Prepared for:
Ingersoll Rand
Milwaukee, Wisconsin

Submitted to:
Wisconsin Department of Natural Resources
Oshkosh, Wisconsin

Prepared by:
Ramboll Americas Engineering Solutions, Inc.

Date:
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Project Number:
1940108780

NR 716 SITE INVESTIGATION WORK PLAN

D.B. OAK LTD. PROPERTY
700 OAK STREET
FORT ATKINSON, WISCONSIN

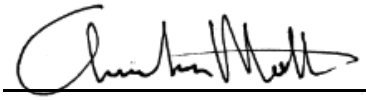
BRRTS NO. 02-28-176509

RAMBOLL

ENVIRONMENT
& HEALTH

CERTIFICATION

I, Andrew G. Mott, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.



Andrew G. Mott, PG, CPG
License Number 307-13

November 14, 2024
Date

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1. INTRODUCTION

On behalf of Ingersoll Rand, Ramboll Americas Engineering Solutions, Inc. (Ramboll) is submitting this Wisconsin Administrative Code (WAC) NR 716 *Site Investigation Work Plan* (2024 SWIP) to perform additional site investigation activities at the D.B. Oak Ltd. Property (the "site") located at 700 Oak Street in Fort Atkinson, Wisconsin (Bureau for Remediation and Redevelopment Tracking System [BRRTS] No. 02-28-176509).

The objective of this 2024 SWIP is to supplement the previous investigation work completed at the site. This SIWP presents a summary of site background information, proposed additional investigation approach and scope of work, including field and laboratory methodologies, reporting, and schedule.

1.1 Site Location

The site is located in Jefferson County at 700 Oak Street in the City of Fort Atkinson, Wisconsin, and covers approximately 19.88 acres (Figure 1). According to the Jefferson County Assessor's Office, the assessor's parcel number (APN) and legal description for the site is: 226-0614-3433-039 - COM SE/S/C SEC 33, N89DG45'W 52.11FT TO C/L C&NW RR, N16DG30'E 894.99FT, S88DG46' W 23.09FT TO POB, S88DG46'W 114.49FT, S55DG45'W 228.74FT TO E/L OF OAK ST, N13DG31'W 610.72FT, N89DG42'W 325.79 FT TO E/L OF N MAIN ST, N00DG06'W 125.72FT, N89DG55' E 134.87FT, N00DG02'W 480.42 FT, N89DG53'E 161.65FT, N00 DG06'W 114.24FT TO S/L E CRAMER ST, E ON SD L TO PT 22FT AT RIGHT ANGLE FROM RR TRK, S16DG30'W 1240.16FT TO POB. ALSO ESMT IN 1325762 ALSO ESMT IN DOC 1325763.

The site is located in the NW ¼ of the SW ¼ of Section 34, T06N, R14E and is immediately bordered to the north by East Cramer Street, to the east by railroad tracks followed by a non-profit organization and the former Loeb-Lorman Scrapyard (BRRTS No. 02-28-588371), to the south by an industrial zoned property followed by a property associated with the former Loeb-Lorman Scrapyard, and to the west by Oak Street, residential properties, and North Main Street. The WTM91 coordinates obtained from the Wisconsin Department of Natural Resources (WDNR) RR Sites Map are as follows: X Coordinate (WTM91) 615029 and Y Coordinate (WTM91) 274600.

1.2 Site Description

The site consists of an approximate 150,000-square-foot building located within the southeastern portion of the site (Figure 2). The building is divided into northern, central, and southern portions. The central and southern portions of the building are currently used for warehousing by third parties. The northern portion of the building was recently reconstructed following an August 2021 fire and is currently unoccupied. The site is owned by D.B. Oak Limited Partnership. The primary site access is via Oak Street and East Cramer Street. Aside from the East Cramer Street access drive, the northern portion of the site is predominantly wooded. Access drives to loading docks are present along the east side of the building. The southwestern portion of the site is landscaped with grass, trees, and paved walkways. Paved parking and drive areas are present along the west side of the central and northern portions of the building. The property is located at the boundary of a residential and industrial land use area and is connected to municipal water and sanitary sewer services provided by the City of Fort Atkinson.

1.3 Involved Parties

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2. PROPOSED INVESTIGATION ACTIVITIES

Proposed site investigation activities consist of the following:

1. Determination of Locations of Monitoring Well Nest MW-4 and Nearby Product Line, (Section 5.4);
2. Installation of Replacement Monitoring Well MW-4R (Section 5.5);
3. Completion of Monitoring Well Network Survey and Sampling (Sections 5.6 to 5.8); and
4. Notification of Sample Results (per WAC NR 716.14) and Preparation of WAC NR 716 Site Investigation Report (SIR) (Section 5.9).

3. PROJECT BACKGROUND

The following sections present an overview of the site development, ownership history, site investigation activities, and remedial actions completed to date.

The original site building was constructed in 1938 with several building additions added between 1945 to 1974. Past occupants primarily included Moe Bros Manufacturing Company (Moe Bros) from approximately 1939 through 1948, at which time Moe Bros was acquired by an investment group led by Lee B. Thomas. Moe Bros changed its name to Moe Light, Inc. (Moe Light) in 1949. In 1953, Moe Light merged with the Electric Sprayit Company, and the merged company was named Thomas Industries, Inc. (Thomas Industries). Thomas Industries occupied the site from approximately 1953 through 1984/1985. Moe Bros and Thomas Industries reportedly manufactured residential lighting fixtures and possibly manufactured artillery shells during World War II. Major manufacturing processes included electroplating operations with an associated wastewater treatment area, degreasing and caustic cleaning processes, and a painting process. Based on city directory listings, Wright Power Saw & Tool Corp also occupied the site during this time (1955, 1959, and 1966).

