), which is within the Cumberland River Basin.

2.0 ENVIRONMENTAL REVIEW

Prior to visiting the project study area, a resource review of available background site information was conducted using the U.S. Fish and Wildlife Service's National Wetland Inventory (NWI) database to determine if wetlands could be found within the area. Topographic maps and the United States Geological Survey (USGS) National Hydrography Dataset (NHD) were also evaluated for potential jurisdictional waters. Additionally, major landscapes and vegetation units were identified using aerial imagery prior to surveying the study area, and again in the field before beginning field work.

2.1 Field Investigations

2.1.1 Waterbody Identification

For the purpose of this report, any ephemeral or more persistent drainages were characterized by the presence of two (2) or more OHWM indicators using the *2005 USACE Regulatory Guidance Letter 05-05* and proximity to other adjoining jurisdictional features (i.e. wetlands and/or intermittent or perennial streams). Streams located within the property were verified and coordinates of the centerline were obtained with a GPS unit.

Additionally, waterbodies were analyzed with the Tennessee Department of Environment and Conservation's (TDEC) "Guidance for Making Hydrologic Determinations" to accurately determine the jurisdictional status of waters of the state. Hydrologic determinations were conducted by Frank Amatucci (QHP-IT). The TDEC HD Field Data Sheets for all observed streams and wet weather conveyances are provided in Attachment C.

2.1.2 Wetland Boundary Identification

Wetland determinations were conducted by Barge biologists through observing hydrophytic vegetation, hydric soils, and wetland hydrology according to the U.S. Army Corps of Engineers' *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont, Version 2.0*. Sample points were chosen based upon representative portions of the study area to confirm visual estimates of field indicators.

3.0 RESULTS

On February 23, 2021, Barge biologists performed a field survey within the property to determine the presence or absence of jurisdictional waters. Both the USACE and TDEC methodologies were utilized to determine the jurisdiction of wetlands and non-wetland waters within the project study area.

One (1) jurisdictional feature and two (2) non-jurisdictional features were identified within the property, which were considered as an intermittent stream, an isolated wetland and a wet weather conveyance. The sections below detail the features that were delineated within the subject property. The features identified on site are listed in Tables 1 & 2 (Attachment B) and are displayed in Figure 6 (Attachment A).

3.1 Non-Wetland Waters

Lead Scientist Frank Amatucci conducted the Hydrologic Determination (HD) site investigation in accordance with TDEC Rule 0400-40-17-.04. In addition, water features were considered regarding the Regulatory Guidance Letter No. 05-05. The site visit was conducted more than 48 hours following a significant rain event of greater than 1.0 inch in a 24-hour period. Upon commencement of the study, 0.71-inches of precipitation was observed in the preceding 7-days. In the preceding two weeks, 0.68 inches of precipitation was observed. The precipitation for the preceding three months is considered “normal” based on the 30-year normal, as shown in Table 3 (Attachment B).

One (1) intermittent stream and one (1) wet weather conveyance (WWC) were delineated within the subject property. These features were based on secondary indicators while conducting the HD, such as observable presence of macroinvertebrates, substrate sorting, a presence of headcuts or grade control structures, or a presence of subsurface flow or discharge. Below are brief descriptions of the delineated stream and WWC within the subject property. Table 2 (Attachment B) details the locations and lengths of each feature.

Stream (STR)-1 was observed as an intermittent stream with a defined bed and bank. During the time of the evaluation surface water was observed flowing south towards Amy Lynn Drive and subsurface discharge was witnessed at a headcut at the start of the stream feature. Hydric soils were not observed amongst the sorted gravel and cobble on top of bedrock channel bottom. Approximately greater than 20 aquatic leaches, 5-10 isopods, and 2-5 Diptera larvae were observed. Near the southern property limit a chain link fence obstructs the flow of surface water and has caused the channel to fan out and have a slight presence of braiding. All surface water from STR-1 flows into a culvert under Amy Lynn Drive off-site.

WWC-1 was a primarily undefined drainage from a stormwater culvert under Ashland City Highway that drained out into rip-rapped lined channel. Little to no surface water was observed between the rip-rap. The drainage channel lacked vegetation, macroinvertebrates, and hydric soils to potentially be classified as a stream. During high precipitation events, it is like all surface water from WWC-1 drain into STR-1 and ultimately off site through a culvert under Amy Lynn Drive.

The locations of the described stream and drainage features are provided in Figure 6 -- Current Conditions Map (Attachment A). A photograph of each feature is provided in Attachment D and Table 2 (Attachment B) details the locations and lengths. The TDEC Hydrologic Determination Field Data Sheets for the observed streams are provided in Attachment C.

3.2 Wetlands

One (1) isolated stormwater wetland was delineated within the subject property. The feature was based on the presence of positive indication of wetland hydrology, soils, and vegetation. Below is a brief description of the delineated wetland within the subject property. Table 1 (Attachment B) details the location and area of the feature.

Wetland (WTL)-1 was observed in a man-made excavation pit that has become established with hydric vegetation. The feature was established with palustrine emergent vegetation, such as cattail (*Typha latifolia*) and curly doc (*Rumex crispus*). Positive indication of wetland hydrology includes shallow surface water, a shallow aquitard, and water-stained leaves. WTL-1 lacks deep hydric soils above the shallow bedrock. An elevated stormwater collection drain was observed in WTL-1; however, no visible connection to other waters of the United States was observed. Therefore, the wetland is considered as non-jurisdictional.

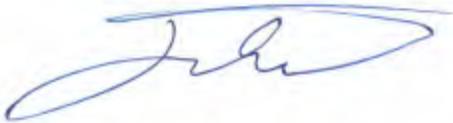
The location of the described wetland is provided in Figure 6 -- Current Conditions Map (Attachment A). A photograph of the feature is provided in Attachment D and Table 1 (Attachment B) details the locations and area. The USACE Wetland Determination Field Data Sheets for the observed wetland is provided in Attachment C.

4.0 SUMMARY

One (1) jurisdictional feature and two (2) non-jurisdictional features were identified within the property, which were considered as an intermittent stream, an isolated wetland, and a wet weather conveyance. The Current Conditions Map (Figure 6, Attachment A) visually represents the boundaries of the wetland and non-wetland waters delineated within property. Tables 1 and 2 also summarizes the current location and linear footage of the features.

Attached is the Hydrologic Determination Verification Package summarizing the wetland and non-wetland waters located within the subject property. If you have any questions or require additional information, please contact me by phone at 615-252-4406 or email at Frank.Amatucci@bargedesign.com. Thank you!

Sincerely,



Frank Amatucci, TN-QHP-IT
Biologist – Site Solutions
Barge Design Solutions, Inc.

Nashville Waste Solutions Nashville, Davidson County, Tennessee Hydrologic Determination

List of Contents

Attachment A – Figures

- Figure 1 – Project Location Map
- Figure 2 – USGS Topographic Map
- Figure 3 – Watershed Map
- Figure 4 – Soil Unit Map
- Figure 5 – National Wetlands Inventory Map
- Figure 6 – Current Conditions Map

Attachment B – Tables

- Table 1 – Wetland Features within the Property
- Table 2 – Waterbody Features with the Property
- Table 3 – Calculations of Normal Weather Conditions – February Visit

Attachment C – Wetland and Stream Determination Data Forms

Attachment D – Photographic Summary

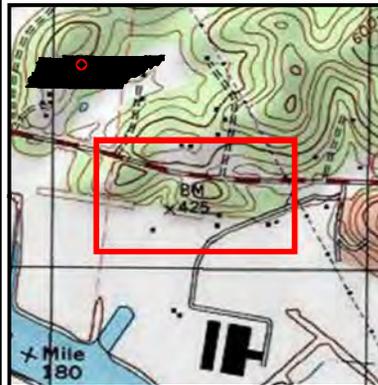
Attachment A

Figures



Hydes Ferry Pike

Amy Lynn Dr

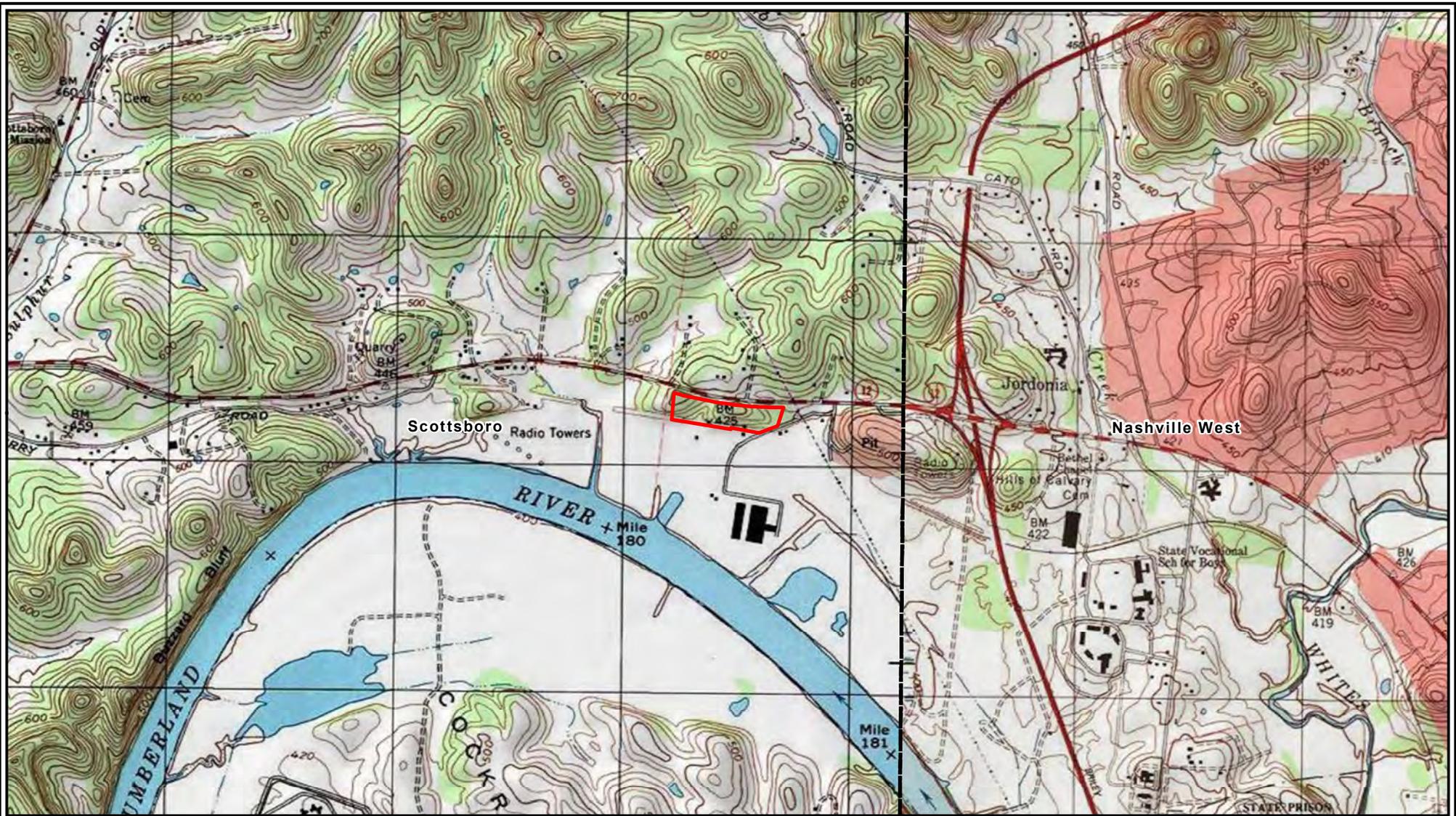


Project Property Limit

1 inch = 200 feet
 0 50 100 200 300 Feet

Basemap: ESRI World Imagery
 Source Data:

PROJECT: Nashville Waste Solutions Processing Center Nashville, Davidson County, Tennessee	
TITLE: AERIAL SITE LOCATION MAP	
PROJ NO: 3746800	FIGURE 1
DATE: April 2021	
615 3rd Avenue South, Suite 700 Nashville, TN 37210	



SCOTTSBORO 7.5 MINUTE QUADRANGLE



- Project Property Limit
- USGS 24k Topo Map Boundaries

Source Data: ESRI USA Topo Map and 24K Boundaries



PROJECT:
Nashville Waste Solutions
Processing Center
Nashville, Davidson County, Tennessee

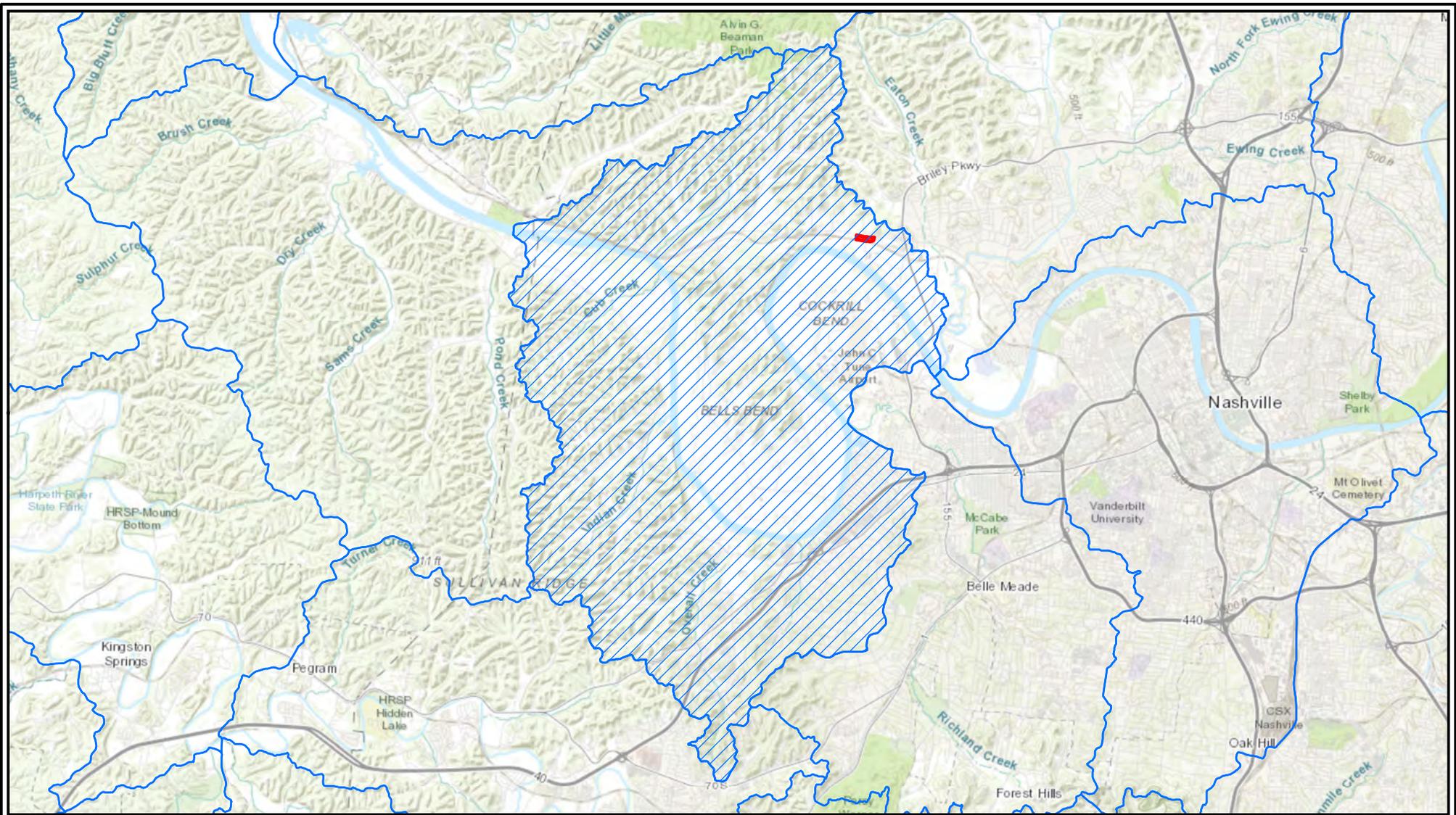
TITLE:
USGS SITE LOCATION MAP

PROJ NO: 3746800

FIGURE 2

DATE: April 2021

BARGE
DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210



CUMBERLAND RIVER - INDIAN CREEK WATERSHED (051302020306)



-  Project Watershed
-  HUC 12 Watershed
-  Project Property Limit

PROJECT:
Nashville Waste Solutions
Processing Center
Nashville, Davidson County, Tennessee

TITLE:
PROJECT WATERSHED MAP

PROJ NO: 3746800

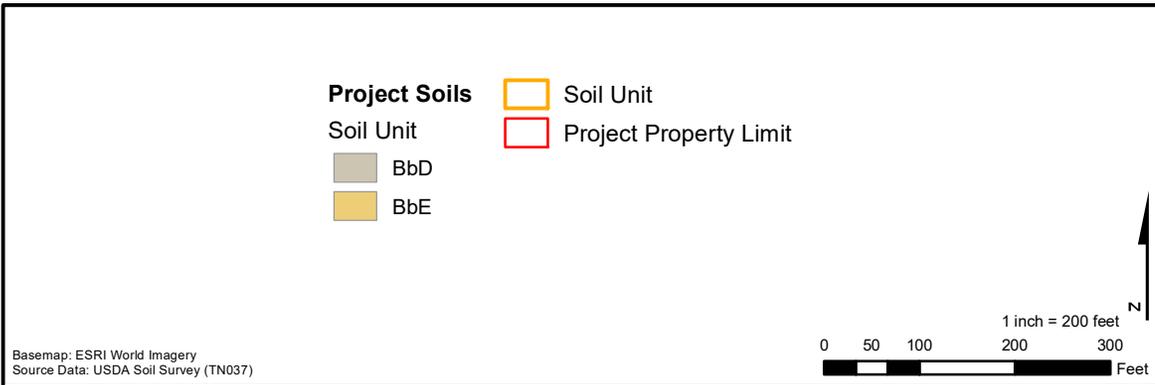
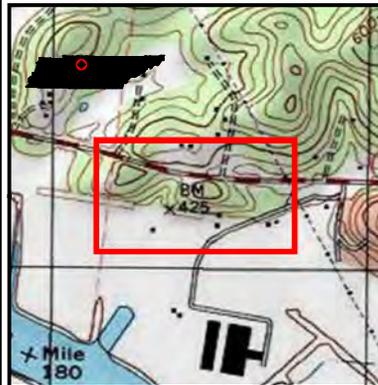
FIGURE 3

DATE: April 2021

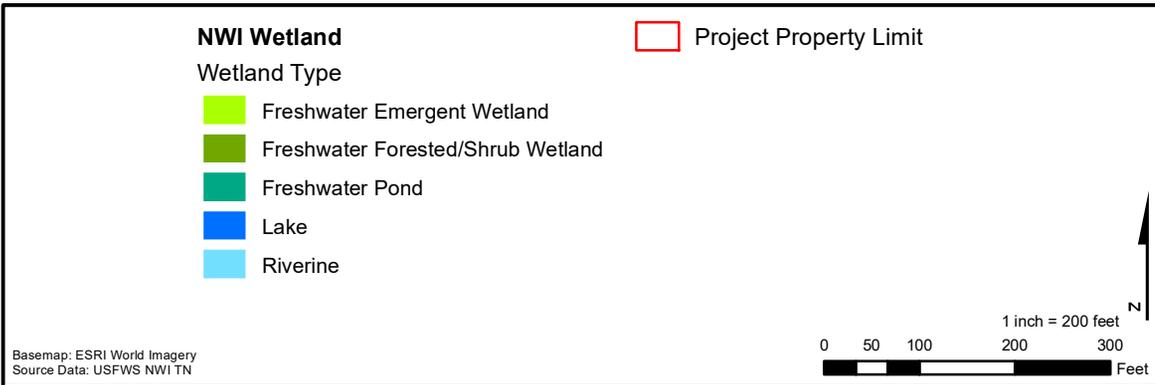
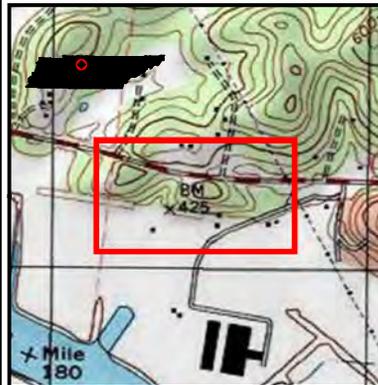
BARGE
DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210



