GEI Consultants

Consulting
Engineers and
Scientists

Site Investigation Work Plan

Wausau Business Incubator (Former)
1300 Cleveland Avenue
Wausau, Wisconsin
WDNR Activity No. 02-37-587081

Prepared for:
City of Wausau
407 Grant Street
Wausau, Wisconsin 54403

Submitted by:
GEI Consultants, Inc.
3159 Voyager Drive
Green Bay, Wisconsin 54311
920.455.8200

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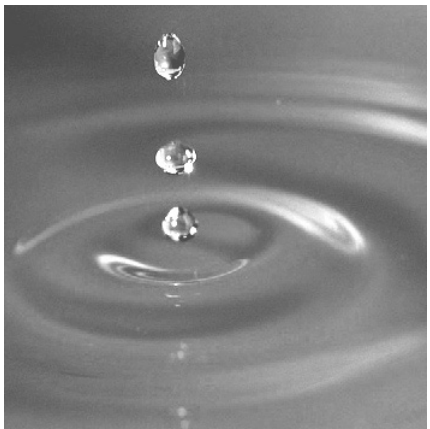

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1. Introduction

1.1 Purpose

GEI Consultants, Inc. (GEI) was retained by the City of Wausau (City) to prepare a Site Investigation Work Plan (Work Plan) for the Wausau Business Incubator (Former) site located at 1300 Cleveland Avenue in the city of Wausau, Marathon County, Wisconsin (the "site" or "City's site"). This Work Plan was prepared in general accordance with Chapter NR 716, Wisconsin Administrative Code and the Wisconsin Department of Natural Resources' (WDNR's) Site Investigation Work Plan Preparation Checklist (Form 4400-316 [R 07/19]).

The purpose of this Work Plan is to present a sampling and analysis strategy to support closure of the regulatory case opened for the site by the WDNR55.8200 on February 16, 2021 (WDNR Activity No. 02-37-587081). We anticipate the sampling and analysis strategy will define the nature, degree and extent of impacts; determine the source or sources of impacts; determine the need for remedial action; and provide information necessary to select a remedial action at the site.

This Work Plan is being provided to the WDNR for review and formal comment through the submittal of a *Technical Assistance, Environmental Liability Clarification or Post-Closure Modification Request* (Form 4400-237 [R 12/18]) and a $700 Work Plan Review Fee.

1.2 Site Location

The site is an approximately 6.8-acre portion of Tax Parcel No. 291-2907-354-0965, a tax parcel which is identified by Marathon County as having a legal address of 1300 Cleveland Avenue and being comprised of 6.915 acres of land partly in the southwest quarter of the southeast quarter of Section 35, Township 29 North and Range 7 West. The parcel is located east of Cleveland Avenue and south of West Thomas Street and is identified by Marathon County as having a legal description of: *Parcel 2 of CSM Volume 29, Page 114 (#7651) and Parcel 3 of CSM Volume 21, Page 134 (#5816) (EX ROW @ DOC #1779786)*. The Wisconsin Transverse Mercator (WTM91) coordinates for the site are:

- X Coordinate (548700); Y Coordinate (497090)

The location of the site is illustrated on a Site Location Map included as Figure S1.

1.3 Site Representatives

The following entities are the representatives for the site with respect to this Work Plan:

Site Owner/Responsible Party
City of Wausau
407 Grant Street
Wausau, Wisconsin 54403
(715) 261-6745
Mr. Eric Lindman

Environmental Consultant
GEI Consultants, Inc.
3159 Voyager Drive
Green Bay, Wisconsin 54311
(920) 455-8200
Mr. Mike DeBraske or Mr. Roger Miller

1.4 Site Background

1.4.1 City Ownership and Use Summary

The City acquired the site from Connor Forest Industries, Inc. (CFI) in October 1986. At that time, the site was part of a larger idle industrial property owned by CFI that included land and associated improvements to the north (currently a separate parcel owned by St. Vincent de Paul Cabrini), south (currently a separate parcel owned by Kolbe & Kolbe Properties, Inc. [Kolbe & Kolbe]), and west (currently a separate parcel owned by Kolbe & Kolbe) of the site. Primary improvements existing on the site at the time of City acquisition included an approximately 80,000-square-foot manufacturing building with a concrete slab foundation located along the western site boundary and an approximately 2,000-square-foot storage building with a concrete slab foundation located approximately 125 feet east of the manufacturing building.