In December 1985, Thomas Industries sold the property to the current owner (D.B. Oak Limited Partnership). Prior to that property transaction, site investigation activities were conducted to evaluate concrete and subsurface soil conditions within the former plating area. The results of the 1984 site investigation identified elevated concentrations of chromium and cyanide in surficial concrete samples obtained from a former brass rack plating line. Dames & Moore determined that removal of concrete in this area was to be handled as hazardous waste. A July 1995 correspondence from Foley & Lardner LLP (Foley & Lardner) indicated that “work was done in the [plating] area to remove contaminated materials.”

Following Thomas Industries’ ownership and occupancy of the site, Wand Corporation operated at the site from approximately 1986 through 1990 for storm door and window manufacturing. Other apparent lessees/tenants that occupied portions of the site building for manufacturing, offices, and/or warehousing at some period between 1986 to at least the mid-to-late 1990s included Air Technologies, Inc., Badger Press, Blackhawk Architectural Products, D. McAllister, Five Alarm Fire and Safety, Gross EMO, Fort Packaging, Highsmith, Margate Industries, Midwest Sofa, Miller Machining, Nasco, Opportunities, Riverwood International, and Wisconsin Packaging Corp. Hardware Technologies, Spacesaver Corp, and Redi-Serve.

In the mid-1990s, D.B. Oak Limited Partnership experienced financial challenges and was in the process of foreclosing on the property. In March 1995, D.B. Oak Limited Partnership’s lender, Firstar Bank, commissioned Phase I and II Environmental Site Assessments (ESAs) at the site, which identified the presence of chlorinated volatile organic compounds (CVOCs) in soil and groundwater samples at concentrations above their respective WAC NR 140 Preventive Action Limits (PALs) and Enforcement Standards (ESs). A notification of hazardous substance discharge was received by the WDNR on May 2, 1995.

Foley & Lardner, representing D.B. Oak Limited Partnership, notified the WDNR of the results of the 1995 Phase I and II ESAs and provided notification of contamination and claim of responsible party to Thomas Industries via a May 8, 1995, letter. The 1995 letter indicated that tetrachloroethene (PCE) was reportedly used for degreasing activities at the site and was stored, transferred, used, or recovered in an on-site 10,000-gallon aboveground storage tank (AST). Spent halogenated solvents

used in degreasing operations and PCE are also listed in a United States Environmental Protection Agency (USEPA) Notification of Hazardous Waste Activity for the site, dated August 11, 1980.

A February 2004 WDNR memorandum regarding the determination of responsible party for investigation and cleanup of the site indicated that information assembled was sufficient to identify Thomas Industries as the responsible party and to conduct the site investigation and subsequent work.

4. SITE SETTING

4.1 Geologic Setting

Regionally, the native surficial soils within the vicinity of the site consist of the Del Ray-Martinton-Montgomery association, which includes poorly drained to somewhat poorly drained soils that have a subsoil of silt loams, silty clay loams and loams. These soils originated as lacustrine sediments on lake plains (United States Department of Agriculture [USDA] Soil Conservation Service, 1979). Glacial till deposits encountered below the surficial soils in the vicinity of the site are mapped as the Holy Hill Formation (Ives and Rawlings, 2022). The Holy Hill Formation was deposited by ice and meltwater associated with the Green Bay and Lake Michigan Lobes. Stratified gravel and sand of the Holy Hill Formation in the Kettle Moraine region was deposited in an interlobate corridor between the Green Bay and Lake Michigan Lobes, predominantly by meltwater flowing in subaerial streams and subglacial tunnels. The underlying bedrock formation is the Trempealeau Group, which is a Cambrian sandstone (Stewart, 2024). The bedrock consists of light gray very fine to medium grained sandstone, dolomite interbedded with siltstone. Bedrock is expected to be encountered within 250 to 350 feet of the ground surface. Based on information obtained during previous investigations, surficial deposits at the site consist of clayey silt, silty clay, silt, clayey sand, silty sand, and sand. The topography of the site is gently graded to the east, with regional topography sloping gently downward to the southeast towards the Rock River.

4.2 Hydrogeologic Setting

Regional groundwater flow is to the south-southwest towards Lake Koshkonog. Local topography slopes predominantly to the southeast, toward the Rock River. The groundwater monitoring wells were utilized to assess the groundwater and hydrogeologic conditions at the site. The groundwater surface at the site is typically encountered between approximately 1 to 17 feet below ground surface (bgs). Historical groundwater elevation measurements indicated a small groundwater depression located along the south site of the site building. Based on in-situ hydraulic conductivity testing conducted in 2004 the average hydraulic conductivity derived from water table observation wells is 3.32×10^{-3} centimeters per second (cm/sec), and the average hydraulic conductivity derived from piezometers is 2.28×10^{-2} cm/sec.

4.3 Potential Migration Pathways and Receptors

The subject property is zoned for industrial land use. Stormwater from the building roof is conveyed via drainpipes that are connected to storm water drains located around the building. Stormwater entering these drains is discharged to a stormwater drainage swale within the southeastern portion of the site. The network of subsurface conveyance pipes connecting the floor stormwater drains represent preferential migration pathways. The groundwater beneath the site is considered to represent a potential contaminant migration pathway.

The City of Fort Atkinson obtains its municipal potable water supply from five deep aquifer wells ranging from 985 to 1,066 feet bgs. The closest municipal supply well is approximately 0.6 miles south of the site. The Rock River is located approximately 0.5 miles east of the site. No surface water bodies are located in the immediate vicinity of the site; thus, surface water is not a migration pathway. Subsurface utilities that could represent contaminant migration pathways include nearby municipal water, and sanitary/storm sewer lines, as shown on Figure 3. Vapor intrusion as a possible contaminant migration pathway due to the CVOCs previously identified in groundwater at the site is mitigated by the active onsite vapor mitigation system.

4.4 Degree and Extent of Contamination

Investigation activities conducted to date have included assessments of soil, sediment, groundwater, surface water, sump water, sub-slab, indoor air, and soil gas at the site. The following sections provide a brief summary of the results of these assessments.