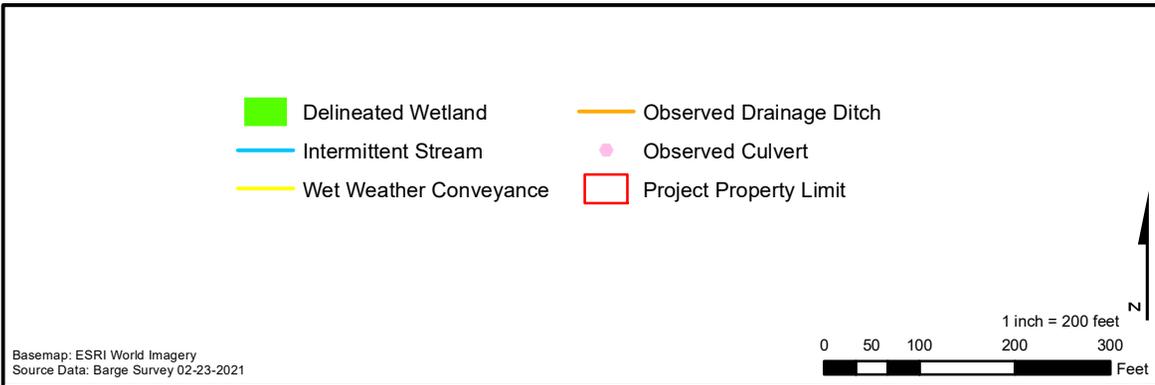
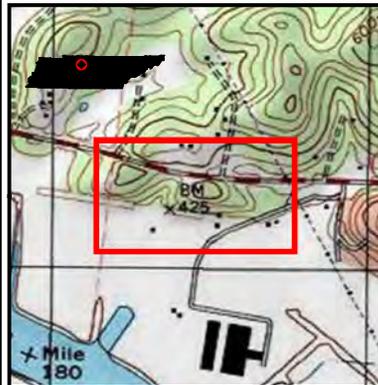
Source Data: ESRI USA Topo Map and USGS HUC12 Watershed



PROJECT: Nashville Waste Solutions Processing Center Nashville, Davidson County, Tennessee	
TITLE: SOIL UNIT MAP	
PROJ NO: 3746800	FIGURE 4
DATE: April 2021	
615 3rd Avenue South, Suite 700 Nashville, TN 37210	



PROJECT: Nashville Waste Solutions Processing Center Nashville, Davidson County, Tennessee	
TITLE: NATIONAL WETLANDS INVENTORY MAP	
PROJ NO: 3746800	FIGURE 5
DATE: April 2021	
615 3rd Avenue South, Suite 700 Nashville, TN 37210	



PROJECT: Nashville Waste Solutions Processing Center Nashville, Davidson County, Tennessee	
TITLE: CURRENT CONDITIONS MAP	
PROJ NO: 3746800	FIGURE 6
DATE: April 2021	
 615 3rd Avenue South, Suite 700 Nashville, TN 37210	

Attachment B

Tables

Table 1 – Wetland Features within the Property

Wetland I.D.	Description	Location Within Project Boundaries	Acreage of wetland in Project Area	State Jurisdictional Status	Federal Jurisdictional Status
WTL-1	PEM	36.209813, -86.884961	0.04 Acres	No	No

1: Federal jurisdiction status determined by the new revised Navigable Waters Protection Rule: Definition of “Waters of the United States”, Federal Register April 21, 2020 (approved June 22,2020).

Table 2 – Non-Wetland Features within the Property

Waterbody I.D.	Description	Location Within Project Boundaries	Estimated Amount of Aquatic Resource in Project Area	State Jurisdictional Status	Federal Jurisdictional Status
STR-1	Intermittent Stream	Start: 36.209976, -86.881513 End: 36.209369, -86.881293	263 LF	Yes	Yes
WWC-1	Wet Weather Conveyance	Start: 36.210070, -86.881720 End: 36.209969, -86.881549	82 LF	No	No

1: Federal jurisdiction status determined by the new revised Navigable Waters Protection Rule: Definition of “Waters of the United States”, Federal Register April 21, 2020 (approved June 22,2020).

Table 3 - Calculation of Normal Weather Conditions - February Visit									
Station: NASHVILLE INTERNATIONAL AIRPORT, TN US USW00013897									
Long-term rainfall records									
	Month	<u>Minus One</u> <u>Std. Dev.</u> <u>(DRY)</u>	Normal (Mean inches)	<u>Plus One</u> <u>Std. Dev.</u> <u>(WET)</u>	Actual Rainfall	Condition (dry, wet, normal)	Condition value	Month weight value	Product of previous two columns
1st Month Prior*	January	1.409958696	3.75	6.090041304	2.56	Normal	2	3	6
2nd Month Prior*	December	1.553830396	4.24	6.926169604	3.40	Normal	2	2	4
3rd Month Prior*	November	2.541958815	4.31	6.078041185	1.40	Dry	1	1	1
								Sum =	11
Note:					Condition		Value		
If sum is:					Dry	1			
6-9	Then period has been drier than normal				Normal	2			
10-14	Then period has been normal				Wet	3			
15-18	Then period has been wetter than normal								
Conclusions:									
Overall, the prior 3 months are considered "normal" for precipitation.									
Normal									

Attachment C

Stream and Wetland Determination Data Forms

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

Project/Site: Nashville Waste Solutions Processing Center City/County: Nashville / Davidson Sampling Date: 02/23/2021
 Applicant/Owner: Barge Design Solutions State: TN Sampling Point: WTL-1
 Investigator(s): F. Amatucci Section, Township, Range: _____
 Landform (hillside, terrace, etc.): Stormwater Pond Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR or MLRA): LRR N, MLRA 123 Lat: 36.209813 Long: -86.884961 Datum: NAD83
 Soil Map Unit Name: Barfield-Rock outcrop complex, 20 to 70 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: The feature is located in a man-made excavation pit in bedrock	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) _____ True Aquatic Plants (B14) <input checked="" type="checkbox"/> High Water Table (A2) _____ Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Saturation (A3) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Water Marks (B1) _____ Presence of Reduced Iron (C4) _____ Sediment Deposits (B2) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Drift Deposits (B3) _____ Thin Muck Surface (C7) _____ Algal Mat or Crust (B4) _____ Other (Explain in Remarks) _____ Iron Deposits (B5) _____ Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) _____ Aquatic Fauna (B13)	<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) _____ Sparsely Vegetated Concave Surface (B8) _____ Drainage Patterns (B10) _____ Moss Trim Lines (B16) _____ Dry-Season Water Table (C2) _____ Crayfish Burrows (C8) _____ Saturation Visible on Aerial Imagery (C9) _____ Stunted or Stressed Plants (D1) _____ Geomorphic Position (D2) <input checked="" type="checkbox"/> Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
---	--

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

 The feature is located in a man-made excavation pit in bedrock

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WTL-1

Tree Stratum (Plot size: <u>30-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Sapling/Shrub Stratum (Plot size: <u>15-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Herb Stratum (Plot size: <u>5-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Typha latifolia</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Setaria pumila</u>	<u>15</u>	<u>No</u>	<u>FAC</u>
3. <u>Rumex crispus</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
	<u>85</u> =Total Cover		
50% of total cover: <u>43</u>	20% of total cover: <u>17</u>		

Woody Vine Stratum (Plot size: <u>15-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	=Total Cover		
50% of total cover: _____	20% of total cover: _____		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>60</u>	x 1 = <u>60</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>85</u> (A)	<u>135</u> (B)
Prevalence Index = B/A = <u>1.59</u>	

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: WTL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/1	100					Muck	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____ Bedrock
 Depth (inches): _____ 2

Hydric Soil Present? Yes No

Remarks:
 This data sheet is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region

Project/Site: Nashville Waste Solutions Processing Center City/County: Nashville / Davidson Sampling Date: 02/23/2021
 Applicant/Owner: Barge Design Solutions State: TN Sampling Point: UPL-1
 Investigator(s): F. Amatucci Section, Township, Range: _____
 Landform (hillside, terrace, etc.): hillslope/cliff Local relief (concave, convex, none): -- Slope (%): 5-10%
 Subregion (LRR or MLRA): LRR N, MLRA 123 Lat: 36.209860 Long: -86.885109 Datum: NAD83
 Soil Map Unit Name: Barfield-Rock outcrop complex, 20 to 70 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____	No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks:					

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p>____ Surface Water (A1) ____ True Aquatic Plants (B14) ____ High Water Table (A2) ____ Hydrogen Sulfide Odor (C1) ____ Saturation (A3) ____ Oxidized Rhizospheres on Living Roots (C3) ____ Water Marks (B1) ____ Presence of Reduced Iron (C4) ____ Sediment Deposits (B2) ____ Recent Iron Reduction in Tilled Soils (C6) ____ Drift Deposits (B3) ____ Thin Muck Surface (C7) ____ Algal Mat or Crust (B4) ____ Other (Explain in Remarks) ____ Iron Deposits (B5) ____ Inundation Visible on Aerial Imagery (B7) ____ Water-Stained Leaves (B9) ____ Aquatic Fauna (B13)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p>____ Surface Soil Cracks (B6) ____ Sparsely Vegetated Concave Surface (B8) ____ Drainage Patterns (B10) ____ Moss Trim Lines (B16) ____ Dry-Season Water Table (C2) ____ Crayfish Burrows (C8) ____ Saturation Visible on Aerial Imagery (C9) ____ Stunted or Stressed Plants (D1) ____ Geomorphic Position (D2) ____ Shallow Aquitard (D3) ____ Microtopographic Relief (D4) ____ FAC-Neutral Test (D5)</p>
<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes _____ No <u>X</u></p>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: No positive indication of wetland hydrology on the hillslope	

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UPL-1

<u>Tree Stratum</u> (Plot size: <u>30-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>60</u></td> <td>x 3 = <u>180</u></td> </tr> <tr> <td>FACU species <u>55</u></td> <td>x 4 = <u>220</u></td> </tr> <tr> <td>UPL species <u>25</u></td> <td>x 5 = <u>125</u></td> </tr> <tr> <td>Column Totals: <u>140</u> (A)</td> <td><u>525</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.75</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>60</u>	x 3 = <u>180</u>	FACU species <u>55</u>	x 4 = <u>220</u>	UPL species <u>25</u>	x 5 = <u>125</u>	Column Totals: <u>140</u> (A)	<u>525</u> (B)	Prevalence Index = B/A = <u>3.75</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>60</u>	x 3 = <u>180</u>																			
FACU species <u>55</u>	x 4 = <u>220</u>																			
UPL species <u>25</u>	x 5 = <u>125</u>																			
Column Totals: <u>140</u> (A)	<u>525</u> (B)																			
Prevalence Index = B/A = <u>3.75</u>																				
50% of total cover: _____		20% of total cover: _____																		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Juniperus virginiana</u>	<u>55</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. <u>Lonicera maackii</u>	<u>25</u>	<u>Yes</u>	<u>UPL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
=Total Cover <u>80</u>				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
50% of total cover: <u>40</u>		20% of total cover: <u>16</u>																		
<u>Herb Stratum</u> (Plot size: <u>5-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Chasmanthium sessiliflorum</u>	<u>60</u>	<u>Yes</u>	<u>FAC</u>	Definitions of Four Vegetation Strata: Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine – All woody vines greater than 3.28 ft in height.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
=Total Cover <u>60</u>				Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																
50% of total cover: <u>30</u>		20% of total cover: <u>12</u>																		
<u>Woody Vine Stratum</u> (Plot size: <u>15-feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
=Total Cover																				
50% of total cover: _____		20% of total cover: _____																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: UPL-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/3	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10) (**LRR N**)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)

- Polyvalue Below Surface (S8) (**MLRA 147, 148**)
- Thin Dark Surface (S9) (**MLRA 147, 148**)
- Loamy Mucky Mineral (F1) (**MLRA 136**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Iron-Manganese Masses (F12) (**LRR N, MLRA 136**)
- Umbric Surface (F13) (**MLRA 122, 136**)
- Piedmont Floodplain Soils (F19) (**MLRA 148**)
- Red Parent Material (F21) (**MLRA 127, 147, 148**)

Indicators for Problematic Hydric Soils³:

- 2 cm Muck (A10) (**MLRA 147**)
- Coast Prairie Redox (A16) (**MLRA 147, 148**)
- Piedmont Floodplain Soils (F19) (**MLRA 136, 147**)
- Red Parent Material (F21) (**outside MLRA 127, 147, 148**)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____ Bedrock
 Depth (inches): _____ 2

Hydric Soil Present? Yes _____ No X

Remarks:

This data sheet is revised from Eastern Mountains and Piedmont Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

Hydrologic Determination Field Data Sheet
Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time:
Assessors/Affiliation:		Project ID :
Site Name/Description:		
Site Location:		
HUC (12 digit):		Lat/Long:
Previous Rainfall (7-days) :		
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data :		
Watershed Size :	County:	
Soil Type(s) / Geology :	Source:	
Surrounding Land Use :		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
Severe	Moderate	Slight Absent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination =
Secondary Indicator Score (if applicable) =

Justification / Notes : _____

Hydrologic Determination Field Data Sheet
Tennessee Division of Water Pollution Control, Version 1.5

Named Waterbody:		Date/Time:
Assessors/Affiliation:		Project ID :
Site Name/Description:		
Site Location:		
HUC (12 digit):		Lat/Long:
Previous Rainfall (7-days) :		
Precipitation this Season vs. Normal : abnormally wet elevated average low abnormally dry unknown		
Source of recent & seasonal precip data :		
Watershed Size :	County:	
Soil Type(s) / Geology :	Source:	
Surrounding Land Use :		
Degree of historical alteration to natural channel morphology & hydrology (circle one & describe fully in Notes) :		
Severe	Moderate	Slight
		Absent

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge		WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species		WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions		WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall		WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase		Stream
6. Presence of fish (except <i>Gambusia</i>)		Stream
7. Presence of naturally occurring ground water table connection		Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed		Stream
9. Evidence watercourse has been used as a supply of drinking water		Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-WPC Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination =
Secondary Indicator Score (if applicable) =

Justification / Notes :

Attachment D

Photographic Summary

Photo Summary

Summary of Environmental Features Nashville, Davidson County, Tennessee

Page 1 of 3



Photo: 1
By: F. Amatucci
Date: Feb. 23, 2021
Feature: WTL-1
Lat: 36.209879,
Long: -86.884969

View from above WTL-1. Notice the man-made excavation of the bed rock that has formed the feature.



Photo: 2
By: F. Amatucci
Date: Feb. 23, 2021
Feature: WTL-1
Drainage
Lat: 36.209568,
Long: -86.885127

Drainage swale are below stormwater collection culvert. Note the lack of a jurisdictional feature.

Photo Summary

Summary of Environmental Features Nashville, Davidson County, Tennessee

Page 2 of 3



Photo: 3
By: F. Amatucci
Date: Feb. 23, 2021
Feature: STR-1
Lat: 36.209822,
Long: -86.881386

Facing downstream on STR-1.



Photo: 4
By: F. Amatucci
Date: Feb. 23, 2021
Feature: WWC-1
Lat: 36.210010,
Long: -86.881704

Representative conditions of WWC-1 upslope of STR-1.

Photo Summary

Summary of Environmental Features Nashville, Davidson County, Tennessee

Page 3 of 3



Photo: 5
By: F. Amatucci
Date: Feb. 23, 2021
Feature: Woodlands
Lat: 36.210037,
Long: -86.882860

General site conditions within the woodland area of the property.



Photo: 6
By: F. Amatucci
Date: Feb. 23, 2021
Feature: Cliffside
Lat: 36.209924,
Long: -86.885264

General site conditions within the cliffside area of the property.

APPENDIX 6 – Endangered Species Information

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Davidson County, Tennessee



Local office

Tennessee Ecological Services Field Office

☎ (931) 528-6481

📠 (931) 528-7075

446 Neal Street

Cookeville, TN 38501-4027

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Gray Bat *Myotis grisescens* Endangered
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/6329>

Indiana Bat *Myotis sodalis* Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
<https://ecos.fws.gov/ecp/species/5949>

Northern Long-eared Bat *Myotis septentrionalis* Threatened
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/9045>

Clams

NAME	STATUS
Cumberlandian Combshell <i>Epioblasma brevidens</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/3119	Endangered
Orangefoot Pimpleback (pearlymussel) <i>Plethobasus cooperianus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1132	Endangered
Pink Mucket (pearlymussel) <i>Lampsilis abrupta</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7829	Endangered
Ring Pink (mussel) <i>Obovaria retusa</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4128	Endangered

Flowering Plants

NAME	STATUS
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Braun's Rock-cress *Arabis perstellata* Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/4704>

Guthrie's (=pyne's) Ground-plum *Astragalus bibullatus* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/1739>

Leafy Prairie-clover *Dalea foliosa* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/5498>

Prices Potato-bean *Apios priceana* Threatened

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/7422>

Short's Bladderpod *Physaria globosa* Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/7206>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Bald Eagle *Haliaeetus leucocephalus*

Breeds Sep 1 to Jul 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

Red-headed Woodpecker *Melanerpes erythrocephalus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Sep 10

Rusty Blackbird *Euphagus carolinus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Semipalmated Sandpiper *Calidris pusilla*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Wood Thrush *Hylocichla mustelina*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