The manufacturing building on the site was physically connected to, and comprised the southernmost portion of a larger industrial structure formerly occupied by CFI that extended north from the site toward West Thomas Street, on the parcel that is now owned by St. Vincent de Paul Cabrini. In 1988, the portion of the former industrial structure that extended north from the site was razed and replaced with a parking lot (and later the St. Vincent de Paul building that exists currently), and the remaining portion of the structure on the site was renovated into the Wausau Business Incubator, a multi-tenant building intended to facilitate the growth of startup companies in the Wausau area. From 1988 until the building was razed in 2019, the Wausau Business Incubator building was occupied by various commercial and light-industrial tenants, including those who used portions of the building for office space, storage, sewing, screen printing, metal machining, metal fabrication, servicing of compressed air equipment, and manufacture of shutters and related wood products. Beyond the Wausau Business Incubator building, other portions of the site have generally remained idle except for periodic use of land and/or the storage building by the City for temporary storage of heavy equipment (e.g., front-end loaders), logs, woodchips, and brush associated with the City's Parks and/or Public Works Departments, periodic use of land by City contractors for temporary storage of heavy equipment and construction materials, and recent (2020 to the

present) leasing of land and the storage building by a sewer and water contractor for staging of construction materials (e.g., concrete and plastic conduits).

Currently, only the storage building and the concrete slab foundation (and any remaining underground utility conduits) associated with the former Wausau Business Incubator building remain on the site. Other areas of the site are largely comprised of asphalt and concrete pavement, vegetated woodland, and grass surfaces, with some areas near the center of the site being comprised of earthen surfaces sparsely covered with gravel.

1.4.2 Historical Ownership and Use Summary

The ownership and use history of the site prior to the City's acquisition in 1986 is documented in several environmental documents (refer to Section 1.4.3 of this Work Plan) previously prepared for the site and/or the larger area of land historically owned/occupied by CFI. A review of these prior documents suggests that from at least 1898 to 1986, the site was associated with a larger area of land that was owned and/or occupied by either the Underwood Veneer Company (UVC) (~1898 to 1951) or CFI (~1951 to 1986). Until the 1960s, available information suggests that UVC and CFI operations were primarily housed in buildings located on the current St. Vincent de Paul parcel and the City's site was partially vacant and/or wooded and partially used as a log/wood storage yard. However, it appears that the northwesternmost portion of the City's site extends across an area formerly occupied by UVC buildings that existed as early as 1898. Between 1963 and 1967, the original portion of the former manufacturing building on the City's site was constructed; the building was physically connected to the original UVC/CFI buildings to the north. Between 1967 and 1979, the storage building was constructed on the site to the east of the manufacturing building and the manufacturing building on the site was expanded to its full size and configuration.

UVC/CFI originally manufactured wood veneers and plywood, but by the time operations expanded south onto the City's site, CFI transitioned operations to the production of finished wood cabinetry. CFI continued cabinetmaking operations on the site until the facility closed in 1985. CFI's operations on the site reportedly included the use of various glues, paints, stains, finishes, solvents, and petroleum products, and the generation and temporary storage of hazardous wastes classified as D001 (Ignitable Hazardous Waste). A CFI Operating Record document in WDNR records, stamped as being received by the WDNR in July 1981, suggests that hazardous wastes were primarily "Finishing Waste" which were described by CFI as "finish residues from cleanup operations…Compound, Lacquer Thinner, Flammable Liquid." Figures associated with the CFI Operating Record document illustrate the locations of four former aboveground storage tanks (ASTs) labeled as "Finish Bulk Tank" to the east-northeast of the storage building, a "Finish Drum Storage" area slightly southwest of the ASTs, a "Pump" and an "Empty Drum Storage" area slightly west of the ASTs, and a "Waste Drum Storage" area slightly north of the ASTs. A review of available records did not reveal the sizes, specific contents, installation dates, or removal dates of the ASTs; however, based on