4.4.1 Soil

Several VOCs, primarily CVOCs and to a lesser extent petroleum VOCs (PVOCs), were detected in soil samples collected in March 1995, May 2005, and March 2006 from the site. The highest constituent concentrations were detected in soil samples collected to the east of the site building, including concentrations that exceeded WAC NR 720 Residual Contaminant Levels (RCLs).

In response to the detected presence of VOCs in vadose zone soil samples, soil vapor extraction (SVE) was identified as a preferred remedial alternative. The SVE system was operated between July and December 2007. Twenty-eight post-treatment soil samples were collected in January 2008 and identified PCE, trichloroethene (TCE), and cis-1,2-dichloroethene (cDCE) above current WAC NR 720 RCLs.

The SVE system was re-started in March 2014 to remove additional VOC mass from the vadose zone. In a “Groundwater Monitoring Report” dated June 7, 2016, Shannon & Wilson concluded that CVOCs remain in the unsaturated zone near “Zone B laterals” and recommended that the SVE system continue operation through April 2017. Documentation reviewed by Ramboll did not confirm the operation of the system beyond June 2016. As indicated above, the SVE system was damaged and not replaced during recent redevelopment activities. In addition, the sub-slab depressurization systems (SSDSs) were installed within the building to address vapor intrusion risk from soil contamination in site soils.

4.4.2 Sediment

Sediment samples were obtained from six locations in March and April 2014 and from one location in October 2015 within a stormwater drainage swale located near the southeast corner of the site. Several VOCs were detected above their respective WAC NR 720 RCLs. Approximately 18.9 tons of sediment was excavated from the swale for off-site disposal in June 2019. The excavated area was finished with large rip rap to reduce future sediment migration and direct contact risk. Based on information reviewed by Ramboll, it does not appear that confirmation sediment samples were collected from the base of the excavation area.

4.4.3 Groundwater

A limited Phase II ESA, conducted on behalf of First Star Bank in 1995, identified several CVOCs at concentrations above their respective WAC NR 140 PALs and ESs. The highest CVOC concentrations were detected east of the central portion of the site building, adjacent to the rail spur.

Several groundwater investigations were conducted in the mid-1990s to mid-2000s. Since December 2004, a total of 15 monitoring wells and associated nested wells, 20 piezometers, one injection well, and three temporary monitoring wells have been installed on and off site. These monitoring wells and piezometers were installed at the following depths: shallow (4 to 20 feet bgs); “A” horizon (34 to 50 feet bgs); “B” horizon (80 to 85 feet bgs and 96 to 106 feet bgs at IW-1); and “C” horizon (single piezometer screened at 125 to 135 feet bgs). The June 2015 temporary monitoring wells were screened at shallow (15 to 20 feet bgs) and relatively deep (30 and 35 feet bgs) depth intervals.

The inferred direction of groundwater flow within the shallow and ”A” horizon is generally to the southeast. Historical groundwater elevation measurements indicated a small groundwater depression located along the south site of the site building.

The presence of CVOC concentrations in site groundwater samples at concentrations greater than WAC NR 140 ES values led to the preparation of an April 2009 *Remedial Action Options Report* (RAOR). The April 2009 RAOR identified in-situ anaerobic bioremediation (ISB) as the preferred groundwater remedy. An ISB injection event occurred in June 2009, which included the injection of emulsified vegetable oil (EVO) via 151 direct push technology (DPT) injection points. A subsequent ISB injection event occurred in May 2011, which included the injection of EVO via 46 DPT injection points. The ISB injection events have resulted in partial reductive dechlorination, such that previous primary CVOCs of interest in site groundwater (PCE and TCE) have been replaced by their degradation products (cDCE and vinyl chloride [VC]).

An off-site groundwater investigation was completed in June 2015, which included the advancement of soil borings converted to temporary monitoring wells in two on-site locations and 14 off-site locations located at the west end of Lorman Street, along Ralph Street, and at Ralph Street east of Jefferson Street. An additional off-site investigation was conducted in March 2016 and included the installation of three monitoring wells at the Hoard property and two monitoring wells at Ralph Park.

The most recent semi-comprehensive groundwater sampling events were conducted in October 2020 and in January 2021. Subsequent sampling events through November 2023 largely focused on groundwater sample collection from the MW-3 nested wells, where the highest on-site concentrations of CVOCs have been detected, the MW-4 nested wells (no longer on site) near the former PCE AST location, and the downgradient off-site wells located in Ralph Park and the Ralph Street right-of-way (ROW). Recent groundwater sample results indicated CVOCs above WAC NR 140 PAL and/or ES standards in on-site shallow monitoring wells MW-3 and MW-4 (November 2023) and off-site monitoring well MW-9 (September 2022). CVOCs above WAC NR 140 standards are more widespread and present in groundwater samples from the ”A” horizon piezometers, predominantly in piezometers MW-3A, MW-7A, MW-9A, MW-12A, and MW-13A. No CVOCs have been detected in downgradient piezometers MW-14A (January 2021), MW-15A (January 2021), and MW-16 (November 2023).

With respect to the “B” horizon, VC and cDCE were detected above the WAC NR 140 ES and PAL, respectively, in on-site piezometer MW-3B, based on the results of the November 2023 sampling event. PCE exceeded the WAC NR 140 PAL (but not the ES) in the most recent groundwater samples collected from on-site injection well IW-1 (June 2021), and off-site piezometers MW-7B (September 2022) and MW-8B (January 2021). No CVOCs above WAC NR 140 standards have been detected in downgradient off-site piezometer MW-13B.

With respect to the “C” horizon, no CVOCs were detected in the most recent sample (June 2021) collected from ”C” horizon piezometer MW-3C.

4.4.4 Surface Water

In March 1995, surface water samples were collected from the pond area formerly located to the west of the northwest corner of the building and contained TCE at concentrations of 5 micrograms per liter (µg/L) and 6 µg/L. These detected TCE concentrations are less than the WAC NR 105 non-public water supply warm water forage surface water criterion of 300 µg/L for TCE, and the 6,400 µg/L limited aquatic life surface water criterion.