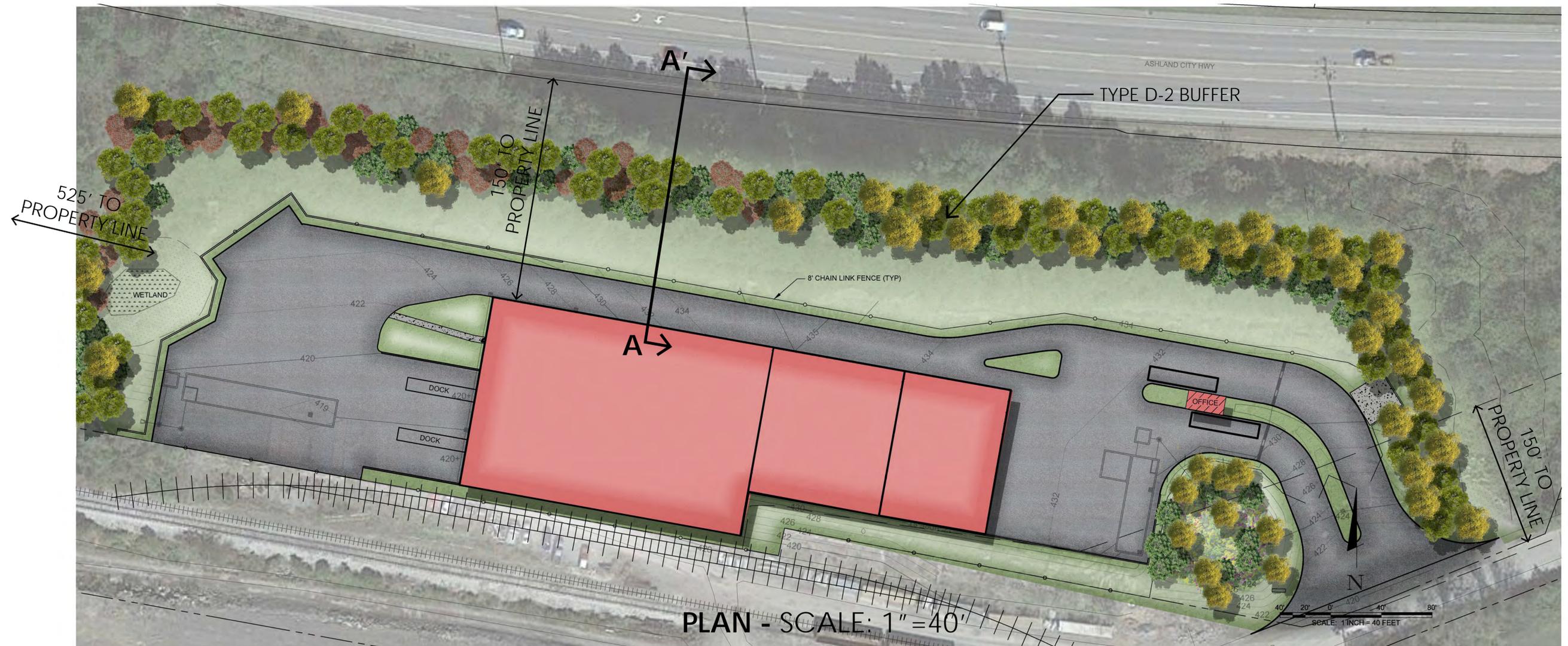
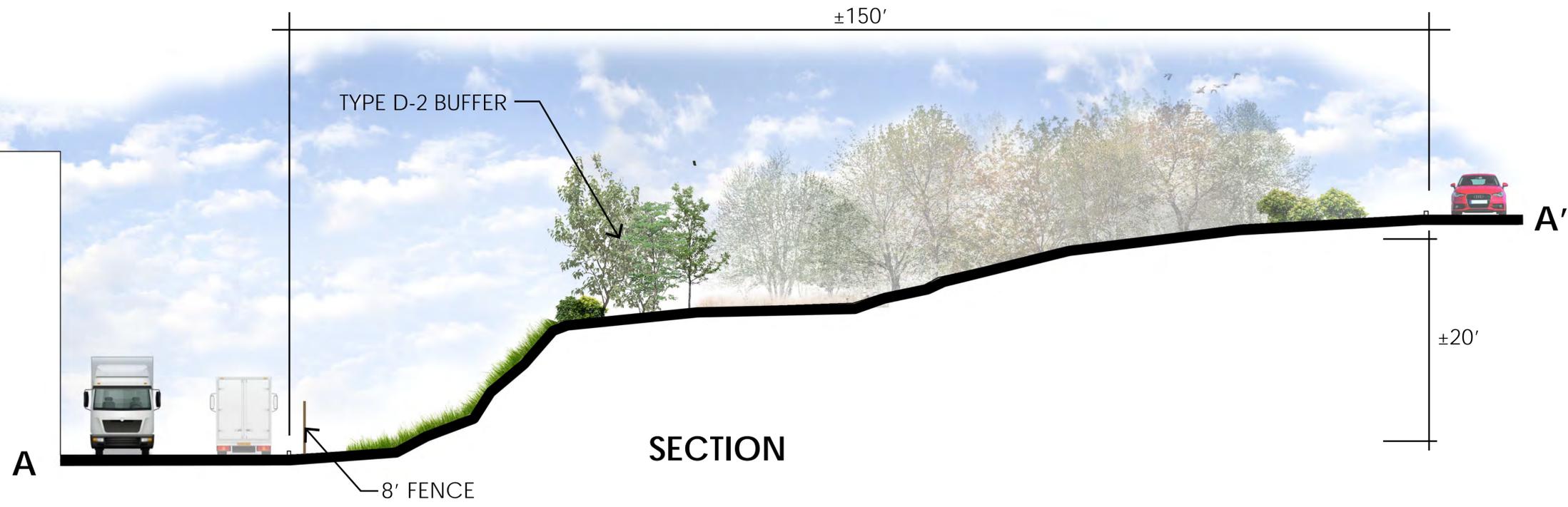
Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX 7 – Facility Layout

7A – Facility Layout Plans



NEW FACILITY FOR THE NWS PROCESSING FACILITY NASHVILLE, TN

OWNER:

BELL & ASSOCIATES CONSTRUCTION, LP
1000 HEALTH PARK DR STE 150
BRENTWOOD, TN 37027

DEVELOPER:

NASHVILLE WASTE SOLUTIONS
PROCESSING FACILITY
STEPHEN BRIDGES, PRESIDENT
(615) 339-8537
1 SAWGRASS LANE
BRENTWOOD, TN 37027

CIVIL ENGINEER:

BARGE DESIGN SOLUTIONS
615 3RD AVENUE SOUTH, SUITE 700
NASHVILLE, TENNESSEE 37210
(615) 252-4329
CONTACT: ADRIAN WARD, PE

METRO STORMWATER:

STEVE MISHU, PE
800 2ND AVENUE SOUTH
NASHVILLE, TN 37210
(615) 862-4857

METRO WATER SERVICES:

CHRISTIAN THOMPSON
800 2ND AVENUE SOUTH
NASHVILLE, TN 37210
(615) 862-7229

NASHVILLE ELECTRIC SERVICE:

TONY VIGLIETTI
1214 CHURCH STREET
NASHVILLE, TN 37203
(615) 747-3272

AT&T:

ADAM HARRIS
333 COMMERCE STREET, 23RD FLOOR
NASHVILLE, TN 37201
(615) 214-7304

COMCAST:

STEVEN BROWN
STEVEN_BROWN@CABLE.COMCAST.COM
(615)405-5564

METRO PUBLIC WORKS:

RORY ROWAN
720 SOUTH FIFTH STREET
NASHVILLE, TN 37206
(615) 862-8782



LOCATION MAP

NOT TO SCALE

Sheet List Table	
Sheet Number	Sheet Title
C0.01	INDEX AND TITLE
C1.01	SITE PLAN
C1.02	TRUCK TURNING MOVEMENTS
C2.01	GRADING AND DRAINAGE PLAN
C2.41	EPSC PLAN - PHASE 1
C2.42	EPSC PLAN - PHASE 2
C2.43	EPSC PLAN - PHASE 3
C3.01	UTILITY PLAN
C7.01	SITE DETAILS
C7.02	SITE DETAILS
C7.03	SITE DETAILS
C7.04	SITE DETAILS
C7.05	SITE DETAILS
C7.21	EROSION CONTROL DETAILS
C7.22	EROSION CONTROL DETAILS
C7.23	EROSION CONTROL DETAILS
L1.01	LANDSCAPE PLAN
L7.01	LANDSCAPE NOTES & SCHEDULE
L7.02	LANDSCAPE DETAILS

**NEW FACILITY
FOR THE
NWS PROCESSING FACILITY
NASHVILLE, TN**



6525 Old Brentwood Blvd, Suite 700, Brentwood, TN 37027
PHONE (615) 241-6000 / FAX (615) 255-6572

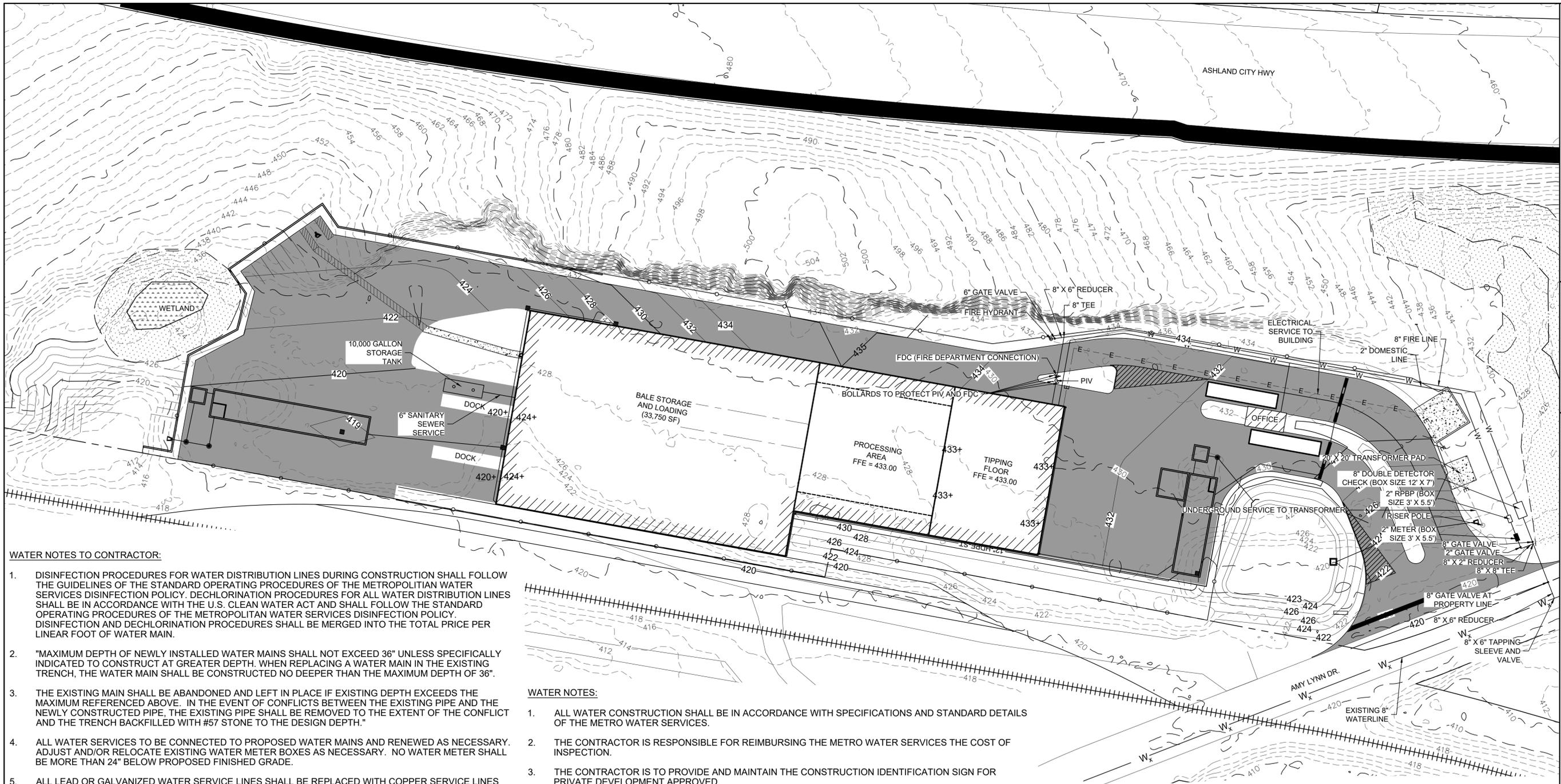
PROFESSIONAL SEAL



C0.01
PROJECT No.
37468-00



UTILITY PLAN
 NASHVILLE WASTE SOLUTIONS
 NWS PROCESSING FACILITY
 4801 ASHLAND CITY HIGHWAY NASHVILLE, TN



WATER NOTES TO CONTRACTOR:

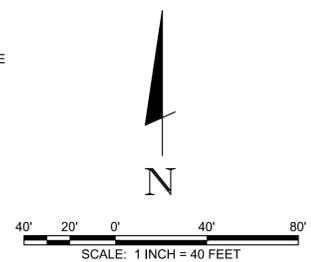
1. DISINFECTION PROCEDURES FOR WATER DISTRIBUTION LINES DURING CONSTRUCTION SHALL FOLLOW THE GUIDELINES OF THE STANDARD OPERATING PROCEDURES OF THE METROPOLITAN WATER SERVICES DISINFECTION POLICY. DECHLORINATION PROCEDURES FOR ALL WATER DISTRIBUTION LINES SHALL BE IN ACCORDANCE WITH THE U.S. CLEAN WATER ACT AND SHALL FOLLOW THE STANDARD OPERATING PROCEDURES OF THE METROPOLITAN WATER SERVICES DISINFECTION POLICY. DISINFECTION AND DECHLORINATION PROCEDURES SHALL BE MERGED INTO THE TOTAL PRICE PER LINEAR FOOT OF WATER MAIN.
2. "MAXIMUM DEPTH OF NEWLY INSTALLED WATER MAINS SHALL NOT EXCEED 36" UNLESS SPECIFICALLY INDICATED TO CONSTRUCT AT GREATER DEPTH. WHEN REPLACING A WATER MAIN IN THE EXISTING TRENCH, THE WATER MAIN SHALL BE CONSTRUCTED NO DEEPER THAN THE MAXIMUM DEPTH OF 36".
3. THE EXISTING MAIN SHALL BE ABANDONED AND LEFT IN PLACE IF EXISTING DEPTH EXCEEDS THE MAXIMUM REFERENCED ABOVE. IN THE EVENT OF CONFLICTS BETWEEN THE EXISTING PIPE AND THE NEWLY CONSTRUCTED PIPE, THE EXISTING PIPE SHALL BE REMOVED TO THE EXTENT OF THE CONFLICT AND THE TRENCH BACKFILLED WITH #57 STONE TO THE DESIGN DEPTH."
4. ALL WATER SERVICES TO BE CONNECTED TO PROPOSED WATER MAINS AND RENEWED AS NECESSARY. ADJUST AND/OR RELOCATE EXISTING WATER METER BOXES AS NECESSARY. NO WATER METER SHALL BE MORE THAN 24" BELOW PROPOSED FINISHED GRADE.
5. ALL LEAD OR GALVANIZED WATER SERVICE LINES SHALL BE REPLACED WITH COPPER SERVICE LINES WITHIN THE LIMITS OF WORK.
6. IF NECESSARY TO RENEW LONG SIDE WATER SERVICES THE CONTRACTOR WILL BE REQUIRED TO JACK OR BORE WATER SERVICE LINES UNDER EXISTING PAVEMENTS. (THIS ITEM TO BE USED ONLY IF JACKING OR BORING IS SET-UP AS A BID ITEM IN THE BIDDING SECTION OF THE CONTRACT.)
7. ALL WATER MAINS 12" AND SMALLER TO HAVE A MINIMUM COVER OF 30" TO FINISHED GRADE. ALL WATER MAINS 16" OR LARGER TO HAVE A MINIMUM COVER OF 36" FINISHED GRADE.
8. CONTRACTOR SHALL USE JOINT DEFLECTION AND ROLLED BENDS WHENEVER POSSIBLE.
9. TO MAINTAIN UNINTERRUPTED WATER SERVICE, TEMPORARY WATER MAINS AND FIRE HYDRANTS MAY BE REQUIRED FOR THIS PROJECT. BACKFLOW PREVENTERS AND CHECK VALVES TO BE INSTALLED AT EACH FIRE HYDRANT CONNECTION. CONTRACTOR IS RESPONSIBLE FOR ANY COST OF SUCH WORK. COST WILL BE MERGED INTO TOTAL BID AND NO ADDITIONAL PAYMENT WILL BE MADE.
10. EXISTING WATER MAINS TO BE ABANDONED SHALL REMAIN IN SERVICE UNTIL THE PROPOSED WATER MAIN IS COMPLETED AND ALL SERVICE LINES RENEWED IF NECESSARY FROM THE PROPOSED WATER MAIN TO THE METER BOX.
11. POST INDICATOR VALVE TO INCLUDE AN ELECTRONIC TAMPER SWITCH WHICH IS TO BE INSTALLED AS PART OF THE UNIT AND WILL BE WIRED COMPLETE BY THE FIRE ALARM CONTRACTOR.

WATER NOTES:

1. ALL WATER CONSTRUCTION SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND STANDARD DETAILS OF THE METRO WATER SERVICES.
2. THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE METRO WATER SERVICES THE COST OF INSPECTION.
3. THE CONTRACTOR IS TO PROVIDE AND MAINTAIN THE CONSTRUCTION IDENTIFICATION SIGN FOR PRIVATE DEVELOPMENT APPROVED.
4. REDUCED PRESSURE BACKFLOW PREVENTION DEVICES (RPBP) OR DUAL CHECK VALVE WILL BE REQUIRED ON ALL TEST AND FILL LINES (JUMPER) NEEDED FOR WATER MAIN CONSTRUCTION AND MUST BE APPROVED BY THE METRO WATER SERVICES.
5. ALL WATER METERS SHALL BE A MINIMUM OF 24" NOT TO EXCEED A MAXIMUM OF 28" BELOW FINISHED GRADE. (VARIANCE BEING REQUESTED TO LOCATE INSIDE).
6. UPON COMPLETION OF CONSTRUCTION OF WATER AND/OR SEWER, THE ENGINEER SHALL PROVIDE THE DEPARTMENT WITH A COMPLETE SET OF AS-BUILT PLANS ON MOIST ERASABLE MYLARS IN REVERSE AND IN DIGITAL (*.DWG) FORMAT. SEWER PLANS SHALL BE SEALED BY A LICENSED PROFESSIONAL ENGINEER OR A REGISTERED LAND SURVEYOR AND SHALL INCLUDE ACTUAL FIELD ANGLES BETWEEN LINES, ALL ACTUAL SERVICE LINES AND TEE LOCATIONS, THE DISTANCE OF THE END OF THE SERVICE LINE TO PROPERTY CORNERS AND LINES AND/OR STATION AND OFFSET FROM SEWER CENTERLINE TO END OF SERVICE LINE, THE DEPTH TO THE TOP OF THE END OF THE SERVICE LINE, AND SHALL REFLECT ALL ALIGNMENT AND GRADE CHANGES. WATER LINE PLANS SHALL BE SEALED BY A LICENSED PROFESSIONAL ENGINEER OR A REGISTERED LAND SURVEYOR AND SHALL INCLUDE OFFSET DISTANCE FROM THE ROADWAY CENTERLINE, OR PROPERTY LINE RIGHT OF WAY, LINE DEPTH, LOCATIONS OF HYDRANTS, VALVES, REDUCERS, TEES AND PRESSURE REDUCING DEVICES WHERE APPLICABLE. ALL DRAWINGS MUST BE COMPLETED AND SUBMITTED PRIOR TO ACCEPTANCE OF THE SEWERS OR WATER MAINS INTO THE PUBLIC SYSTEM AND ANY CONNECTIONS BEING MADE.
7. PRESSURE REGULATING DEVICES WILL BE REQUIRED ON THE CUSTOMER SIDE OF THE METER WHEN PRESSURES EXCEED 100 PSI.
8. PRESSURE REGULATING DEVICES WILL BE REQUIRED ON THE STREET SIDE OF THE METER WHEN PRESSURES EXCEED 150 PSI.
9. ALL WATER MAINS MUST BE LOCATED WITHIN THE PAVED AREA INCLUDING ALL BLOW-OFF ASSEMBLIES.