historical aerial photographs, it appears the ASTs were installed between 1967 and 1979 and removed prior to 1986. Information in WDNR records suggests that product in the ASTs was conveyed to the interior of the manufacturing building on the site via four 2-inch diameter underground pipes that ran due west from the ASTs. The former AST area was the subject of an environmental regulatory case (WDNR Activity No. 02-37-000575) that was opened in April 1994 and later closed in April 1995 without a requirement for administrative or engineering controls (refer to Section 1.4.3 below).

1.4.3 Environmental Assessment Summary

February 2020 Phase I ESA

A Phase I Environmental Site Assessment (Phase I ESA) was completed for the site in February 2020 (*REI, Phase I Environmental Site Assessment Report, Former Business Incubator, 1300 Cleveland Avenue, Wausau, WI 54401, February 4, 2020*). The February 2020 Phase I ESA provided the following conclusions regarding the site:

- *The investigation of the Connor Forest Industries property in the 1980s was reviewed by the WDNR experts at the time which also had substantial involvement in the investigation and often were on site when site activities took place. Thus, they had extensive knowledge of the site from a firsthand basis. Thus, they responded with requiring no additional investigation. Thus, REI has concluded this a Historical Recognized Environmental Condition (HREC). When additional information did come forward, the WDNR opened a case in 1994 and once again reviewed all documents and closed the ERP case. Thus, REI has concluded this a Historical Recognized Environmental Condition (HREC).*
- *Although it does not meet the definition of a REC, one (1) observation made by many of the previously identified reports was the presence of 3M "rock flour" observed throughout the site. Inhalation is the only concern for exposure though the respiratory system. Therefore, the presence of this material on this site is identified as a Recognized Environmental Condition (REC) only when it is encountered and exposed by excavation activities as to allow for the material to becomes airborne to allow for exposure through breathing.*

The February 2020 Phase I ESA suggests that the past inquires and investigations of CFI operations were related to historical complaints and WDNR staff observations of solid waste disposal occurring on the CFI property in the early 1980s. The February 2020 Phase I ESA includes a detailed discussion of the numerous records reviewed that resulted in a determination that historical investigations of the site represented a HREC. Some of the notable environmental inquiry and/or investigation summaries included in the February 2020 Phase I ESA include:

- *The trail of documents begins in June, 1981 when WDNR personnel conducted observations from among the trees along Cleveland Avenue. WDNR personnel observed Connor Forest Industries (CFI) personnel dumping drums of liquid. Eventually the WDNR personnel entered the building to meet with representatives of CFI. This was the beginning of a series of actions by CFI, their consultants and WDNR personnel which included the documentation of material used at the premises, waste streams and disposal of wastes. The WDNR identified the practices at the facility were in violation of solid waste rules and potentially a hazardous*

waste violation. Through actions taken, several consultants along with consultants and the suppliers of products to CFI were involved in a detailed analysis of all materials, waste streams and disposal practices which eventually got the company back into compliance with solid and hazardous waste program requirements. Much of the documents provided were related to actions by CFI related to their facility near Laona in Forest County Wisconsin.