Surface water sampling was completed between December 2014 and March 2016 at three locations; within a storm sewer manhole located north of SP-01(North Sewer), at the outfall near SP-01 (Outfall Swale), and from surface water south of SP-01 (Lorman Swale). PCE, TCE, cDCE, and VC were detected in the surface water samples. In the March 2016 sampling; PCE was detected at concentrations of 180 µg/L (North Sewer), 330 µg/L (Outfall Swale), and 110 µg/L (Lorman Swale). TCE was detected at concentrations of 53.0 µg/L (North Sewer), 54.0 µg/L (Outfall Swale), and 24.0 µg/L (Lorman Swale). cDCE was detected at concentrations of 100 µg/L (North Sewer), 95.0 µg/L (Outfall Swale), and 54.0 µg/L (Lorman Swale). VC was detected at concentrations of 7.70 µg/L (North Sewer), 10.0 µg/L (Outfall Swale), and 5.80 J µg/L (Lorman Swale).

4.4.5 Sump Water

Two sump areas (south sump and north sump) located within the building were sampled in April 2019. The northern sump discharged water to the ground surface east of the building and the southern sump discharged water to the ground surface to the southwest of the building. PCE was detected in the sample collected from the northern sump at a concentration of 0.87 J µg/L. No other CVOCs were detected above method detection limits.

4.4.6 Sub-Slab Vapor and Indoor Air

Construction of the SSDS within the central portion of the site building was completed by Lifetime Radon Solutions (LRS) between September 30, 2019, and March 27, 2020, in the southern portion of the site building in mid-2021, and in the northern portion of the site building in 2024. As described in in an LRS project proposal dated March 16, 2021, these SSDSs were not designed to depressurize the entire interior slab or depressurize all installed sub-slab vapor points (described below). Instead, the SSDSs were designed to restrict vapor migration from the suspected source of contamination located to the east of the building foundation to the building's central and western interior. SSDS blower operations, maintenance and monitoring program information is included within an undated LRS Vapor Mitigation Installation Report for Phase I (for the central portion of the building).

A total of 22 sub-slab vapor pins were installed between August 2018 and January 2021, and sub-slab vapor samples were collected between August 2018 and January 2022. PCE, TCE, and to a lesser extent cDCE, trans-1,2-dichloroethene (tDCE) and VC, have been detected in one or more sub-slab vapor samples above WDNR large commercial/industrial Vapor Risk Screening Levels (VRSLs).

Indoor air samples collected between September 2019 and January 2022 contained CVOCs in one or more indoor air samples obtained from within the building interior. TCE was detected above the WDNR residential Vapor Action Level (VAL) but below the WDNR small commercial and large commercial/ industrial VAL in the September 2019 and January 2021 samples collected at two sample locations. No other parameters were detected above any WDNR VALs, and no other samples contained parameters detected at concentrations above any WDNR VALs.

4.4.7 Soil Gas

Soil gas sampling was completed at three locations within the Lorman Street ROW in August 2018. In their August 2019 submittal, Friess Environmental Consulting, Inc. (FEC) indicated that TCE and VC were detected above Wisconsin residential VRSLs in the soil gas sample located at the intersection of Lorman Street and Clarence Street. Two additional soil gas samples were subsequently collected within the Clarence Street ROW in April 2019; FEC indicated that no VOCs were detected in these soil gas samples above the WDNR residential VRSLs.

5. SITE INVESTIGATION WORK PLAN

5.1 Health and Safety

Prior to on-site activities, the site-specific Health and Safety Plan (HASP) will be updated in accordance with Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910 for the proposed field activities. Ramboll will review the HASP with all field personnel prior to commencing the field activities.

5.2 Access Agreements and Approvals

Ramboll will contact the respective property owners of the properties in the area of the investigation and will obtain approvals for access.

5.3 Utility Clearance

Prior to conducting intrusive site investigation activities, utility mark-outs will be coordinated through Diggers Hotline. Ramboll will contract with a private utility locator to complete a geophysical survey (e.g., using ground-penetrating radar [GPR]) to identify subsurface utilities and confirm their location prior to initiating any intrusive work in the areas where subsurface investigation activities will occur. Ramboll will attempt to contact personnel familiar with known utilities at the site and request their presence during the private utility clearance activities. Proposed sampling locations may be modified to avoid subsurface and overhead utilities or other obstructions, as appropriate.

5.4 Monitoring Well Nest MW-4 and Product Line Location

Ramboll will attempt to locate monitoring well nest MW-4 via a detailed site reconnaissance and verify that the underground product lines associated with the nearby PCE AST have been removed. Ramboll will review available site documents for information related to the former PCE AST product lines and retain a contractor with a mini-excavator to aid in the completion of these tasks. Ramboll estimates that three to four test pits will be advanced to depths of 1 to 4 feet bgs. The test pits will only be performed in unpaved areas (adjacent to the former PCE AST), and ground conditions will be subsequently restored to pre-excavation conditions.

5.5 Installation of Replacement Monitoring Well MW-4R

The replacement monitoring well (MW-4R) will be constructed similar to former monitoring well MW-4. Utility clearance for the well installation will be completed concurrent with the test pit utility line clearance. The monitoring well installation boring will be advanced to a depth of 15 feet bgs in which soils will be continuously collected from direct-push (5-foot long, 2-inch diameter, stainless steel) samplers. The drilling activities will be performed under the supervision of a qualified Ramboll consultant.

Soil characteristics will be recorded in the field and screened for total VOCs using a photoionization detector (PID) equipped with a 10.6 electron volt (eV) lamp. The PID will be calibrated in the field according to the manufacturer's instructions, using 100 parts per million (ppm) isobutylene span gas and air (zero gas), and checked between each screening event for proper response. The PID readings (noted as "Instrument Units," which are equivalent to ppm), and organoleptic evidence of contamination will be recorded on the boring logs.