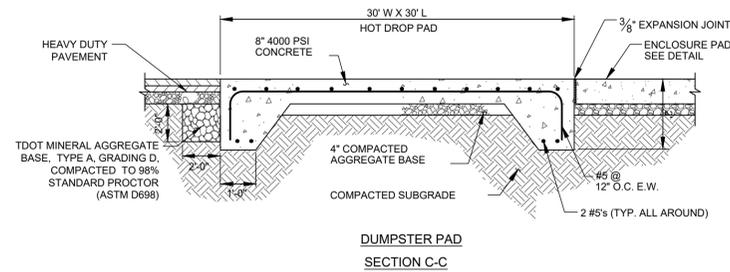
UTILITY LEGEND

- W — PROPOSED WATER LINE
- - - E - - - PROPOSED ELECTRIC LINE
- RISER POLE
- ⊗ WATER VALVE
- ⊙ FIRE HYDRANT
- ⊕ PIV
- ⊙ FDC
- BOLLARD

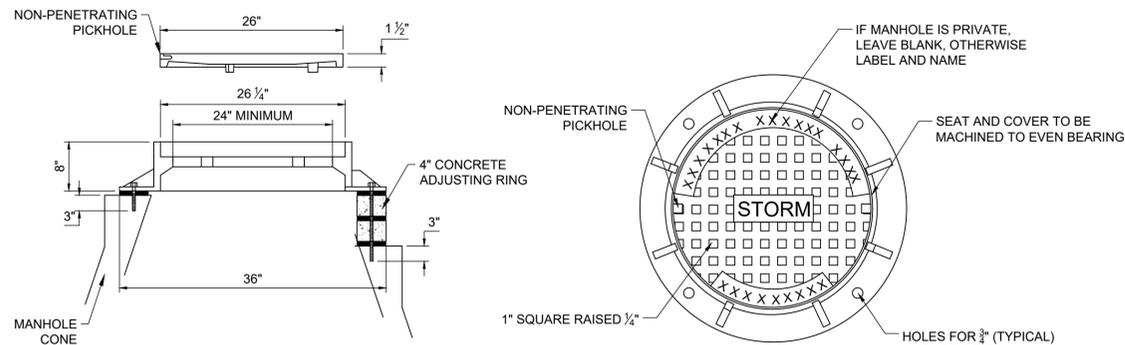




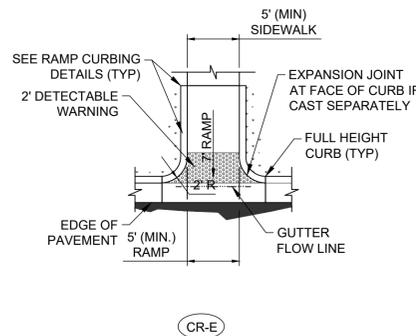
REVISION INFORMATION



1 HOT DROP AREA
 C7.04 SCALE: NTS



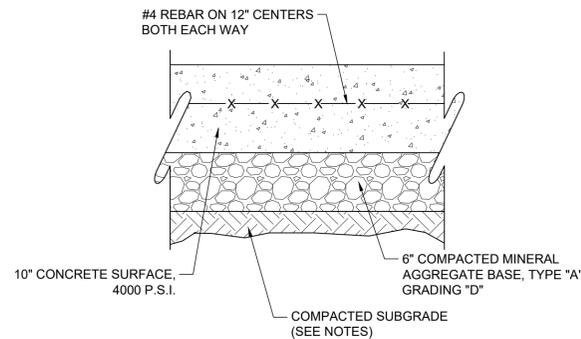
2 PRECAST ROUND AREA DRAIN
 C7.04 SCALE: NTS



NOTES:

1. RAMP AND TRANSITION CURB PER TDOT STANDARD SPECIFICATIONS, CURRENT EDITION.
2. SIDEWALK SHALL BE MIN. 5' WIDE IN OPEN AREAS, MIN. 6' WHEN ADJACENT TO CURB.
3. THE FOLLOWING ARE ABSOLUTE MAXIMUM SLOPES FOR ANY PORTION OF THE SIDEWALK AND RAMPS. IF THE CONTRACTOR EXCEEDS THESE VALUES, THE SIDEWALK AND RAMP IS SUBJECT TO REMOVAL AND REPLACEMENT AT CONTRACTOR'S EXPENSE.
 - 3.1. CROSS SLOPE: 2% MAX
 - 3.2. LANDING: 2% (ALL DIRECTIONS)
 - 3.3. RAMP: 1V:12H
4. ALONG A SINGLE LINEAR PLAN SUCH THAT THERE ARE NO WARPS OR VARYING SLOPE.
5. CONTRACTOR TO FORM GRADE BREAKS AT TOP AND BOTTOM OF RAMPS AND MUST BE PARALLEL TO EACH OTHER AND PERPENDICULAR TO THE DIRECTION OF THE RAMP SLOPE.
6. FOR EXISTING CURB & GUTTER AND/OR SIDEWALK, REMOVE EXISTING TO THE NEAREST JOINTS BEYOND THE PROPOSED CURB TRANSITION AND REPLACE PER TYPICAL SECTIONS.
7. DETECTABLE WARNINGS ARE TO BE REPLACEABLE YELLOW TILE SURFACE APPLIED. ACCEPTABLE MANUFACTURERS INCLUDE ACCESS PRODUCTS INC., ADA SOLUTIONS, AND TUFTILE.
8. PLACE DETECTABLE WARNINGS ACROSS THE FULL WIDTH OF THE RAMP OR LANDING, TO A DEPTH OF 2' MEASURED PERPENDICULAR TO THE CURB LINE AND NO GREATER THAN 5' FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
9. ALIGN THE DETECTABLE WARNING TRUNCATED DOMES WITH THE CENTERLINE OF THE RAMP AND THE INTENDED DIRECTION OF PEDESTRIAN TRAVEL.
10. COARSE BROOM FINISH TRANSVERSE TO SLOPE OF RAMP.
11. SEE RAMP CURBING DETAILS FOR CURBS ADJACENT TO SIDEWALK.
12. SEE FLUSH RAMP-GUTTER TRANSITION DETAIL FOR GUTTER AND ROADWAY CROSS SLOPE ADJUSTMENTS (TYP)
13. STANDARD CONSTRUCTION REQUIREMENTS ARE AS FOLLOWS UNLESS OTHERWISE NOTED:
 - 13.1. RAMP LENGTH: 7'
 - 13.2. RAMP RISE: 6"
 - 13.3. LANDING DEPTH: 4'

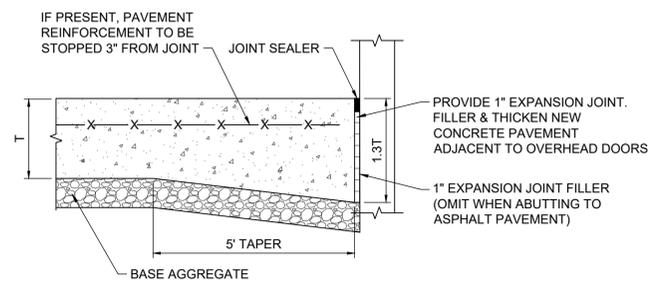
3 SIDEWALK RAMPS
 C7.04 SCALE: NTS



NOTES:

1. FOR PREPARATION OF PAVEMENT SUBGRADE, FILL PLACED WITHIN 8 INCHES OF FINISHED SUBGRADE ELEVATION IN AREAS TO BE PAVED SHOULD BE COMPACTED TO AT LEAST 98% OF MATERIAL'S MAXIMUM STANDARD PROCTOR DRY DENSITY (ASTM D698). FILL PLACED BELOW THIS LEVEL SHOULD BE COMPACTED TO AT LEAST 95% OF MATERIAL'S MAXIMUM DRY DENSITY.
2. AFTER PROOFROLLING WITH A LOADED TANDEM AXLE DUMP TRUCK AND REPAIRING DEEP SUBGRADE DEFICIENCIES, ENTIRE SUBGRADE SHOULD BE SCARIFIED TO DEPTH OF 8 INCHES AND UNIFORMLY COMPACTED TO AT LEAST 98% OF STANDARD PROCTOR.
3. GRAVEL BASE COURSE MIXTURES SHOULD CONFORM TO REQUIREMENTS OF SECTION 303 OF TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
4. PORTLAND CEMENT CONCRETE PAVEMENT MIXTURE SHALL BE IN ACCORDANCE WITH SECTION 501 OF TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
5. CONTRACTOR MAY NEED TO INCREASE CONCRETE AND BASE DEPTHS TO MATCH EXISTING CONDITIONS. CONTRACTOR TO FIELD VERIFY EXISTING PAVEMENT SECTION PRIOR TO CONSTRUCTION AND REPORT TO ENGINEER.

4 CONCRETE PAVEMENT
 C7.04 SCALE: NTS

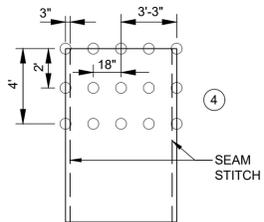


5 EDGE JOINT
 C7.04 SCALE: NTS



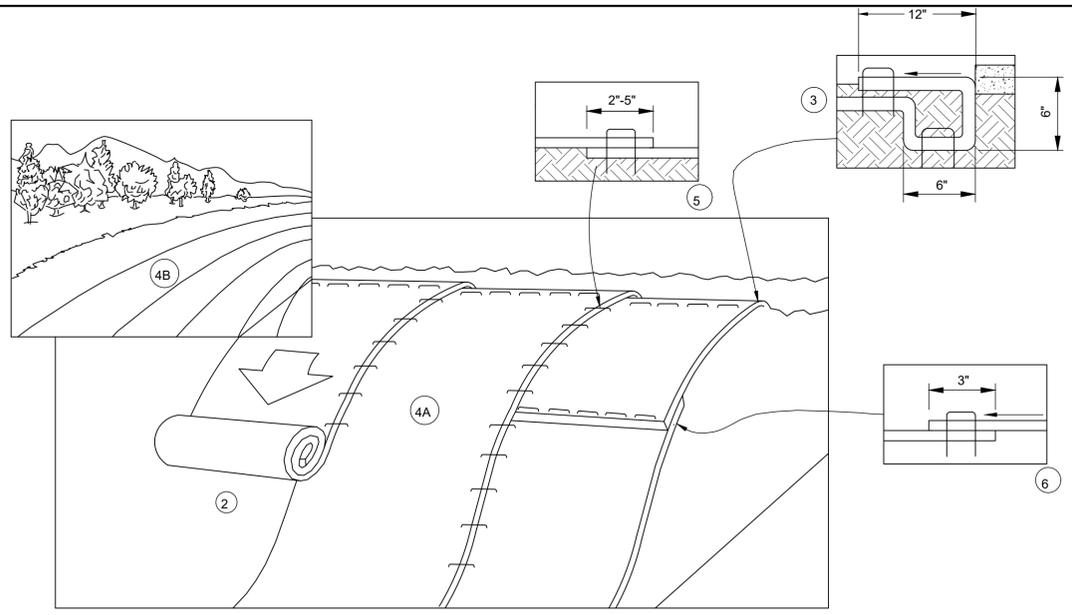
EROSION CONTROL DETAILS
 NASHVILLE WASTE SOLUTIONS
 NWS PROCESSING FACILITY
 4601 ASHLAND CITY HIGHWAY NASHVILLE, TN

REVISION INFORMATION



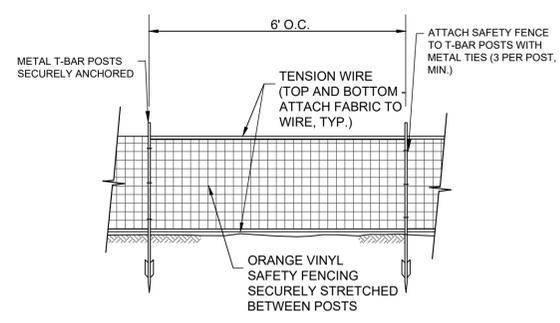
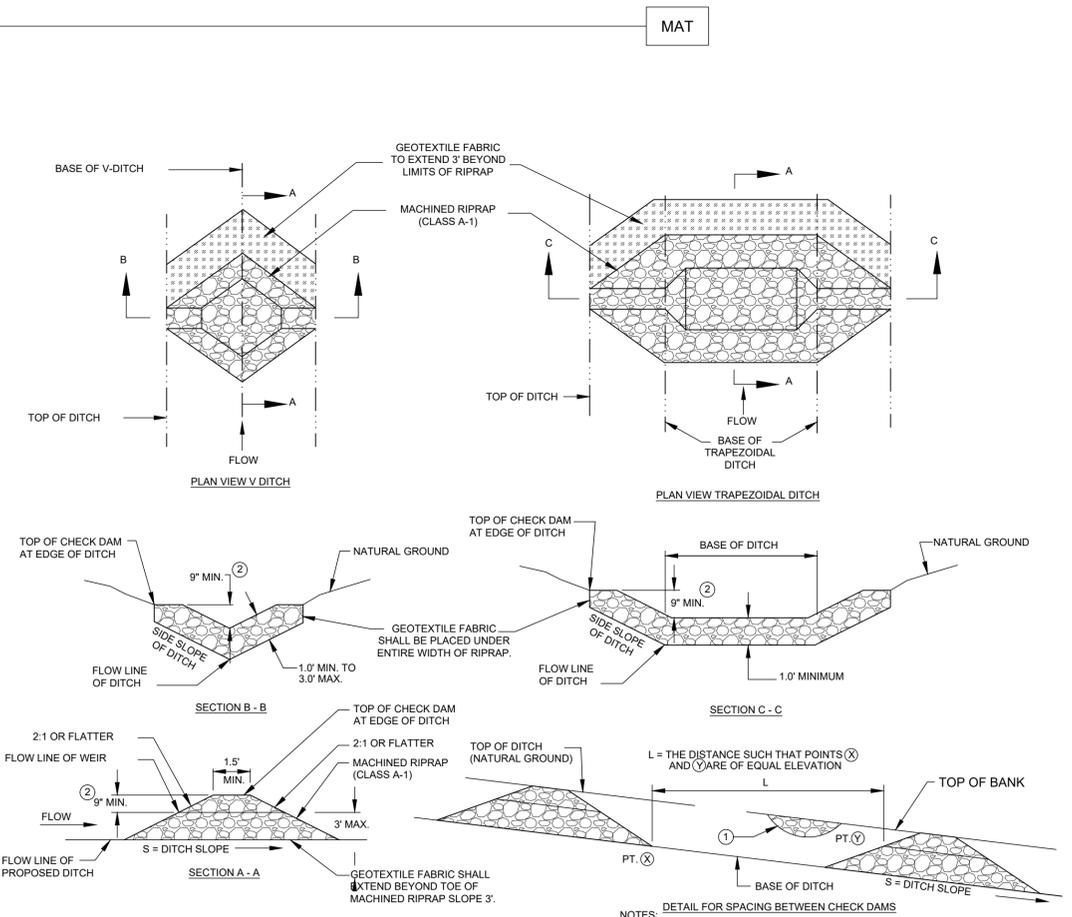
- 3.4 STAPLES PER SQ. YD.
- STAPLES SHALL BE 6" 11 GA. WIRE, "U" SHAPED STAPLES. LARGER STAPLES MAY BE REQUIRED FOR LOOSE SOIL. HEAVIER GAUGE STAPLES MAY BE REQUIRED FOR ROCKY OR HEAVILY COMPACTED SOIL.
- FOR BLANKETS WITH THE OPTIONAL NORTH AMERICAN GREEN DOT SYSTEM, PLACE STAPLES/STAKES THROUGH EACH OF THE WHITE COLORED DOTS.

STAPLE PATTERN GUIDE



- BLANKET SHALL BE PROPEX ARMORMAX 75 SS WITH TYPE B2 ANCHORS OR APPROVED SUBSTITUTION.
- INSTALLED TO MANUFACTURER RECOMMENDATIONS.
- PREPARE SOIL BEFORE INSTALLING BLANKETS. SEE SEEDING AND SODDING NOTES. CONTRACTOR SHALL WATER SEED TO ENSURE GERMINATION AND ATTAIN A STAND OF GRASS ACCEPTABLE TO THE OWNER AND ENGINEER.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES OR STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES OR STAKES SHOULD BE PLACED THROUGH THE WHITE DOTS.
- THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" TO 5" OVERLAP.
- CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

1 SLOPE MATTING
 C7.23 SCALE: NTS



3 ORANGE BARRIER
 C7.23 SCALE: NTS

- NOTES:
- FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXITING DITCH
 - WEIR FLOW DEPTH BASED UPON 2yr/24hr STORM EVENT OR 5yr/24hr STORM EVENT.

2 CHECK DAM
 C7.23 SCALE: NTS

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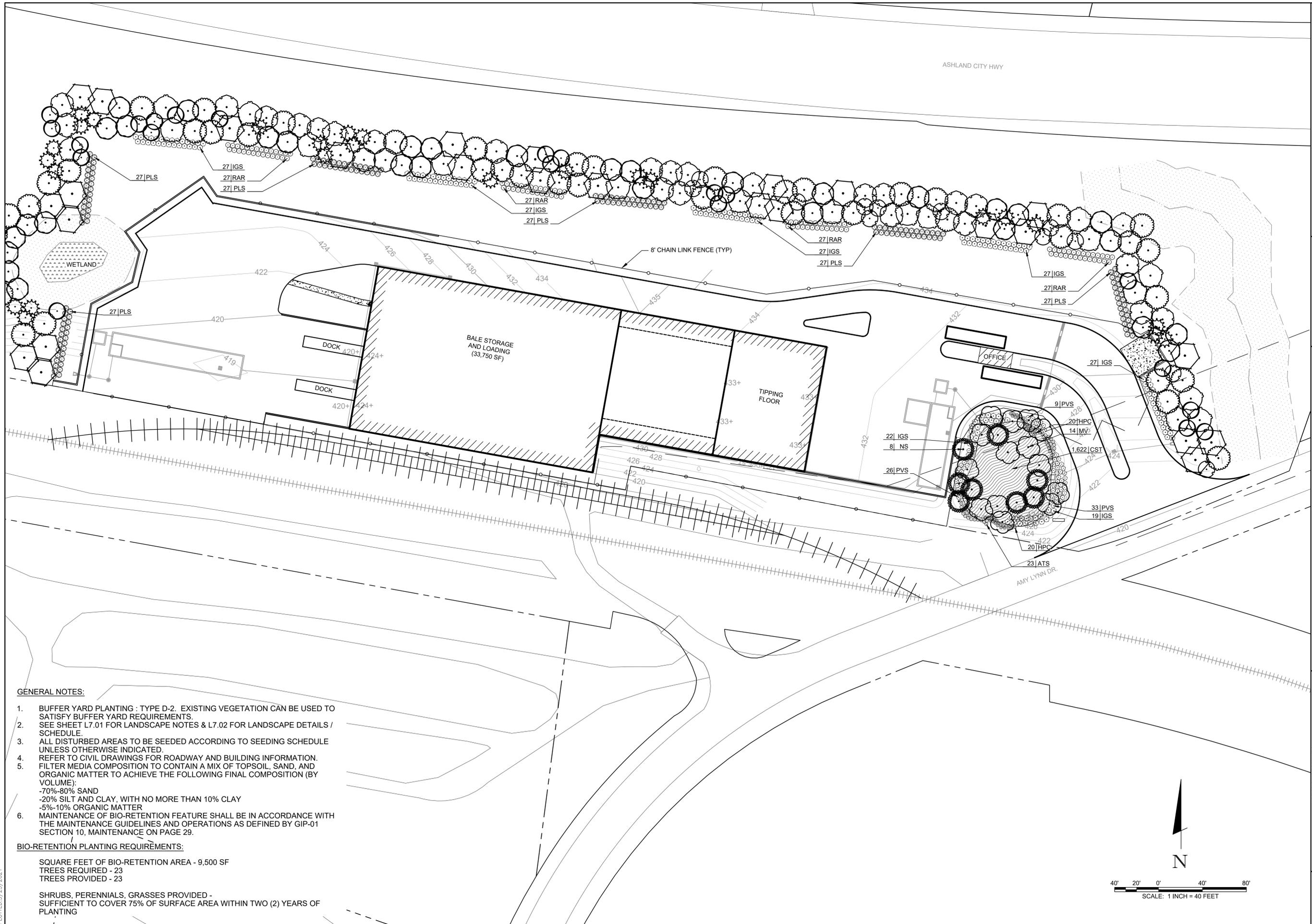
PRELIMINARY
 NOT FOR
 CONSTRUCTION

DATE

LANDSCAPE PLAN
 NASHVILLE WASTE SOLUTIONS
 NWS PROCESSING FACILITY
 4601 ASHLAND CITY HIGHWAY NASHVILLE, TN

REVISION INFORMATION

L1.01
 PROJ. NO. 3746800



GENERAL NOTES:

1. BUFFER YARD PLANTING : TYPE D-2. EXISTING VEGETATION CAN BE USED TO SATISFY BUFFER YARD REQUIREMENTS.
2. SEE SHEET L7.01 FOR LANDSCAPE NOTES & L7.02 FOR LANDSCAPE DETAILS / SCHEDULE.
3. ALL DISTURBED AREAS TO BE SEEDED ACCORDING TO SEEDING SCHEDULE UNLESS OTHERWISE INDICATED.
4. REFER TO CIVIL DRAWINGS FOR ROADWAY AND BUILDING INFORMATION.
5. FILTER MEDIA COMPOSITION TO CONTAIN A MIX OF TOPSOIL, SAND, AND ORGANIC MATTER TO ACHIEVE THE FOLLOWING FINAL COMPOSITION (BY VOLUME):
 -70%-80% SAND
 -20% SILT AND CLAY, WITH NO MORE THAN 10% CLAY
 -5%-10% ORGANIC MATTER
6. MAINTENANCE OF BIO-RETENTION FEATURE SHALL BE IN ACCORDANCE WITH THE MAINTENANCE GUIDELINES AND OPERATIONS AS DEFINED BY GIP-01 SECTION 10, MAINTENANCE ON PAGE 29.