- *January 6, 1983. Soil Evaluation at CFI disposal area. This report was completed by Soil Testing Services of Wisconsin, Inc. This report summarized soil borings and analysis of six (6) hand auger borings in the dumping area. This report concluded that dumping area "did not result in contamination of the soil deposits" as analysis and inspection did not reveal substantial differences from samples collected from outside the suspected dumping area. Maps provided of this area are not in great detail, but the area of concern may be in a location that is south of the current subject property which is currently owned by Kolbe & Kolbe.*
- *July 13, 1982. Supplemental Report: Soil Evaluation at CFI Disposal Area completed by STS Consultants, Ltd. This work was conducted in response to WDNR review of the previously submitted report. This report advanced thirteen (13) soil borings in the disposal area and submitted samples for analysis. This report concluded based on test data and volume estimates that over 90% of the original resins volume disposed at he* [sic] *surface remains in and below the tin* [sic] *veneer of fill material. It also concluded that metallic elements have no* [sic] *migrated to any appreciable degree form* [sic] *the original point of deposition. They recommended the removal of soil and resin to a depth of one (1) foot below land surface.*
- *March 4, 1986. In Field Assessment, CFI completed by Geraghty & Miller, Inc (G&M). G & M identified a number of tasks to document chemical usage, conduct aerial photos analysis and conduct soil sampling through exploratory trenching. A total of six (6) trenches were excavated from the base of the toe slope along the south end of the property. It should be noted that this trenching investigation advanced what appears to be one (1) trench on what is now the property owned by the City of Wausau. The report concluded:*
    - *The occurrence of abandoned drums at the facility was limited to the surface or near surface and no extensive deposits of buried drums are likely to be present.*
    - *The extent and age of the identified drums, and the lack of visible soil contamination, would likely preclude the existence of extensive groundwater contamination beneath the site.*
    - *No evidence of soil contamination related to the drums identified on the site.*

  Finally, the report concluded that representatives of WDNR were on site during the trenching and sampling operations and have indicated that the WDNR is satisfied that the Wausau CFI plant site has been sufficiently investigated and concur that no unidentified deposits of buried drums or related areas of contaminated soil or groundwater are present. WDNR staff was present for this work and also commented and summarized on internal memorandums.
- *August 25, 1986, Letter from Wisconsin Test Drilling about four (4) soil borings advanced and split spoon samples selected and submitted for laboratory analysis collected and delivered to Zimpro. Evidence pointed to near surface contamination*
- *August 27, 1986 Soil Sampling and Analysis from C2HM Hill. This report summarized soil sample analytical results. The report summarized concentrations of extractable metals in the soil do not exceed the toxicity levels under RCRA. Other soil samples*

indicated near surface contamination at the locations tested, but this was before soil standards were in place.

- *September 26, 1986. WDNR Internal Correspondence/Memorandum from Gary Kulibert. This document revealed that several days before the sale of the CFI property to the City of Wausau, an additional person came forward and made additional claims about improper disposal of solid and hazardous waste. Mr. Kulibert made it very clear the complaints were not substantiated and the department had given "a clean bill of health" to the property related to the past practices. As a result, the City of Wausau retained the services of a consultant and advanced additional soil borings in the identified area. The results indicated contamination at minimal levels. The memorandum further states that CFI and the City of Wausau entered into a* [sic] *agreement to hold the City harmless for any environmental problems on the property they may have caused.*
- *August 25, 1986, Letter from CFI to the City of Wausau for the purchase of property. The letter essentially holds the City harmless for any environmental problems on the property they may have caused.*
- *October 23, 1986, Results of Sampling at CFI - Wausau cabinet plant. This report went into detail about additional soil sampling completed on the CFI property. Only two (2) areas identified as Area 4 and Area 6 were advanced on the property currently owned by the City. Area 4 was identified as a former Aboveground Storage Tank area. Area 6 was the finish room. Very low levels of contamination were identified and the report concluded that extensive contamination of soils is not likely to exist at the sampled locations. Other areas were also sampled, but these areas are on what is now not included as part of the subject property. Low levels of metals and VOCs were detected in the monitoring well advanced.*
- *December 5, 1986, Letter from WDNR Solid Waste Specialist Mr. Kenneth Markart to CFI. The letter essentially indicates the WDNR has reviewed the documentation submitted by Geraghty & Miller. Based on the work completed, the WDNR concurs with the interpretations reached by the consultant. The letter further states although volatile organic compounds are present in the groundwater and soils, according to the district hydrogeologist, Mr. Ed Kreul, they do not appear to be a significant problem at this time. The letter continues that hopefully this should conclude the investigation at the Conner Forest Industries Cabinet Plant. This was essentially the closure letter for it's* [sic] *time and the WDNR was not requiring any additional investigation unless further information came forward.*
- *April 16, 1994 - April 24, 1995. Additional investigation completed by Geraghty & Miller, Inc (G&M) for the Environmental Repair Program (ERP) case which was publicly available on the WDNR BRRTS website. This was related to the piping and tank associated with the former CFI site after the City owned the property that was discovered. The tank and piping was removed, soil samples collected and tested and all impacted soil removed from the site. The site information was reviewed and the case was closed by the WDNR on April 24, 1995.*
- *The one observation made by many of the previously identified reports was the presence of 3M "rock flour" observed throughout the site. The SDS for the 3M rock granules was*