Two soil samples will be collected from boring MW-4R for laboratory analysis of VOCs (USEPA Method 8260B); one soil sample will be obtained within the direct contact zone (0 to 4 feet bgs) and one soil sample will be obtained immediately above the water table (approximately 8 to 10 feet bgs). The soil samples will be submitted to a Wisconsin-certified analytical laboratory under chain-of-custody procedures.

Following completion of soil sampling, the soil boring will be redrilled with a 4.25-inch solid stem auger and the monitoring well will be constructed within the borehole by placing 2-inch diameter polyvinyl chloride (PVC) with a well screen (0.010-inch slot size) from 5 to 15 feet bgs and completed in accordance with WAC NR 141. The groundwater monitoring well will be developed following WAC NR 141 to remove residual materials remaining in the wells after installation and to obtain representative groundwater samples.

5.6 Monitoring Well Network Survey

Ground surface and the top of well-casing elevations for all D.B. Oak site monitoring wells will be surveyed to an accuracy of 0.01 feet by a subcontractor using a Real Time Kinematics (RTK) Global Positioning System (GPS) handheld receiver (e.g., Trimble GeoXH #5 Model 7x). The survey measurements will be verified in the field and the raw data file will be downloaded from the Trimble unit to the project file. Only monitoring wells installed in association with the D.B. Oak site will be surveyed. Wells associated with the former Loeb-Lorman Scrapyard or W.D. Hoard Property (BRRTS No. 02-28-588171) sites wells will not be surveyed.

5.7 Groundwater Sampling and Analysis

Following the well survey, the monitoring wells will be sampled using low-flow groundwater sampling techniques, which involve utilizing a positive pressure pump with disposable polyethylene tubing and a water quality meter with a flow-through cell. If a well does not support low-flow sampling, the well will be sampled with a polyethylene single-use bailer with a bottom emptying device. When using either a pump or a bailer, the tubing or bailer will be lowered slowly into the well to limit the amount of disturbance and associated turbidity. During low-flow sampling, the pump and disposable polyethylene tubing will be lowered into the well so that the bottom of the pump is placed at the approximate center of the saturated screened interval within the well. The pump will be turned on and purging initiated at a flow rate that allows the water level of the well to remain near its static level to prevent cascading of the water down the well screen so that the aeration of the water sample is reduced. The groundwater flow rate during sampling is typically 100 to 500 milliliters per minute (mL/min). Wells with lower transmissivity are purged and sampled at lower flow rates (300 mL/min or less).

Field measurements of water quality parameters, including temperature, dissolved oxygen (DO), power of hydrogen (pH), specific conductivity, oxidation-reduction potential (ORP), and turbidity will be recorded every three to five minutes during well purging, prior to collection of groundwater samples. The groundwater samples will be collected upon stabilization of the groundwater quality parameters, which typically occurs when three consecutive readings do not vary more than

± 10 percent (%) for turbidity and DO, ± 3% for conductivity and temperature, ± 10 millivolts (mV) for ORP, and ± 0.1 unit for pH. The monitoring well will be considered stabilized and ready to be sampled after the field measurements of water quality parameters have stabilized or the well has been purged a minimum of three well volumes. A total of 33 monitoring wells, which includes all shallow monitoring wells, "A" horizon wells, "B" horizon wells, MW-3C, and IW-1, will be sampled (Figure 2). Prior to the groundwater sampling activities, depth to groundwater measurements will be documented at all groundwater monitoring wells. Wells with expandable caps will be opened and allowed to equilibrate prior to taking measurements. Measurements will be made using a Heron electronic water level sensor, Model ET-94 (accuracy 0.01 feet) or similar equipment. The depth to groundwater as well as the total well depth, will be recorded in a bound field notebook.

Groundwater samples for laboratory analyses will be collected and immediately placed in appropriately preserved, laboratory-supplied containers, which will be sealed, labeled, and placed on ice pending delivery under chain-of-custody procedures to a Wisconsin-certified analytical laboratory for analyses of VOCs by the USEPA Method 8260B for all 33 wells. Three duplicate groundwater samples will be collected, and one quality assurance/quality control laboratory trip blank sample will be submitted for laboratory analysis of VOCs.

Ramboll recommends sampling for geochemical analyses at select monitoring wells that have exceeded 10 times CVOC WAC NR 140 ES concentrations. We propose the following geochemical analyses: sulfate (USEPA Method 9056), nitrate/nitrogen (USEPA Method 9056), dissolved iron (USEPA Method 6010), total organic carbon (USEPA Method 5310), and methane/ethene/ethane (USEPA Method 8015M). The wells that have exceeded the 10X ES threshold are as follows:

- Shallow Wells: MW-3, MW-4 (to be replaced with MW-4R);
- "A" Horizon Wells: MW-2A, MW-3A, MW-7A, MW-9A, and MW-13A; and
- "B" Horizon Well: MW-3B.

In addition, Ramboll recommends sampling monitoring wells MW-3 and MW-3A for alkalinity (USEPA Method 2320B) to evaluate aquifer pH buffer demand if in-situ reductive dechlorination is considered as a future on-site groundwater remedy.

A chain-of-custody form will be filled out upon sampling completion and will accompany the insulated container of samples to the laboratory. The chain-of-custody forms will include the following information: sample identification; date collected; source of sample (including the type of sample); and name of the sampler. The chain-of-custody form will be signed by the sampler and completed in a legible manner using waterproof ink. The Ramboll field consultant will utilize a courier to transport the samples to the laboratory. When transferring samples, the individuals relinquishing and receiving the samples will sign and date the chain-of-custody forms. The original chain-of-custody form will accompany the shipment, a copy will be retained by the field sampler, and filed upon return to the office.

5.8 Investigation Derived Waste Management

Soil cuttings and purge water generated during site investigation activities will be containerized in individual 55-gallon drums and labeled. The drums will be staged at an approved, accessible location designated by the current site owner or their designated representative. Representative waste characterization samples will be collected from the drums and submitted to a Wisconsin-certified laboratory (or undergoing the certification process and been audited by the WDNR), for Protocol B.