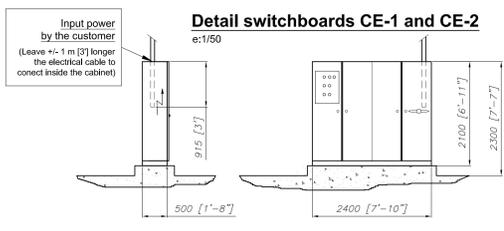
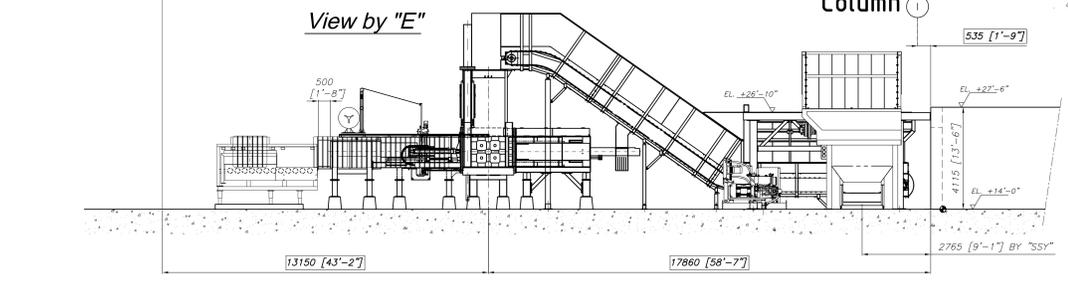
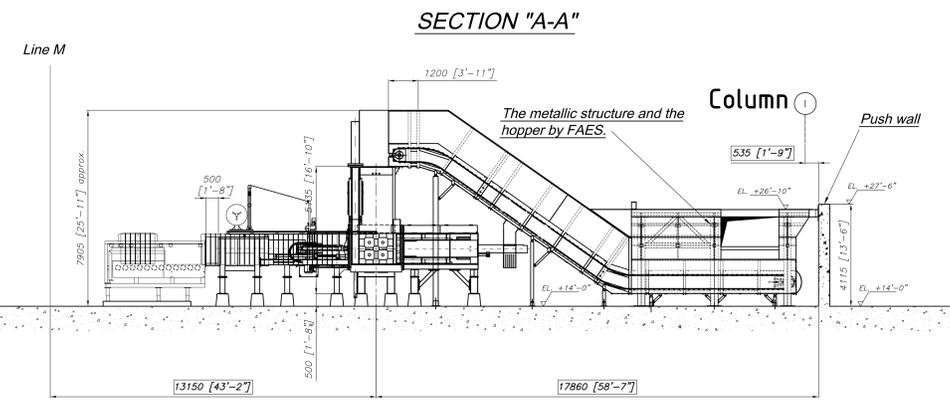
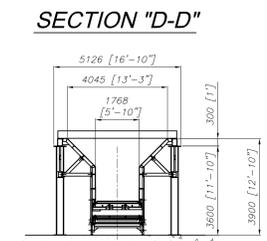
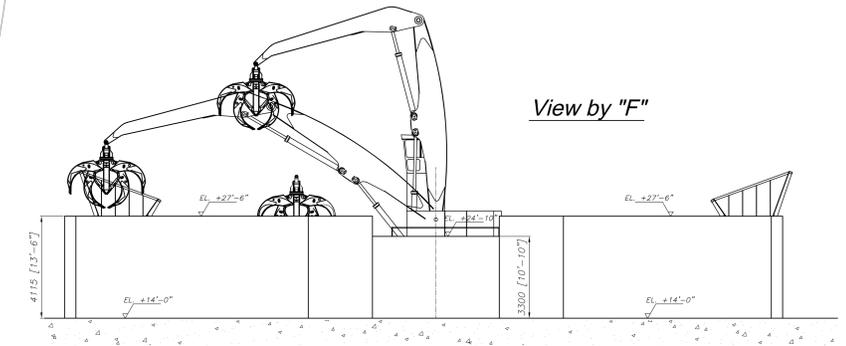
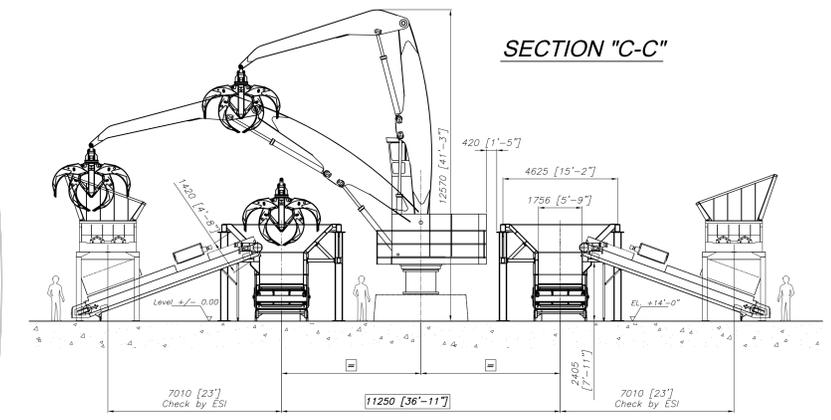
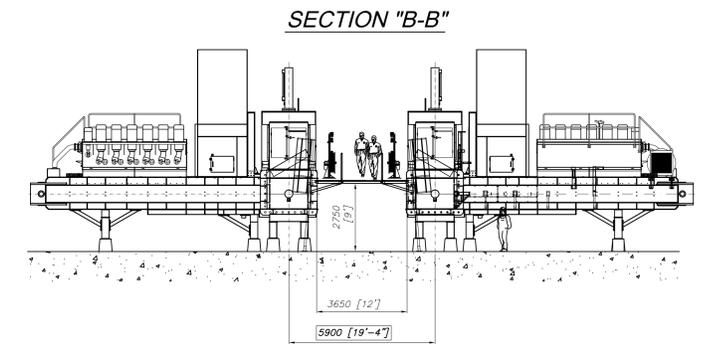
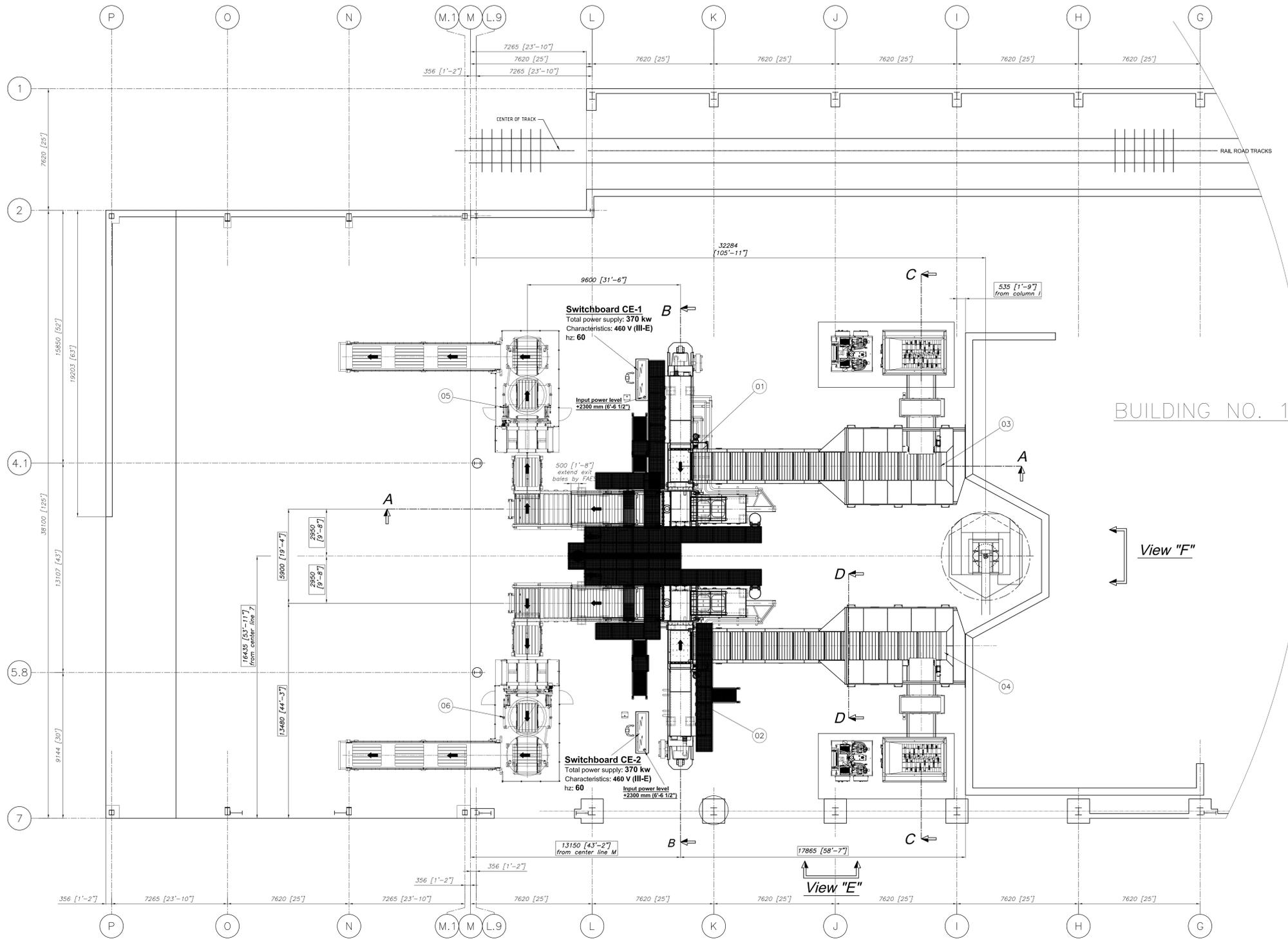
BIO-RETENTION PLANTING REQUIREMENTS:

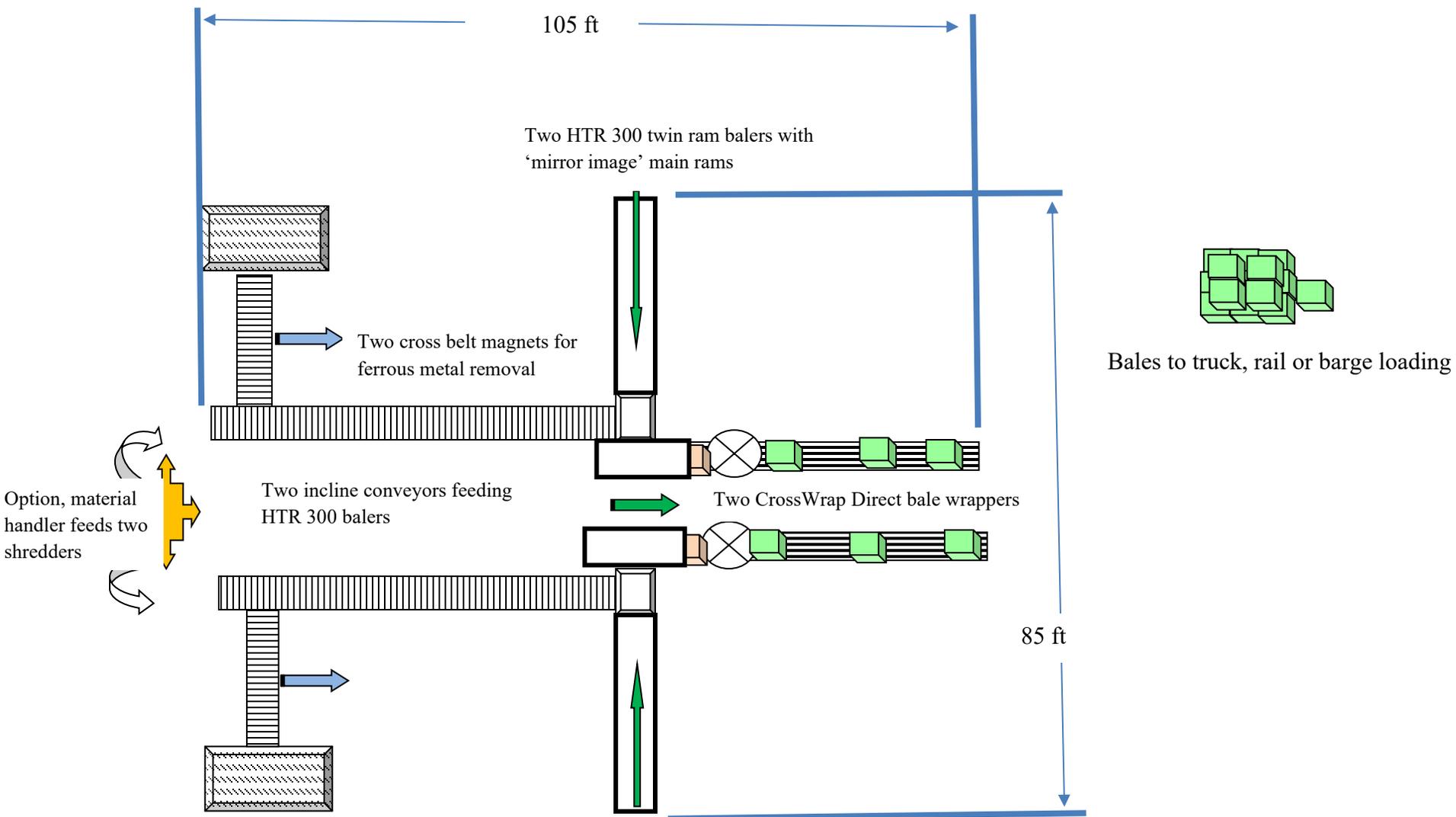
SQUARE FEET OF BIO-RETENTION AREA - 9,500 SF
 TREES REQUIRED - 23
 TREES PROVIDED - 23

SHRUBS, PERENNIALS, GRASSES PROVIDED -
 SUFFICIENT TO COVER 75% OF SURFACE AREA WITHIN TWO (2) YEARS OF PLANTING

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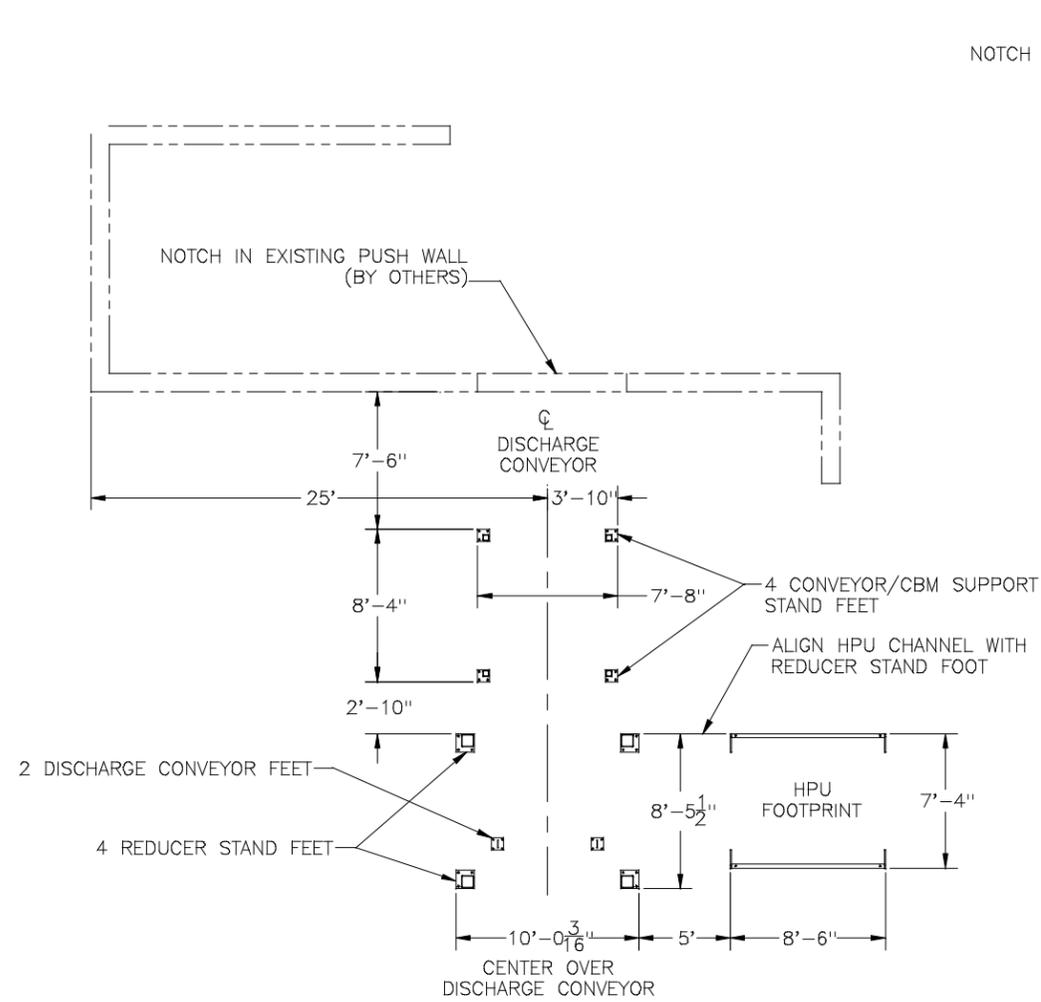
7B – Manufacturer Brochures