reviewed. The Safety Date Sheet describes this material as essentially crushed rock which is comprised of 94-98% of Meta-rhyolite (Composition varies naturally, typically contains feldspars, pyroxene, biotite, magnetite, ilmenite hematite and calcite).

January 2021 Phase 2 Subsurface Assessment

After consideration of the February 2020 Phase I ESA, the City of Wausau's Economic Development Committee elected to pursue environmental sampling at the site, which resulted in the solicitation of proposals from several environmental consulting firms for completion of a pre-defined scope of services including laboratory analysis of soil and groundwater samples for organic and inorganic analytes. GEI was retained by the City to complete the Phase 2, which included completion of fieldwork in October 2020 and presentation of results in a written report: *GEI Consultants, Inc., Phase 2 Subsurface Assessment, 1300 Cleveland Avenue, City of Wausau, Marathon County, Wisconsin, January 22, 2021 (Revised February 3, 2021)*. A preliminary summary of Phase 2 findings was provided to the WDNR in January 2021, which resulted in the issuance of the RP letter to the City on February 16, 2021. Phase 2 activities included:

- Twenty-two (22) soil borings were advanced using hydraulic direct-push (i.e., Geoprobe) technology on the site, with 19 of the borings (SB-1 to SB-19) being advanced to a depth of approximately 12 feet below ground surface (bgs) for collection of soil samples and 3 of the borings (SBGW-1 to SBGW-3) being advanced to depths between approximately 28 feet and 32 feet for collection of soil samples, installation of temporary groundwater monitoring wells, and collection of groundwater samples.
- Two soil samples for laboratory analysis were collected from each probe location, with samples being collected from the ground surface (or just beneath pavement) to 4 feet bgs (0'-4') and from 8 feet to 12 feet bgs (8'-12') at most locations. Sample intervals were adjusted at a few locations due to insufficient sample recovery (e.g., SB-1 where recovery was insufficient from the shallowest interval) and/or because a specific fill zone, apparent native zone, or a comparison of specific fill to apparent native zones was desired (e.g., SBGW-1 where fill was encountered between 2 feet and 10 feet bgs and apparent native sand was encountered deeper than 12 feet bgs).
- Soil samples from each probe location were submitted for laboratory analysis of a combination of the following: Polycyclic Aromatic Hydrocarbons (PAHs); Priority Pollutant Metals (PP metals), including antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc; hexavalent chromium; volatile organic compounds (VOCs); Pentachlorophenol (PCP); Per- and Polyfluoroalkyl Substances (PFAS); and 1,4-dioxane.
- A small diameter ("temporary") groundwater monitoring well was installed at three probe locations SBGW-1, SBGW-2, and SBGW-3 to facilitate collection of groundwater samples. Groundwater samples collected from each temporary well were submitted for laboratory analysis of PAHs, PP metals, PCP, and VOCs.