Waste profile(s) will be completed and submitted to a waste disposal company for transportation and disposal at a licensed waste facility. Waste disposal documentation will be provided in the SIR.

5.9 NR 716.14 Sample Result Notification and NR 716 Site Investigation Report

In accordance with WAC NR 716.14, laboratory results from the soil and groundwater sampling events will be reported to the property owner and WDNR within 10 business days of Ramboll's quality assurance and quality control (QA/QC) of laboratory data. Ramboll will prepare and submit the sample notifications, as required.

Upon completion of the field activities described above, a WAC NR 716 SIR will be prepared in accordance with WAC NR 716.15. The soil and groundwater laboratory analytical results will be compared to the current WAC NR 720 and NR 140 criteria, respectively. The report will include a summary of historical site information and industrial processes, historical site investigation and remedial activities, emerging contaminant review, summary of the proposed 2024 site investigation activities (herein described), conclusion/recommendations, and a detailed Conceptual Site Model (CSM).

6. IMPLEMENTATION SCHEDULE

The test pits and monitoring well MW-4R installation site investigation activities described herein will be completed by the end of 2024. Groundwater sampling is anticipated to be completed in early 2025. The laboratory analytical results will be available within 10 to 15 business days of submittal to the laboratory. Following WAC NR 716.14, laboratory results from the soil and groundwater sampling events will be reported to the property owner and WDNR within 10 business days of Ramboll's QA/QC of laboratory data. SIR with CSM will be completed and submitted to the WDNR in early 2025.

If additional investigation is warranted based on the results, a Work Plan Addendum will be provided to the WDNR and the SIR will be prepared following the completion of the site investigation activities. Ramboll will keep the WDNR Project Manager apprised of any delays that are outside of Ramboll and/or Ingersoll Rand's control.

7. REFERENCES

United States Department of Agriculture Soil Conservation Service. 1979. Soil Survey of Jefferson County, Wisconsin.

Ives, L.R.W., and Rawling, J.E., III. 2022. Quaternary Geology of Jefferson County, Wisconsin. Wisconsin Geological and Natural History Survey, Scale 1:100,000.

Stewart, E.K. 2024. Bedrock Geology of Jefferson County, Wisconsin. Wisconsin Geological and Natural History Survey, Scale 1:100,000.

TABLE

Table 1: Sampling and Analysis Plan Summary

Former DB Oak Property

Fort Atkinson, Wisconsin

Ramboll Project Number: 1940108780

Groundwater Monitoring[1]					
Well Horizon	Sampling Location	VOC[2]	Geochemical Analyses[3]	Alkalinity[4]	Water Levels and Condition Inspection[5]
Shallow	MW-1	x			X
Shallow	MW-2	x			X
Shallow	MW-3	x	x	x	X
Shallow	MW-4R*	x	x		X
Shallow	MW-6	x			X
Shallow	MW-7	x			X
Shallow	MW-8	x			X
Shallow	MW-9	x			X
Shallow	MW-10	x			X
Shallow	MW-11	x			X
Shallow	MW-12	x			X
Shallow	MW-13	x			X
Shallow	MW-14	x			X
Shallow	MW-15	x			X
Shallow	MW-16	x			x
A	MW-2A	x	x		X
A	MW-3A	x	x	x	X
A	MW-4A	x			X
A	MW-6A	x			X
A	MW-7A	x	x		X
A	MW-8A	x			X
A	MW-9A	x	x		X
A	MW-10A	x			X
A	MW-12A	x			X
A	MW-13A	x	x		X
A	MW-14A	x			X
A	MW-15A	x			X
A	MW-16A	x			X
B	MW-2B	x			X
B	MW-3B	x	x		X
B	MW-4B	x			X
B	MW-7B	x			X
B	MW-8B	x			X
B	MW-13B	x			X
C	MW-3C	x			X

Notes:

1 - Groundwater Sampling includes collection of in-field parameters (conductivity, dissolved oxygen, oxygen reduction potential, pH, and temperature).