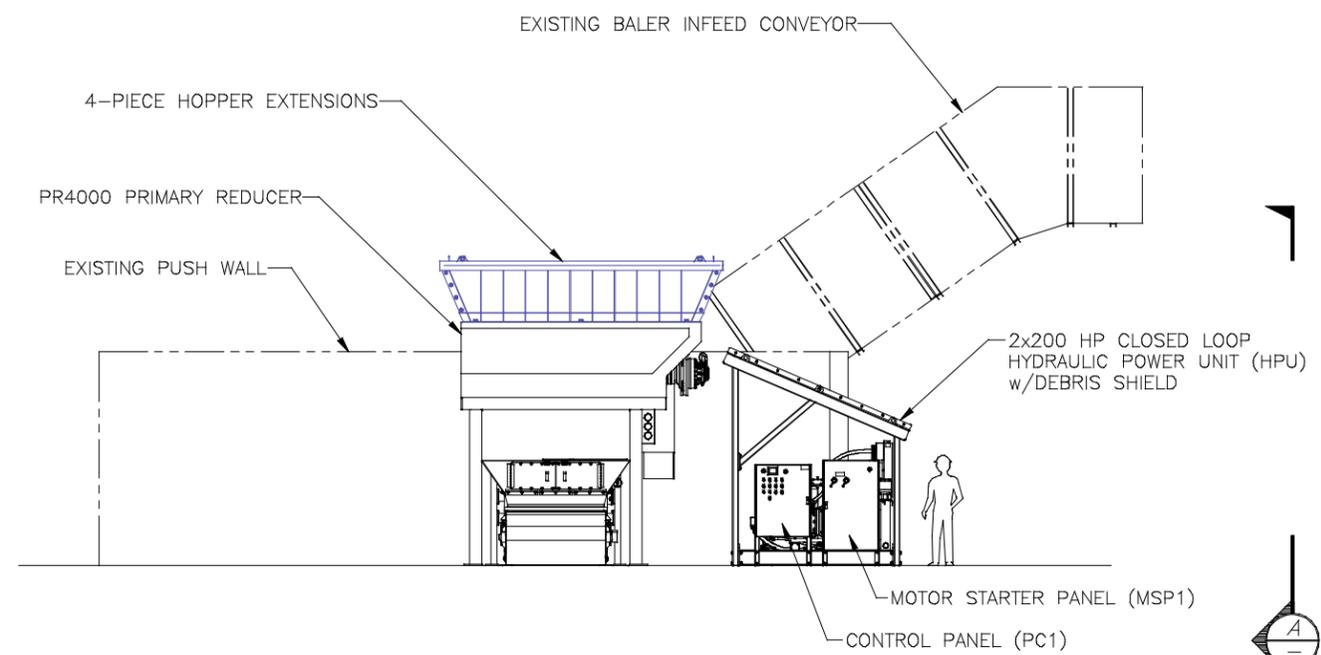
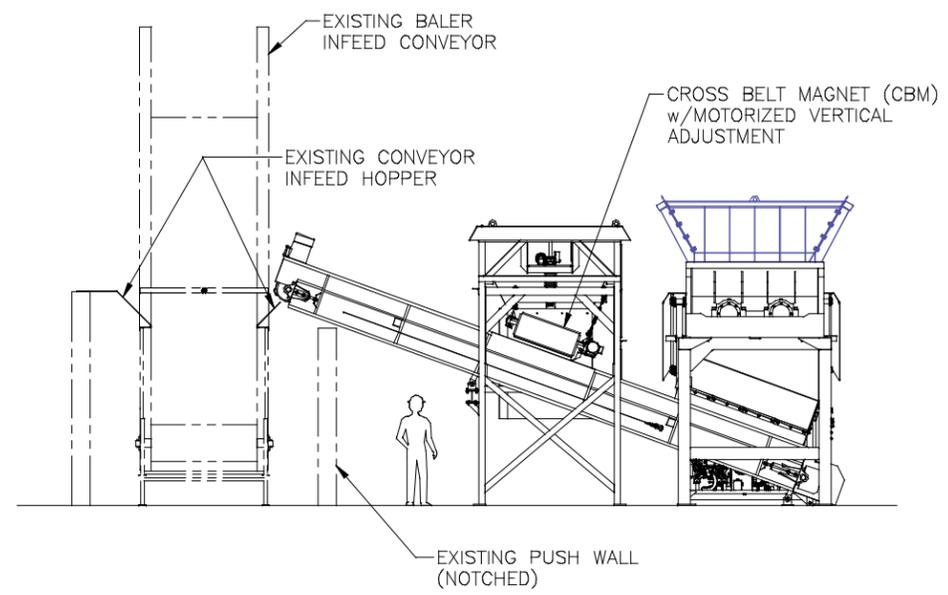
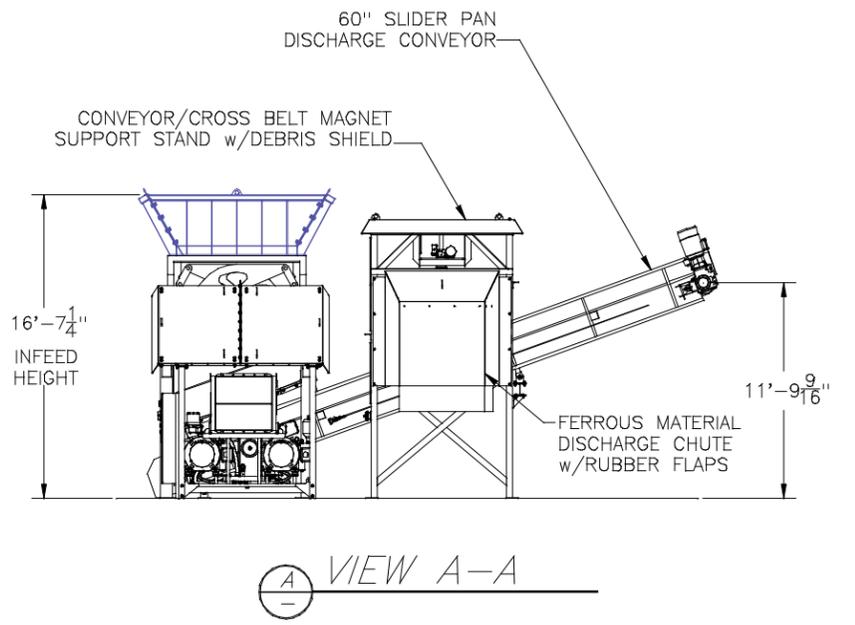
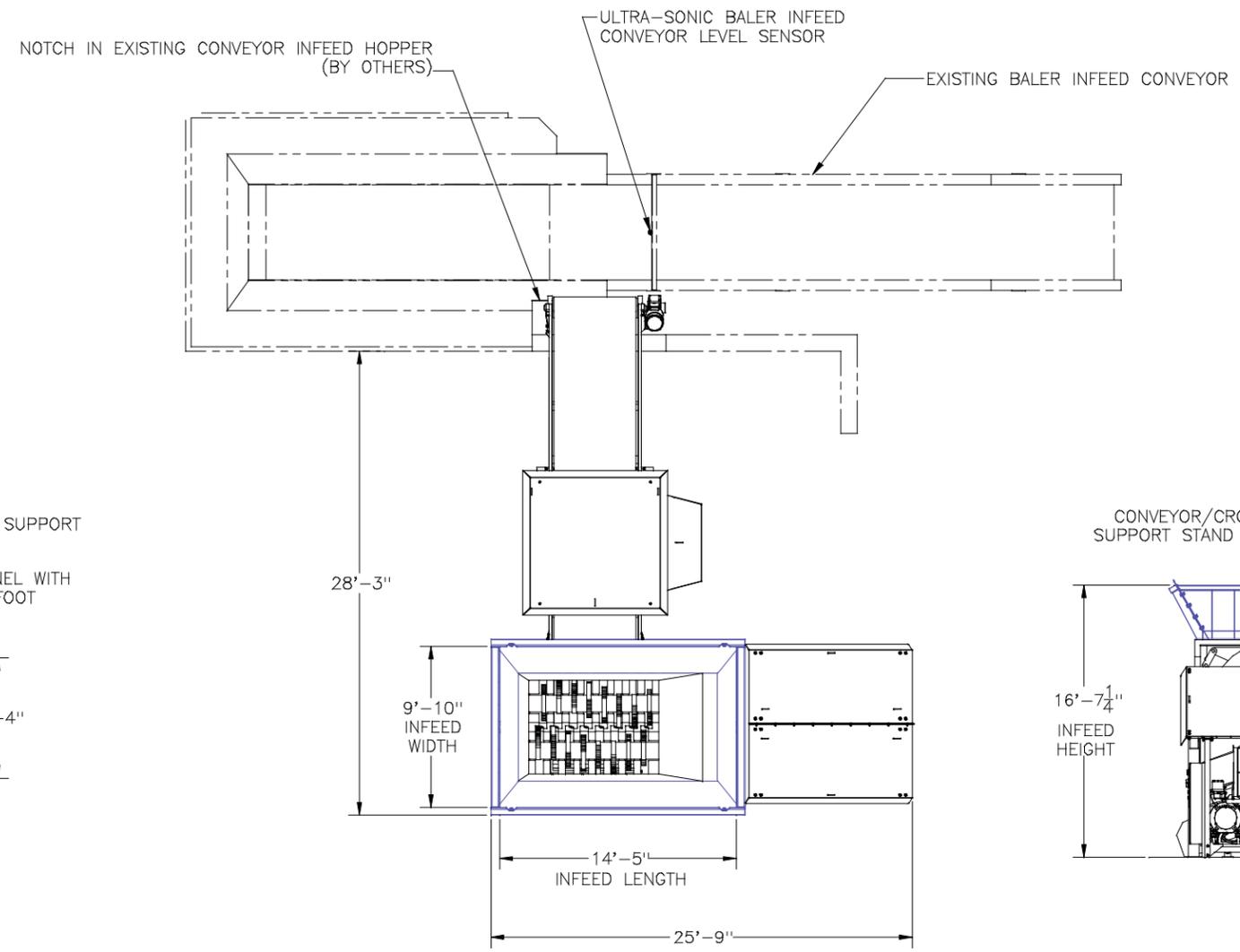


SKETCH NOT TO SCALE

**EXHIBIT B
EQUIPMENT LAYOUT -
TWIN SHRED BALE WRAP LINES**



SETTING PLAN



**EXHIBIT C
EQUIPMENT LAYOUT -
PR 4000 SSI SHREDDING SYSTEM**

PAALGROUP HTR BALERS WITH CLOSED CHAMBER



PAALGROUP



MINERVA S&P - D.L. 8-4823-04



www.paalgroup.com

CLOSED CHAMBER
HTR

**HIGH COMPRESSION TWO-RAM BALER RUGGED,
LOW COST PLASTIC TYING**



As compaction is made in a closed chamber the bales produced have perfect uniformity in the dimensions: all bales are equal. This permits improve stacking and increases the tonnes per m² that can be stored, thus increasing the life of the landfill.



When bales are wrapped in plastic film, the patented PAAL Group plastic tying system will not break the film as is often the case with wire tie bales.

PAAL Group is the world's largest manufacturer of industrial baling equipment • PAAL Group Balers mean quality and reliability in every detail

PAAL®

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49124 Georgsmarienhütte
Germany

Fon: +49 (0) 541 488-0
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Fax: +33 (0) 3 80 33 42 43
com@comdec-paal.com

The PAALGROUP **High Baling** technique constitutes the most advanced system to compact Municipal Solid Waste (MSW) and Refuse Derived Fuel (RDF) in high density bales. The bales can be disposed of in landfills or incinerated.

The **TWO-RAM** baler allows you to reduce the conventional operational cost: lower transportation cost and lower consumables costs. Only PAAL Group balers use the patented plastid tie system. Binding with plastic is significantly lower cost than with wire used by all other twin ram balers.

Pre-shredding of waste is not essential with the PAALGROUP system. Although pre-shredding will increase bale density with any system, the high baling system will produce dense, uniform bales without shredding.



PAAL Group HTR balers have the highest specific pressure of any industrial two-ram baler

The **increased specific pressure** of the piston and the reinforced closed compaction chamber combine to produce high density bales. The baling chamber is built with replaceable Hardox 500 liner plates. These extremely hard steel plates prevent any erosion of the baling chamber.

In the case of incineration, the polyester straps, unlike steel, do not damage the incineration equipment as it is burned during the process.

When the application is pressing MSW the machine includes a stamper that automatically clears difficult material that obstructs the travel of the main press plate shear before cutting.

PAALGROUP equipment is designed to be tough and reliable. The highest quality components are used throughout the system, providing unmatched excellence and reliability.



Automatic binding with polyester straps in telescopic tunnel

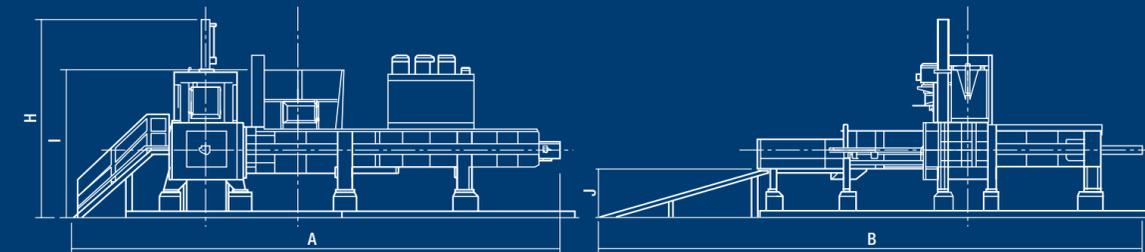
PAALGROUP patented telescopic tunnel -which incorporate the tying system- also allows an increase in the production capacity by binding the bales without having to stop the pressing cycles.



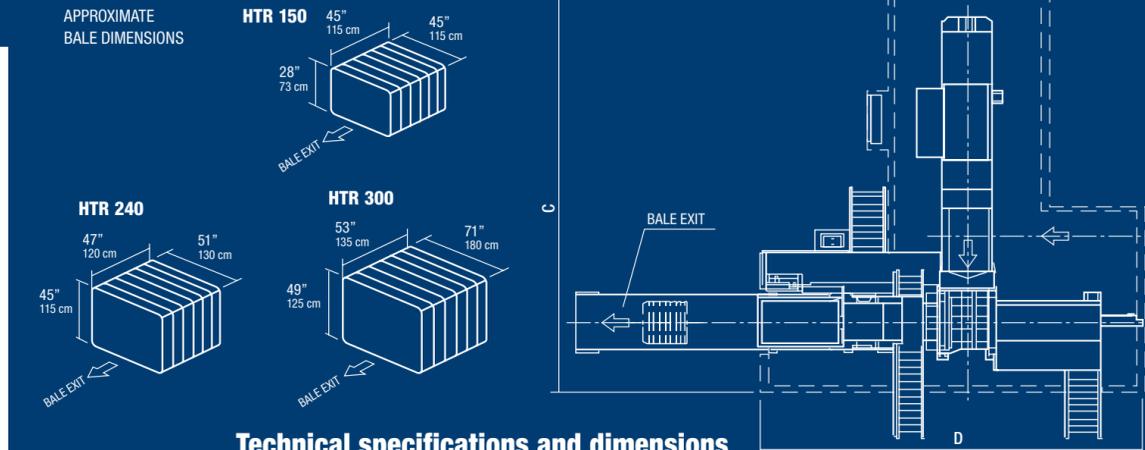
Liquid produced during compaction of MSW is collected in outlet-points (with tubes) at the bottom of the chamber. The liquid can be easily recycled or managed to a waste-water treatment plant.



PAALGROUP



APPROXIMATE
BALE DIMENSIONS



Dimensions	HTR	A	B	C	D	E	F	G	H	I	J										
feet																					
meters																					
	300	44.9	13.7	53.3	16.3	44.9	13.7	37.4	11.4	8.4	2.6	7.6	2.3	9.2	2.8	21.2	6.5	15.9	4.9	4.9	1.5
	240	44.1	13.5	51.8	15.8	42.3	12.9	34.8	10.6	7.2	2.2	8.7	2.7	26.3	8.0	20.5	6.3	15.4	4.7	4.9	1.5
	150	30.8	9.4	49.5	15.1	34.4	10.5	31.5	9.6	5.9	1.8	5.9	1.8	22.6	6.9	14.1	4.3	11.2	3.4	3.9	1.2

Balers binding with polyester straps	HTR 300 Big Duke		HTR 240		HTR 150	
Pressing force	3000 kN		2400 kN		1400 kN	
Specific pressure	280 PSI	193 N/cm ²	290 PSI	200 N/cm ²	263 PSI	181 N/cm ²
Operating pressure	4130 PSI	280 bar	4280 PSI	295 bar	4200 PSI	290 bar
Bale weight (if MSW input density > 500 lb/cu.yd)	6702 lbs	3.040 Kg	3747 lbs	1.700 Kg	2116 lbs	960 Kg
Feeding hopper opening	79" x 53"	200 x 135 cm	79 x 43"	200 x 110 cm	63" x 44"	160 x 112 cm
Driving power	400 HP	300 kW	330 HP	242 kW	255 HP	188 kW
Press output at 170 lb/cu.yd or 6 lb/cu.ft (100 kg/m ³)	458 cu.yd/h	350 m ³ /h	300 cu.yd/h	230 m ³ /h	239 cu.yd/h	183 m ³ /h
Press output at 420 lb/cu.yd or 16 lb/cu.ft (250 kg/m ³)	380 cu.yd/h	290 m ³ /h	249 cu.yd/h	190 m ³ /h	205 cu.yd/h	157 m ³ /h
Press output at 500 lb/cu.yd or 19 lb/cu.ft (300 kg/m ³)	366 cu.yd/h	280 m ³ /h	235 cu.yd/h	180 m ³ /h	196 cu.yd/h	150 m ³ /h
Press capacity at 170 lb/cu.yd or 6 lb/cu.ft (100 kg/m ³)*	38 short t/h	35 MT/h	25 short t/h	23 MT/h	20 short t/h	18 MT/h
Press capacity at 420 lb/cu.yd or 16 lb/cu.ft (250 kg/m ³)*	80 short t/h	73 MT/h	52 short t/h	47 MT/h	43 short t/h	39 MT/h
Press capacity at 500 lb/cu.yd or 19 lb/cu.ft (300 kg/m ³)*	92 short t/h	84 MT/h	60 short t/h	54 MT/h	49 short t/h	44 MT/h
Maximum theoretical press capacity at 500 lb/cu.yd or 19 lb/cu.ft (300 kg/m ³)*	108 short t/h	98 MT/h	70 short t/h	64 MT/h	58 short t/h	53 MT/h
Baler weight	94 short tons	85 MT	72 short tons	65 MT	35 short tons	32 MT
Exchangeable plates in the pressing chamber	Hardox-500 or similar		Hardox-500 or similar		Hardox-500 or similar	
Binding system	Polyester straps		Polyester straps		Polyester straps	
Number of bindings	adjustable		adjustable		adjustable	
Ejection tunnel	Telescopic system		Telescopic system		Telescopic system	

* Capacity depends on characteristics of input material (density, composition, size, humidity, etc...) and feeding.

We reserve the right to change the technical specifications and dimensions

HTR Baler

High Compression Two-Ram Baler, B2/S Series



Kadant PAAL's HTR fully automatic, high-compression two-ram baler is a multipurpose baler for compacting municipal solid waste (MSW); refuse derived fuel (RDF); recyclable material such as plastics, carton, and paper; and agriculture material such as alfalfa, grass, and straw into high density bales. The HTR baler compresses material with pressing force of 134 to 218 tons in a closed press box providing maximum bale weights. Its tying system, attached separate from the compression process, prevents disturbance to operation due to contamination.