Significant findings of the Phase 2 include:

- Subsurface conditions encountered during the Phase 2 varied at each probe location but were generally characterized by layers of fine to coarse sand and silty sand fill overlying apparent native fine, medium, and coarse sand and gravel to the boring termination depths. Based on prior reports prepared for the site, some of the fill observed in borings during the Phase 2 were characterized as sand and silty fine sand material that may have originated from the nearby 3M facility located north of the site along Rosecrans Street. Observations of gray silty fine sand layers and/or layers of sand with flecks of white, green or red possibly related to 3M were noted at several boring locations, primarily in the southern, central, and eastern portions of the site.
- Except for the fill materials noted above, field screening of soil and groundwater samples collected during the Phase 2 did not reveal elevated field instrument (photoionization detector [PID]) readings; obvious staining; obvious petroleum, solvent, or unusual odors; remnants of petroleum product or hazardous substance containers; or evidence of former industrial waste disposal.
- VOCs, PCP, and 1,4-dioxane were not detected in any of the soil samples, and VOCs and PCP were not detected in any of the groundwater samples submitted for analysis.
- PFAS were detected in 5 of 6 soil samples submitted for analysis; however, the detected concentrations were significantly below current RCLs.
- PAHs were detected in multiple soil samples submitted for analysis, with the concentrations of several analytes exceeding the Residual Contaminant Levels (RCLs) established in Chapter NR 720, Wisconsin Administrative Code, for protection of human health via direct contact at industrial and/or non-industrial sites, and/or RCLs established for protection of groundwater quality as summarized below:
    - Industrial Direct Contact RCL Exceedances
        - Benzo(a)pyrene at SB-14 (0’-4’ and 8’-12’).
    - Non-Industrial Direct Contact RCL Exceedances
        - Benzo(a)anthracene at SB-14 (0’-4’ and 4’-8’);
        - Benzo(a)pyrene at SB-2, 4, 5, and 8-10 (all 0’-4’ or 0.5’-4’);
        - Benzo(b)fluoranthene at SB-5 (0’-4’) and SB-14 (0’-4’ and 4’-8’);
        - Dibenzo(a)anthracene at SB-14 (0’-4’); and
        - Indeno(1,2,3-cd)pyrene at SB-14 (0’-4’ and 4’-8’).
    - Groundwater Pathway RCL Exceedances
        - Benzo(a)pyrene at SB-5 and 8-10 (all 0’-4’) and SB-14 (0’-4’ and 4’-8’);
        - Benzo(b)fluoranthene at SB-5, 9, and 10 (all 0’-4’), and SB-14 (0’-4’ and 4’-8’); and

- Chrysene at SB-1 (4'-8') and SB-4, 5, 9, and 10 (all 0'-4' or 0.5'-4'), and SB-14 (0'-4' and 4'-8').

Because of elevated detection levels reported by the laboratory for some samples[1], additional RCL exceedances for PAHs may be present at some locations and intervals, particularly at SB-6 (0'-4' and 8'-12') where the detection levels were approximately 5 to 10 times the lowest RCLs for some analytes.

- Heavy metals were detected in each soil sample submitted for analysis, with the concentrations of several metals exceeding the statewide Background Threshold Values (BTVs); industrial and/or non-industrial direct contact RCLs; and/or groundwater pathway RCLs as summarized below:
  - Industrial Direct Contact RCL Exceedances
    - Arsenic at SB-8 (0'-4').
  - Non-Industrial Direct Contact RCL Exceedances
    - Thallium at SB-1 (4'-8'), SB-2 (0'-4' and 4'-8'), SB-3 (0'-4' and 8'-12'), SB-4 (0.5'-4'), SB-6 (0'-4' and 8'-12'), SB-7 (0'-4'), SB-9 (0'-4' and 8'-12'), SB-10 (8'-12'), SB-11 (8'-12'), SB-12 (0'-4' and 8'-12'), SB-14 (0'-4'), SB-15 (0'-4'), SB-16 (0'-4'), SB-18 (0.5'-4' and 10'-12'), and SBGW-1 (11'-15').
  - Groundwater Pathway RCL Exceedances
    - Antimony at SB-8 (0'-4'), SB-9 (0'-4'), SB-14 (4'-8'), and SB-17 (0'-4' and 8'-12');
    - Arsenic at SB-8 (0'-4');
    - Cadmium at SB-14 (4'-8');
    - Lead at SB-5 (8'-12'), SB-9 (0'-4'), SB-14 (4'-8'), and SB-17 (8'-12');
    - Mercury at SB-6 (0'-4').
    - Selenium at SB-9 (0'-4'); and
    - Thallium at SB-1 (4'-8'), SB-2 (0'-4' and 4'-8'), SB-3 (0'-4' and 8'-12'), SB-4 (0.5'-4'), SB-6 (0'-4' and 8'-12'), SB-7 (0'-4'), SB-9 (0'-4' and 8'-12'), SB-10 (8'-12'), SB-11 (8'-12'), SB-12 (0'-4' and 8'-12'), SB-14 (0'-4'), SB-15 (0'-4'), SB-16 (0'-4'), SB-18 (0.5'-4' and 10'-12'), and SBGW-1 (11'-15').