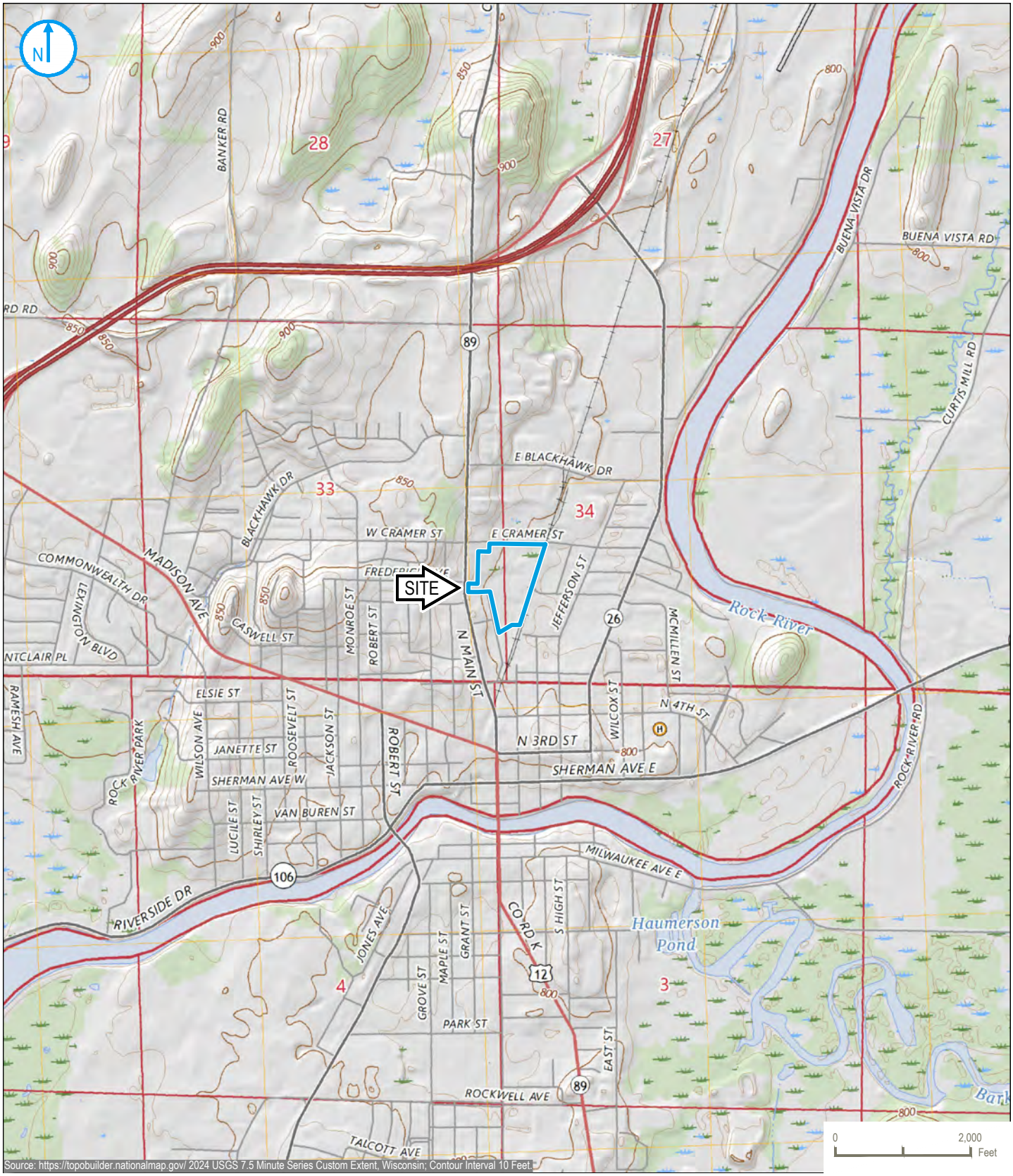
2 - VOC - Volitile Organic Compound - (USEPA Method 8260B)

3 - Geochemical Analytic parameters include sulfate (USEPA Method 9056), nitrate/nitrogen (USEPA Method 9056), dissolved iron (USEPA Method 6010), total organic carbon (USEPA Method 5310), and methane/ethene/ethane (USEPA Method 8015M)

4 - Alkalinity (USEPA Method 2320B)

5 - Water level measurement includes depth to groundwater and depth to bottom of well. Condition inspections include the evaluation of the integrity of the sampling location. Repairs shall be made as necessary.

FIGURES



C:\Users\hjward\OneDrive - Ramboll\Desktop\1940108780_IR_DB_OakAcad\01_Site Location Map (Fort Atkinson WI).dwg