Kadant PAAL was founded in 1854 in Osnabrück, Germany. Since its introduction of the first continuously operated horizontal baler in 1960, PAAL has delivered more than 30,000 machines and today is the #1 channel baler manufacturer in Europe.

HTR Baler Overview



Features

- Automatic binding with polyester straps incorporated on the telescopic tunnel
- Binding process is carried out during compaction process of next bale
- Multi-functional 9" touch-panel with recipe management and comprehensive display of functions and data



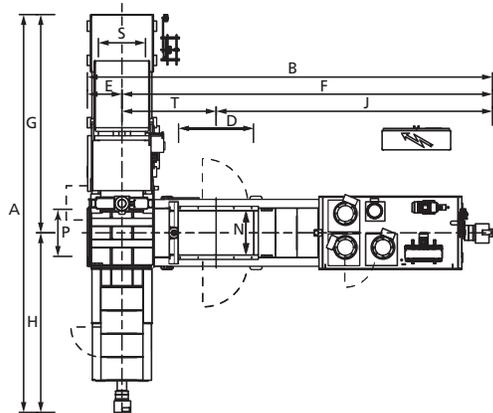
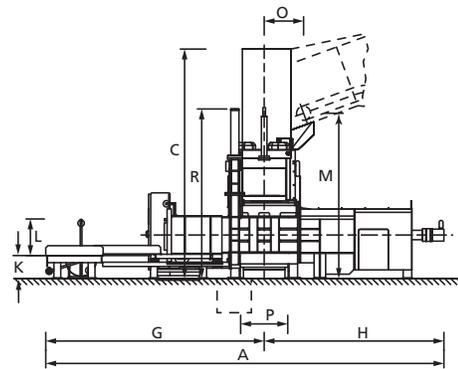
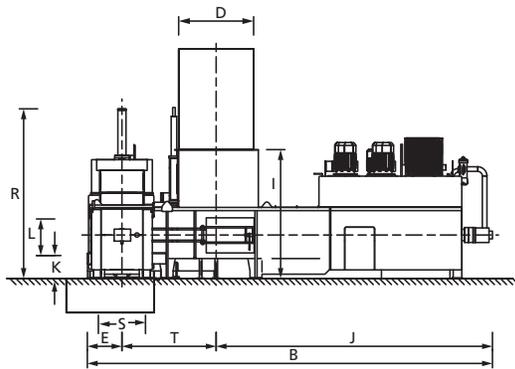
Benefits

- Low operating costs from lower transportation and lower consumable costs
- Easy operation

PAAL™

Technical Data and Measurements

PAAL HTR B2/S Series		425 B2/S			525 B2/S			625 B2/S		700 B2/S	
Pressing force	US tons	134			174			218		218	
Spec. pressing force	psi	197			255			319		232	
Press box dimension	inch	32 x 44 x 37			32 x 44 x 37			32 x 44 x 37		44 x 44 x 37	
Hopper opening	inch	69 x 41			69 x 41			69 x 41		79 x 41	
Number of straps	pieces	6 or more			6 or more			6 or more		6 or more	
Driving power	HP	74	2 x 74	3 x 74	74	2 x 74	3 x 74	2 x 74	3 x 74	2 x 74	3 x 74
Press output (at input density of 5 lb/ft ³)	max. yd ³ /h	222	334	396	201	315	382	287	362	366	451
Press output (at input density of 9 lb/ft ³)	max. yd ³ /h	190	294	353	149	240	298	236	300	307	392
Press output (at input density of 18.7 lb/ft ³)	max. yd ³ /h	177	268	320	96	167	219	140	185	288	360
Press Capacity (Weight)											
• 5 lb/ft ³ (e.g. alfalfa or grass)	US t/h	15	22	26	13	21	25	19	24	24	30
• 9 lb/ft ³ (e.g. RDF)	US t/h	24	37	44	18	30	37	29	38	39	50
• 18.7 lb/ft ³ (e.g. MSW)	US t/h	30	45	54	24	42	55	35	47	49	60



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	R	S	T
HTR 425 B2/S	30' 3"	31'	17' 7"	5' 8"	2' 7"	28' 4"	16' 8"	13' 6"	9' 10"	21' 1"	1' 9"	2' 7"	12' 6"	3' 4"	3'	3' 7"	13'	3' 1"	7' 2"
HTR 525 B2/S	31' 8"	32' 11"	17' 7"	5' 9"	3'	30' 1"	17' 1"	14' 7"	9' 11"	22' 4"	1' 9"	2' 8"	12' 7"	3' 4"	3'	3' 7"	13' 4"	3' 1"	7' 9"
HTR 625 B2/S	31' 8"	33' 2"	17' 7"	5' 9"	3'	30' 3"	17' 1"	14' 7"	9' 11"	22' 6"	1' 9"	2' 8"	12' 7"	3' 4"	3'	3' 7"	13' 4"	3' 1"	7' 9"
HTR 700 B2/S	30' 10"	33' 6"	18' 6"	6' 6"	2' 11"	30' 6"	17'	13' 10"	10' 9"	22' 4"	1' 9"	3' 6"	13' 6"	3' 4"	3'	3' 7"	16' 1"	3' 1"	8' 2"

Dimensions are in feet and inches.

Dimensions are for reference only and subject to change.

CW DIRECT BALE WRAPPER

THE TIE FREE ADVANTAGE



CROSS  **WRAP**®

WRAPPING THE WORLD

CW DIRECT BALE WRAPPER

The Direct Wrapper shows the continuous product development work Cross Wrap has done to meet the needs of the customers.

The fully automatic machine wraps the bales directly from the bale chamber without wires or ties. Direct wrapping not only reduces material costs but also keeps the site clean. The machine is compatible with 2-ram balers and suits for all bale sizes and waste materials, such as RDF, SRF, MSW and recyclables.

Additional wire tier feature gives flexibility to the production as the customer may choose according to baled material whether to only wrap or wire bales.



SAFETY FIRST – The automated process area is secured with safety fences. During the wrapping process there is no need for the operator to enter to the process area, because the sophisticated program offers a constant production flow.



FAST WRAPPING – CW Direct speeds up the process because no tying is required and the capacity is up to 80 tons per hour. The CW Direct is also available for smaller production capacities.



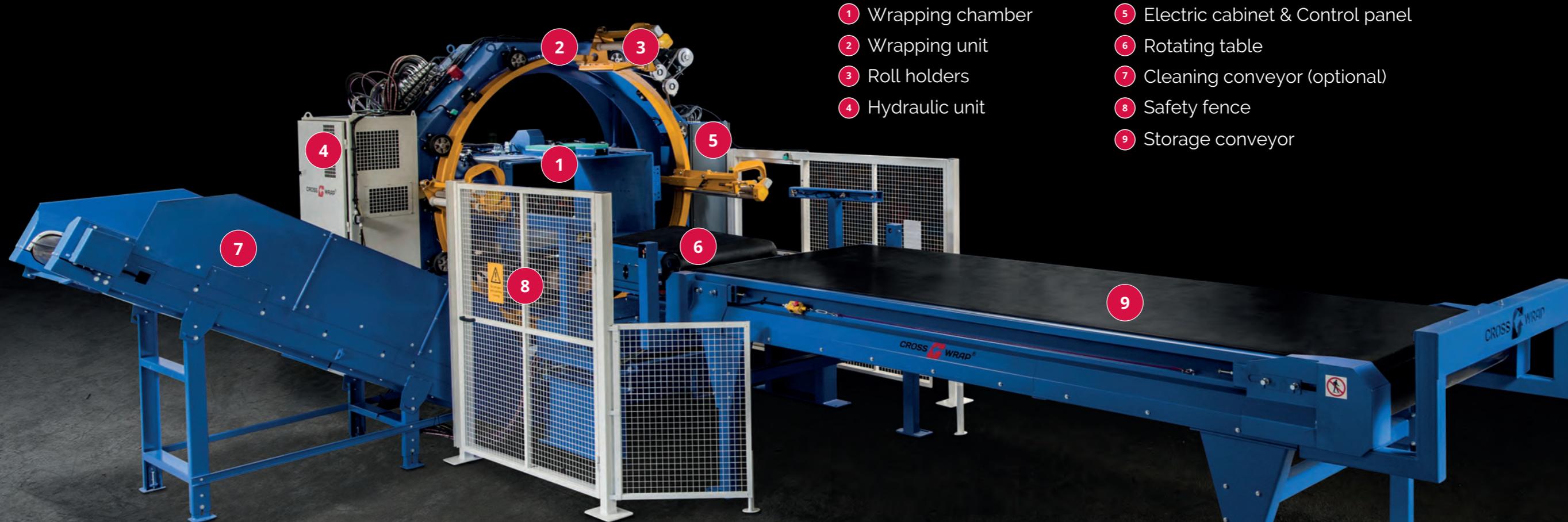
COST SAVING – CW Direct offers automatic and continuous flow of wrapped bales. The labor and cleaning cost are reduced.



SMART FILM CONTROL – The customizable crosswrapping program optimizes the film consumption depending on the material and the bale handling needs.



CLEAN PROCESS – The site stays cleaner because the crosswrapping is the only system closing the bale totally right after the baling.



- 1 Wrapping chamber
- 2 Wrapping unit
- 3 Roll holders
- 4 Hydraulic unit
- 5 Electric cabinet & Control panel
- 6 Rotating table
- 7 Cleaning conveyor (optional)
- 8 Safety fence
- 9 Storage conveyor

1 WRAPPING CHAMBER

Allows wrapping the bale without straps or wires when mounted to two-ram baler. The wrapping chamber is designed according to the bale size. Direct wrapping reduces material cost and minimizes cleaning.

2 WRAPPING UNIT

Wrapping unit has all the functions needed for automatic, efficient and clean crosswrapping process:

The wrapping programs optimize the film consumption according to different materials and other wrapping needs.

3 ROLL HOLDERS

The amount of roll holders 1-3 and three stretching options offer fast and economical wrapping. The amount of roll holders depend on production volume. Film roll change from floor level improves working safety.

4 HYDRAULIC UNIT

Hydraulically operated wrapping functions are reliable, efficient and easy to maintain. Well sealed cabinet has easy access, and it provides dust protection and noise reduction. The cabinet structure and component placing allow efficient cooling.

5 ELECTRIC CABINET + CONTROL PANEL

Space saving integrated electric cabinet is equipped with high-quality components and high-resolution touch screen. Daily operating and settings changing are user friendly.

Minimum protection class is IP 54, which can vary according to customer needs.

Machine is equipped with Siemens safety logic: reducing extra safety relays and maintenance cost.

Standard communication protocol is Profinet and customizations are made e.g with Profibus. Flexible integration to factory systems is available as an option.

3G, LAN, WLAN modem allows trouble-shooting and program updates to all programmable components via internet. This includes remote controlling, modifying and monitoring. The modem connection minimizes production down times. Web camera is available as an option.

The different wrapping programs and pass by are included. Customer can adjust the amount of film layers according to the handling and transportation needs.

6 ROTATING TABLE

Horizontal wrapping closes the bale, strengthens the bale sides and optimizes the film consumption to the right places - the bale is durable with lower film consumption.

7 CLEANING CONVEYOR (optional)

Cleaning conveyor collects the dropping litter minimizing cleaning cost. High volume wrappers are recommended to be equipped with cleaning conveyor.

8 SAFETY FENCE

Safety fencing is equipped with the interlocked system and transparent impact glass. The CW safety fences fulfill the safety regulations and are included to the deliveries.

9 STORAGE CONVEYOR

Heavy duty belt conveyor keeps the wrapped bale untouched. Dimension can vary according to bale size and production volume.

Optional longer storage conveyor gives flexibility for production and turning table option is available for bigger volumes.

CW DIRECT – SAFE AND DURABLE WRAPPING



CW Direct wrapped bales are durable and environmentally safe to transport and handle.



CW Direct wrapped RDF bales without ties.



CW Direct wraps even the biggest bales tight and safe for transport.

OPTIONS



OPENING SAFETY FENCE

The maintenance and cleaning is easier when fencing can be moved aside. Equipped with interlocked system and transparent impact glass.



TYING UNIT

The tying unit can be added as an option to the wrapper. It gives freedom to choose either wrapping or tying, e.g. in cases when different materials are baled.



LABELING

Labeling enables bale identification for storage and transport needs. Labeling may include wrapping date, material, bale weight, logo and QR-/barcode information.



WEIGHING CONVEYOR

Data can be monitored from a control panel and transferred to factory's control systems.



REMOTE CONTROL

Customizable remote control allows the operator to start and stop the machine and run the conveyors. This reduces workload, improves working safety and enables immediate actions, e.g. to stop the machine.



FILM WATCH

Alerts the operator if the film breaks or runs out. Film watch makes the operation smooth and continuous.

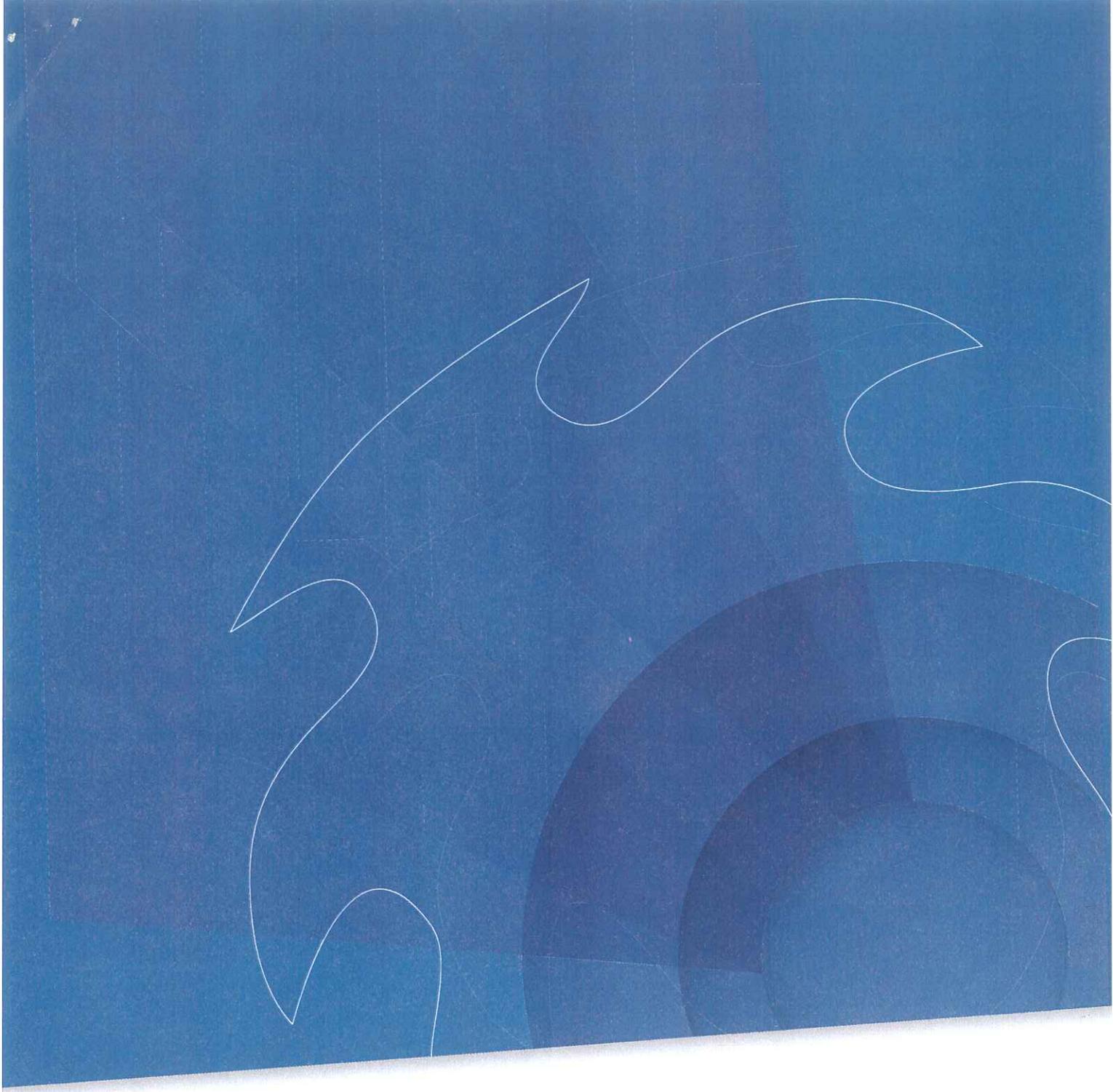


450 MACHINES | 55 COUNTRIES

The Cross Wrap's product range meets safety requirements of the industry and the manufacturing process is supervised under the certified quality system ISO9001.

Cross Wrap Ltd. is the world leader in manufacturing automatic wrapping machines and bale openers for the waste industry, including RDF, SRF, MSW and recyclables. We also operate internationally in the wood products and other industries. 450 machines delivered to 55 countries – with more than 45.000.000 bales Cross Wrapped to date.





PRI-MAX
by **SSI**

THE MULTI-MATERIAL PRIMARY REDUCER

PRI-MAX™ reduces virtually any material at high capacity—up to 100 tons per hour.



ASPHALT SHINGLES

RAILROAD TIES W/PLATES & SPIKES

ALUMINUM SCRAP



DEMOLITION WOOD

YARD DEBRIS

ROCK



CLAY TILE

FURNITURE

APPLIANCES

REINFORCED CONCRETE

WASTE WOOD

CONCRETE BLOCKS

PLASTIC SHEETS & BALES



PLASTIC DRUMS

PERISHABLE FOOD PRODUCTS & PACKAGING

COPPER SCRAP

AUTOMOTIVE COMPONENTS

MEDIUM DENSITY FIBERBOARD

TITANIUM SCRAP



TIRES

FIBERGLASS INSULATION

SLAG

PALLETS/SKIDS/CRATING

CLAY BRICK



TREE STUMPS

CARDBOARD/PAPER

HEMP BALES



SCRAP METAL



MATTRESSES

ASPHALT



MIXED CONSTRUCTION & DEMOLITION DEBRIS

WHOLE ANIMAL CARCASSES

CARPETING

RUBBLE CLEAN-UPS

ELECTRICAL WIRE

PRI-MAX™

The PRI-MAX™ Primary Reducer is more than a heavy duty shredder. It combines ripping and shearing technologies to shred, tear, pierce, chop, split, flatten, crush, break and reduce materials. The unique cutter profiles and patented open cutting table design are key to achieving high capacity reduction of virtually any material.

With processing rates from 1 to 150 tons per hour, SSI's PRI-MAX product lines represent the most comprehensive range of multi-material reducers in the world.



Patented open cutting table

- Single and dual shaft cutting tables are equipped with aggressive, special alloy cutters for high wear resistance and strength.

- Variable speed drive for widest processing range. High performance mode provides maximum throughput, while heavy duty mode delivers highest torque for reducing denser materials.

- Independent, bi-directional shaft rotation provides forward and reverse shredding to increase production and prevent material wrapping around the shaft.

- Operational modes are easily programmed to suit materials being shredded.

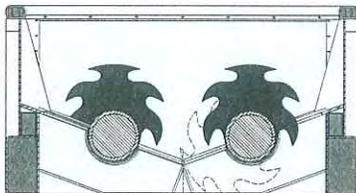


Model PR-6000S, primary reducer

- Heavy duty, open-grate cutting table and strategic cutter placement ensure that abrasives including aggregate, sand, soils and metal fragments will fall directly through the cutting table, reducing wear and operating costs.