[1] Although the laboratory was unable to fully explain the cause of the elevated detection limits, some degree of matrix interferences are common in environmental samples and likely contributed to the resulting detection limits.

  - BTV Exceedances
    - Arsenic at SB-8 (0'-4');
    - Cadmium at SB-14 (4'-8');
    - Chromium at SB-1 (0'-4');
    - Copper at SB-5, 8, and 9 (all 0'-4'), SB-13 (0.5'-4'), SB-14 (4'-8'), and SB-17 (8'-12'); and
    - Lead at SB-5 (8'-12'), SB-9 (0'-4'), SB-14 (4'-8'), and SB-17 (8'-12').

- PAHs were detected in each groundwater sample submitted for analysis but all concentrations were below the applicable NR 140, Wisconsin Administrative Code, Preventive Action Limits (PALs) except for chrysene, which was detected at a concentration above the PAL at SBGW-1 and SBGW-3.
- Heavy metals were detected in each groundwater sample submitted for analysis but all concentrations were below the applicable PALs.

Information gathered during the Phase 2 and review of prior reports is insufficient to confirm the source(s) of heavy metals and PAHs detected above RCLs/BTVs at this site. Although prior reports suggest that industrial wastes associated with CFI operations were formerly disposed on the larger area of land historically associated with CFI operations, the areas of documented waste disposal appear to have been largely associated with a parcel located south of the site (currently owned by Kolbe & Kolbe), and except for certain fill materials, evidence of former industrial waste disposal activity on the site (elevated PID readings, staining, solvent/petroleum odors, adhesive residues, remnants of petroleum product or hazardous substance containers, etc.) was not observed during the Phase 2.

It is anticipated that PAHs and some heavy metals detected at this site are primarily associated with the historical disposition of fill originating from offsite sources and occurring well before acquisition of the site by the City in the mid-1980s. However, atmospheric deposition from anthropogenic sources historically on and off the site (combustion residues related to coal, wood, and other fuel-burning boilers, train engines, and automobile engines) may also be a potential source. Near sample location SB-14, the historical presence and/or use of ASTs and associated underground piping containing wood finishing products (e.g., varnishes and stains) and drums containing wood finishing products and wastes, is a potential source of the elevated PAH concentrations at SB-14; however, if that was a significant factor, it would reasonably have been expected to encounter obvious staining, petroleum or solvent odors, or elevated PID readings during sampling, evidence of which was not encountered during the Phase 2.

There is also a potential for heavy metals detected in soil at the site to be associated with background conditions in the Wausau area resulting from natural geologic processes (i.e., historical igneous bedrock weathering where high concentrations of heavy metals in rock and

ore can lead to enrichment of heavy metals in soil layers). This association may be most relevant for metals detected at relatively consistent concentrations in both fill and apparent native soils at the site, such as thallium. Likewise, it is possible that industrial activities involving bedrock processing (e.g., crushing and screening) may also generate residual materials (dust and fines) enriched with heavy metals. If such residuals were historically deposited in certain areas and subsequently disturbed/ re-worked on the site during previous construction activities, the concentrations of heavy metals in soil may vary considerably both laterally and vertically in the subsurface.