DESIGNER: HJWARD

DATED: 10/29/2024

PROJECT: 1940108780

Map Scale: 1:24,000 | Map Center: 42.9378, -88.8364

KEY MAP

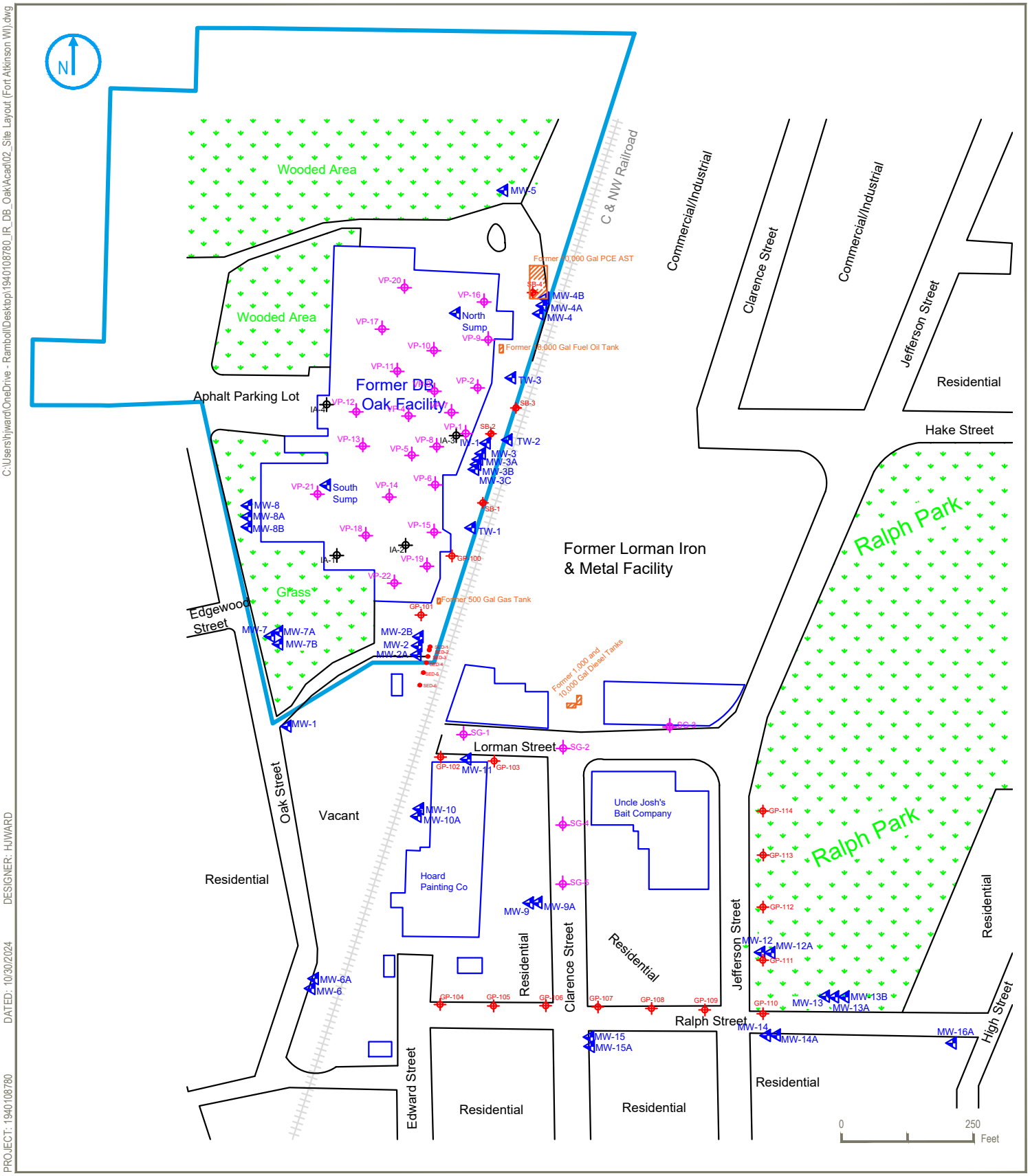
SITE LOCATION MAP

FORMER DB OAK PROPERTY
704 OAK STREET
FORT ATKINSON, WISCONSIN

FIGURE 01

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL



C:\Users\hjward\OneDrive - Ramboll\Desktop\1940108780_IR_DB_OakAcad02_Site Layout (Fort Atkinson WI).dwg

DESIGNER: HJWARD

DATED: 10/30/2024

PROJECT: 1940108780

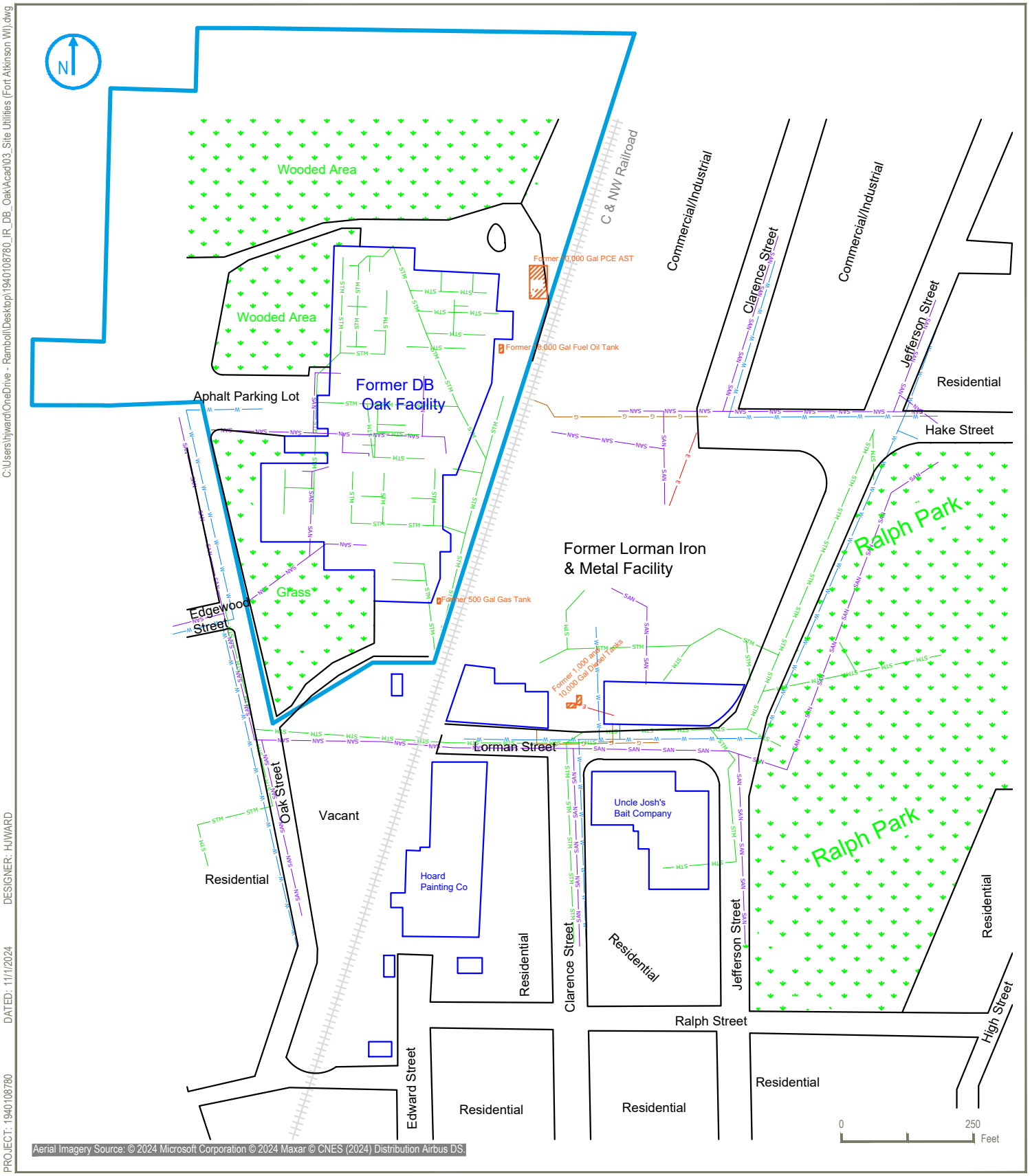
- PROPERTY BOUNDARY (APPROXIMATE)
- SI MONITORING WELL
- SI BORING LOCATION
- SEDIMENT SAMPLE
- VAPOR INTRUSION POINT
- INDOOR AIR SAMPLE

SITE LAYOUT

FORMER DB OAK PROPERTY
704 OAK STREET
FORT ATKINSON, WISCONSIN

FIGURE 02

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY



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DESIGNER: HJWARD

DATED: 11/1/2024

PROJECT: 1940108780

PROPERTY BOUNDARY (APPROXIMATE)

STM STORM SEWER

SAN SANITARY SEWER

W WATER

G GAS

E UNDERGROUND ELECTRIC

SITE UTILITIES

FORMER DB OAK PROPERTY
704 OAK STREET
FORT ATKINSON, WISCONSIN

FIGURE 03

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY
RAMBOLL