Cutter Design

PRI-MAX cutters are uniquely designed to optimize processing of multiple materials. High strength, wear resistant alloys maximize cutter life while minimizing operating costs.



PR-6000 with aggressive, bi-directional cutters for high performance



PR-4000 on tracks

- Low-speed, hydraulic drive technology provides an environmentally friendly operation with low noise, low dust, minimized fines, high on-line reliability and low maintenance.
- Shockload protection feature safeguards shredder and drive components against overfeeding and damage by non-shreddables.
- Advanced Programmable Logic Controller (PLC) constantly supervises and monitors the systems and functions of the entire machine including temperature, error reporting, reversing of shafts under severe load and alarms for non-shreddable material.



PR-4000 mobile reducer processing stumps



The unique PRI-MAX cutting table is the ideal solution for high capacity, reliable processing with low operating costs.

PRI-MAX Models



PR-770

Production rate*	10-40tph
Number of shafts	2
Power	
<i>diesel</i>	250HP
<i>electric</i>	200HP
Infeed opening	
<i>dimensions</i>	112"l x 81"w x 30"h
<i>capacity*</i>	5.3 yd ³
Active cutting zone	
<i>dimensions</i>	75"l x 57"w
<i>area</i>	30 ft ²



PR-4000

Production rate*	30-80tph
Number of shafts	2
Power	
<i>diesel</i>	540HP
<i>electric</i>	400HP
Infeed opening	
<i>dimensions</i>	146"l x 79"w x 28"h
<i>capacity*</i>	6.4 yd ³
Active cutting zone	
<i>dimensions</i>	94"l x 69"w
<i>area</i>	45 ft ²



PR-6000

Production rate*	60-150tph
Number of shafts	2
Power	
<i>diesel</i>	700HP
<i>electric</i>	500HP
Infeed opening	
<i>dimensions</i>	224"l x 94"w x 43"h
<i>capacity*</i>	13.1 yd ³
Active cutting zone	
<i>dimensions</i>	129"l x 82"w
<i>area</i>	73 ft ²

*Extended hoppers available for increased infeed capacity. The capacities stated are guidelines and not guaranteed values. Actual capacity may vary depending on your specific material, number of cutters, feed method and other operational variables.

WHAT NEEDS SHREDDING?™

Obviously your goal isn't to be the proud owner of a primary reducer; it's to run a successful business. A primary reducer is just a tool. SSI's goal is to help you pick the right tool. To do this well, we need to talk to you about your goals and needs. When you call, here are some of the things we'll ask:

WHAT IS YOUR RANGE OF MATERIALS?



HOW WILL THE PRI-MAX™ BE FED?

WHAT IS YOUR DESIRED PRODUCTION RATE?



WHAT IS YOUR IDEAL OUTPUT PRODUCT SIZE?

WHAT WILL BE THE NEXT STEP FOR THE PROCESSED MATERIAL?

ELECTRIC OR DIESEL HYDRAULIC POWER UNIT?



STATIONARY INSTALLATION OR MOBILE?



SSI Shredding Systems, Inc.
9760 SW Freeman Drive
Wilsonville, Oregon 97070 USA

toll free (800) 537-4733
phone (503) 682-3633
fax (503) 682-1704

www.ssiworld.com
email sales@ssiworld.com

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Illustrations, specifications and descriptions presented reflect standard product at time of publication and are subject to change without notice. Dimensions are approximate. Photographs may include optional equipment and accessories.



MT-6™ Molecular Filtration System

Molecular Filtration technology (aka Carbon Scrubbing) is one of the most environmentally friendly and sustainable ways to efficiently trap and sequester fugitive gases and their associated odors by harnessing the power of activated carbon. The Byers MT-6™ Molecular Filtration system is the refinement of activated carbon technology married with Photocatalytic Oxidation bundled together to efficiently trap odorous gases while positively impacting Indoor Air Quality (IAQ).

KEY FEATURES

Frame constructed from durable extruded aluminum with Alupalite wall and door panels.

Weight: ~800 lbs. fully loaded with optional on-board Photocatalytic Oxidation stage

Dimensions:

- 39" x 70" x 45" with optional PCO
- 39" x 63.5" x 45" without PCO

Installable in vertical or horizontal orientations

Pressure-switch armed access doors for safety

Standard Color: Silver Alupalite Panels. White available by request

UL listed Electric control panel: all units are 480V 3-phase and draw approximately 4.3 amps at 60 Hz

Fan: Ziehl-Abegg Cpro EC Blue. 6,000 CFM @ 2.00" W.C.

Optional Photocatalytic Oxidation stage

Carbon: Camfil LGX-048 24" canisters

Pre-filter: Camfil 30/30 Dual 9, proprietary dual-layer media with moisture resistant frame

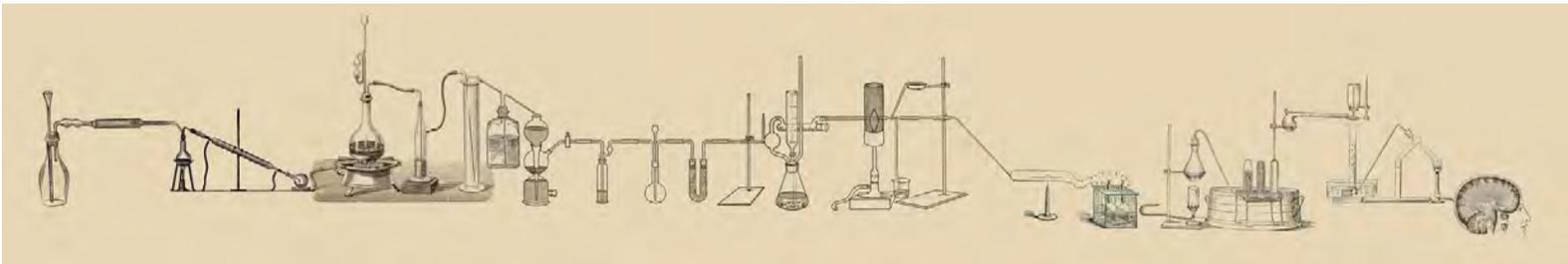
Bolt-on Cloud-based SCADA™ (IoT): Innovative technology allows users to remotely monitor and control on-site equipment and systems.

Carbon canister testable for remaining-life test to ASTM D5742 Butane Activity standard



ODOR-ARMOR® BEL 200 Concentrate For Topical Odor Management

ODOR-ARMOR® BEL 200 is a highly concentrated, multi-component, blend of odor neutralizing compounds and naturally occurring microbes designed specifically for use in topical odor management applications. The microbe package includes sulfate reducing bacteria that interfere with the natural production of hydrogen sulfide and other organosulfur compounds including mercaptans and dimethyl sulfide. Unlike masking agents, that add to the overall odor intensity by introducing an odor stronger than the offending odor, ODOR-ARMOR® BEL 200 also includes specialized plant extract neutralizing technology that significantly reduces odors on contact. Results are immediate and long lasting for a healthier environment without the use of overpowering fragrance or biocides.



Applications Areas:

- Landfill working face
- Roads, walkways, scales
- Compost
- Tipping floors
- Waste bin & floor surfaces
- Manure pits
- Dewatering piles

Application Rate:

ODOR-ARMOR® BEL 200 is to be diluted with water at rates ranging between 1:50 to 1:300 and spray applied to odor causing surfaces. It is compatible with most conventional spray system equipment and used to apply a topical application of prepared solution in the range of 1/8 gal (1/2L) to 1 gal (4L) yd² (m²). Application rates and frequency may vary with the nature of the substrate and odor intensity. Consult a Benzaco Scientific Manufacturer's Representative to review application protocol and dosage rates to maximize treatment performance.



Proudly Made
in the U.S.A.

www.benzaco.com

Corporate Headquarters

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Washington, D.C. 20016
Toll Free (888) 413-5800
Fax (202) 625-7777

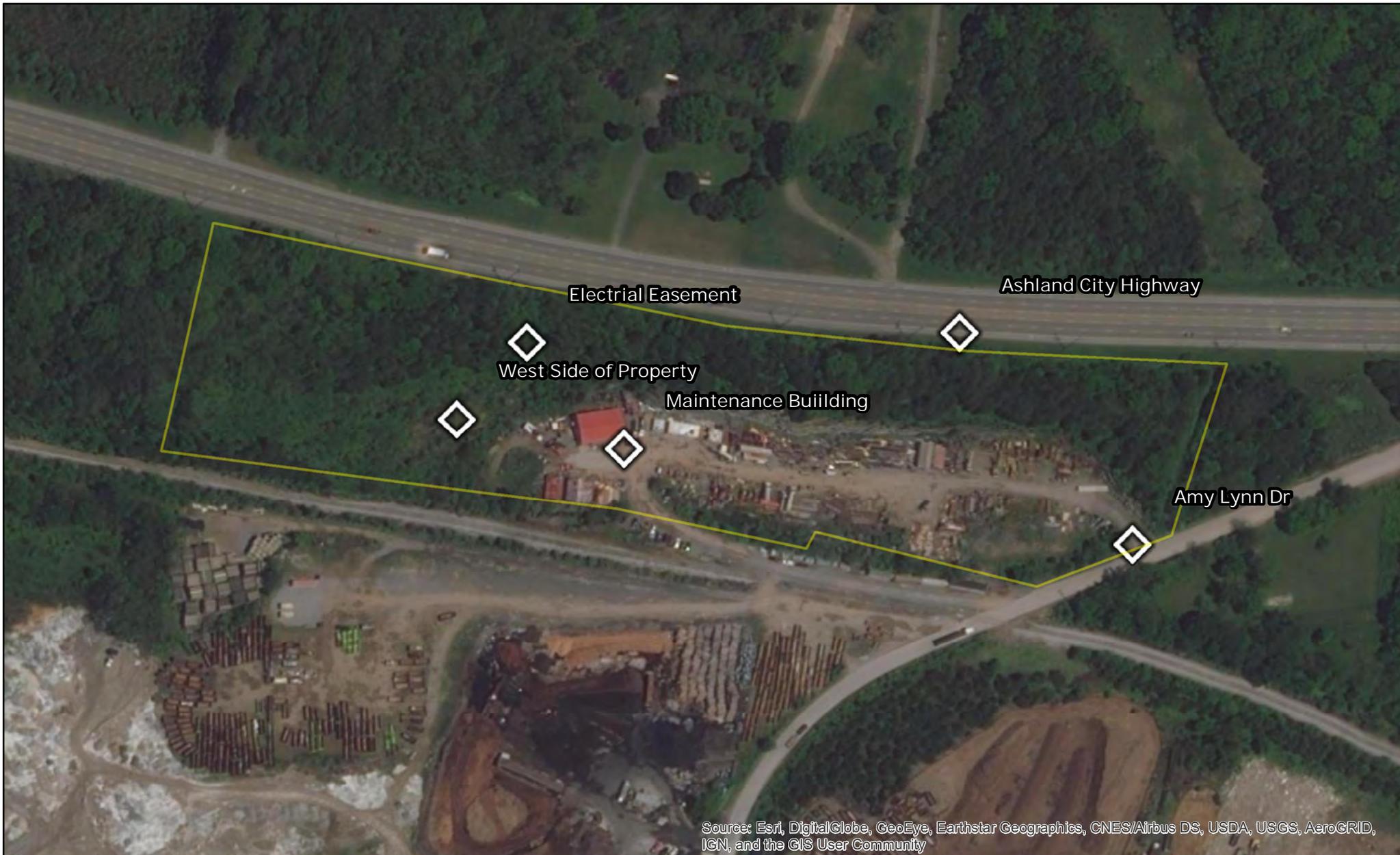
Canada

220 Bayview Drive
Unit 6 & 7
Barrie, ON L4N 4Y8
Toll Free (888) 413-5800


Benzaco Scientific
ENGINEERED ODOR MANAGEMENT

APPENDIX 8 – Facility Calculations

8A – Noise Sampling



210
 Feet
 1 inch = 208 feet
 Tennessee State Plane 4100 fips
 North American Datum (1983)

BARGE
 DESIGN SOLUTIONS

**Nashville Waste Solutions - Noise Measurements for Site
 February 2021**

4601 Ashland City Highway, Nashville
 Davidson County, Tennessee

Figure:
 Noise Samling Locations

Noise Level of Surrounding Property				
Location	Measurement Period (minutes)	LAeq (dB)	Lcpeak (dB)	Max Level (dB)
West side of property (pond)	3:01	68.1	105	88
East side of property (near Amy Lynn Dr)	3:05	65.8	103.5	80.2
Center of property (Near maintenance building)	3:00	78.8	104.3	94.6
Electrical Easement (behind maintenance shop)	3:00	70.9	108.7	98.54
Ashland City Highway	3:15	77.1	115.7	90.8

LAeq: Equivalent continuous sound level in weighted decibels

Lcpeak: Peak sound pressure level in weighted decibels

Max Level: Highest sound pressure level during a measurement period

8B – Traffic Study Memo

MEMORANDUM

To: Jon Boghozian, P.E. Metro Nashville Public Works

From: Jonathan W. Smith, P.E. Barge Design Solutions

Date: March 22, 2021

Project ID: 3746800

Re: NWS trip generation and traffic impacts

Overview

This memorandum presents the findings of a trip generation analysis and level of service comparison for a proposed waste transfer facility located at 4601 Ashland City Highway in Nashville, Tennessee. The code of ordinances for Metro Nashville, specifically section 17.16.210.A.2, requires that, *“A traffic study shall demonstrate that the traffic generated to/from the site will only use streets where the existing level of service (LOS) is ‘D,’ and it is forecasted to remain at a LOS D or better with the proposed waste transfer traffic.”*

Trip Generation

The anticipated trips associated with the proposed waste transfer facility are approximately 140 trips per day. This estimate is based on other similarly sized waste transfer facilities currently in operation. The inbound and outbound trucks are anticipated to ingress and egress from the site by utilizing Briley Parkway, Ashland City Highway, and Amy Lynn Drive.

Level of Service Comparison

Amy Lynn Drive is a local street, posted with a 30-mph speed limit and a “Dead End” sign that serves a few industrial properties that have access to the Cumberland River. Ashland City Highway (SR-12) is a 5-lane minor arterial that provides connections to Clarksville Pike (US 41A) and Briley Parkway (SR-155) in Nashville with SR -455 in Clarksville, TN. There is a Tennessee Department of Transportation (TDOT) count station on SR – 12, west of the intersection with Amy Lynn Drive, that has a 2018 (the most recent year of published traffic data) annual average daily traffic count (AADT) of approximately 14, 700 vehicles per day. Briley Parkway near the interchange with Ashland City Highway is a multi-lane urban freeway with a 2018 AADT of approximately 31,200 vehicles per day. The Florida Department of Transportation (FDOT) has published the 2020 version of the *FDOT Quality/Level of Service Handbook* that provides guidance to transportation engineers and planners regarding roadway capacity. This document has been utilized by various state DOT’s across the country as a tool to analyze and review a roadway’s capacity at a generalized planning level.

Table 1 of the 2020 FDOT Q/LOS handbook provides guidance on the volume ranges and levels of service for various roadway types. A copy of Table 1 is attached to this memo and illustrates that a multilane undivided roadway should accommodate an AADT of up to 29,850 vehicles per

day. Table 1 also shows that a six-lane urban freeway, which would be similar to Briley Parkway, should accommodate up to 113,600 vehicles per day. When the existing 2018 volume on Ashland City Highway (14,700 vehicles/day) is combined with anticipated trips associated with the proposed waste transfer facility (140 vehicles/day) the anticipated volume on Ashland City Highway is approximately 14,840 vehicles per day which is less than the 29,850 value that would correlate to a LOS D based on Table 1. Similarly, the additional 140 vehicles per day added onto Briley Parkway would not cause a change in the level of service.

Conclusion

The proposed waste transfer facility is anticipated to generate 140 additional vehicles per day accessing the site located at 4601 Ashland City Highway. Based upon the guidance in Table 1 of the *FDOT Quality/Level of Service Handbook*, the proposed site trips will not cause a significant degradation in the level of service on Amy Lynn Drive, Ashland City Highway, or Briley Parkway, and all should remain at least at a LOS D or better.

Technical Attachments

This document includes the following technical attachments:

A. Annotated FDOT Q/LOS Table 1

TABLE 1

Generalized **Annual Average Daily** Volumes for Florida's Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES																							
STATE SIGNALIZED ARTERIALS						FREEWAYS																							
Class I (40 mph or higher posted speed limit)						Core Urbanized																							
Lanes	Median	B	C	D	E	Lanes	B	C	D	E																			
2	Undivided	*	16,800	17,700	**	4	47,600	66,400	83,200	87,300																			
4	Divided	*	37,900	39,800	**	6	70,100	97,800	123,600	131,200																			
6	Divided	*	58,400	59,900	**	8	92,200	128,900	164,200	174,700																			
8	Divided	*	78,800	80,100	**	10	115,300	158,900	203,600	218,600																			
						12	136,500	192,400	246,200	272,900																			
Class II (35 mph or slower posted speed limit)						Urbanized																							
Lanes	Median	B	C	D	E	Lanes	B	C	D	E																			
2	Undivided	*	7,300	14,800	15,600	4	45,900	62,700	75,600	85,400																			
4	Divided	*	14,500	32,400	33,800	6	68,900	93,900	113,600	128,100																			
6	Divided	*	23,300	50,000	50,900	8	91,900	125,200	151,300	170,900																			
8	Divided	*	32,000	67,300	68,100	10	115,000	156,800	189,300	213,600																			
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)						Freeway Adjustments																							
Non-State Signalized Roadways - 10%						<table border="0"> <tr> <td colspan="3">Auxiliary Lanes</td> <td colspan="3">Ramp Metering</td> </tr> <tr> <td colspan="3">Present in Both Directions</td> <td colspan="3">+ 5%</td> </tr> <tr> <td colspan="3">+ 20,000</td> <td colspan="3"></td> </tr> </table>						Auxiliary Lanes			Ramp Metering			Present in Both Directions			+ 5%			+ 20,000					
Auxiliary Lanes			Ramp Metering																										
Present in Both Directions			+ 5%																										
+ 20,000																													
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS																							
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E																		
2	Divided	Yes	No	+5%		2	Undivided	11,700	18,000	24,200	32,600																		
2	Undivided	No	No	-20%		4	Divided	36,300	52,600	66,200	75,300																		
Multi	Undivided	Yes	No	-5%		6	Divided	54,600	78,800	99,400	113,100																		
Multi	Undivided	No	No	-25%																									
-	-	-	Yes	+ 5%																									
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						Uninterrupted Flow Highway Adjustments																							
						Lanes	Median	Exclusive left lanes		Adjustment factors																			
						2	Divided	Yes		+5%																			
						Multi	Undivided	Yes		-5%																			
						Multi	Undivided	No		-25%																			
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						¹ Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.																							
Paved Shoulder/Bicycle Lane Coverage																													
		B	C	D	E																								
0-49%		*	2,900	7,600	19,700																								
50-84%		2,100	6,700	19,700	>19,700																								
85-100%		9,300	19,700	>19,700	**																								
PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.																							
Sidewalk Coverage																													
		B	C	D	E																								
0-49%		*	*	2,800	9,500																								
50-84%		*	1,600	8,700	15,800																								
85-100%		3,800	10,700	17,400	>19,700																								
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)						³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.																							
Sidewalk Coverage																													
		B	C	D	E																								
0-84%		> 5	≥ 4	≥ 3	≥ 2																								
85-100%		> 4	≥ 3	≥ 2	≥ 1																								

¹Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

²Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

³Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
<https://www.fdot.gov/planning/systems/>