The detections of PFAS in soil at the site were primarily associated with near-surface samples and were reported at concentrations between the minimum detection limits and the limits of quantitation, which means the reported concentrations are estimated at values below the quantitation limits. The detected concentrations of PFAS are below current RCLs. A review of historical land use information, as presented in prior reports prepared for the site, does not suggest that activities/industries commonly referenced as PFAS sources (Teflon manufacturing, PFAS-containing coating operations, carpet and rug manufacturing, semiconductor manufacturing, chromium plating, use/manufacturing of aqueous film forming foams, wastewater treatment, landfills, etc.) were previously conducted/located on the site. Rather, similar to thallium, PFAS was included as a soil analyte during the Phase 2 for thoroughness only. We anticipate the detections of PFAS in soil at this site are a background condition related to aerial deposition of particulate and rainwater that contain PFAS from offsite sources. However, without additional data, the potential for PFAS detections to be associated with something else (e.g., certain fill materials deposited on the site) cannot be completely dismissed.

2. Site Characteristics

2.1 Site Setting and Use

The site is located in the south-central portion of the City, approximately 0.5 mile west of the Wisconsin River, approximately 0.75 mile north-northeast of the confluence of the Big Rib River and Wisconsin River, and approximately 1.25 miles east of United States Highway 51 in an area of mixed commercial, industrial, and residential land use. The site is currently zoned as Medium Industrial (MI). Adjoining properties to the south and west are also zoned MI, while the adjoining property to the north is zoned Urban Mixed Use (UMU) and adjoining properties to the east (across Cleveland Avenue) are largely zoned Two-Flat Residential (TF-10). One property to the east, in the northeast quadrant of the Cleveland Avenue and Adrian Street intersection is currently zoned Multi-Family Residential (MRL-8).

The site is developed with an approximately 2,000-square-foot, single-story, steel-framed storage building on a concrete slab foundation that is located in the east-central portion of the site. A concrete slab foundation and concrete recessed loading docks associated with a former (approximately 80,000-square-foot) manufacturing building that was razed and removed in 2019 is located west of the storage building along the western site boundary. Areas of concrete and asphalt pavement, some in good and some in fair to poor condition, associated with the former industrial building are present to the north, east, and south of the former manufacturing building. A short, narrow, and shallow vegetated drainage swale terminating at a storm water inlet (connects to underground municipal storm sewer) is located south of the storage building. Other areas of the site are largely comprised of vegetated woodland and grass surfaces, with some areas near the center of the site being comprised of earthen surfaces sparsely covered with gravel. Trees and brush vegetation are present along nearly the entire east site boundary (except for the driveway entrance area off Cleveland Avenue in the northeastern portion of the site), which provides a natural wind/visual barrier between the site, passersby on Cleveland Avenue, and residential properties to the east. Electrical power lines transect the far northwest portion of the site (running east to west) and also the southeast portion of the site to the east of the former manufacturing building (running southwest to northeast) and south-southeast of the storage building (running west-southwest to east-northeast).

The City currently uses a portion of the site for log (primarily on asphalt along the northern site boundary) and wood chip (primarily on a concrete slab located north of the storage building) storage. A sewer and water utility contractor currently leases the storage building and a portion of the site (primarily unpaved grass-covered areas south of the storage building) for general storage and staging of sections of concrete and plastic sewer and water conduits.

2.2 Geology and Hydrogeology

The Department of the Interior United States Geological Survey publication *Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrologic Investigations Atlas HA-367, 1971*, indicates the site is in an area of glacial deposits that overly Precambrian-age crystalline bedrock described as being igneous and metamorphic rocks that are hard, dense, and may be fractured or weathered. The glacial deposits along the Wisconsin River are identified as unpitted outwash consisting of stratified sand and gravel with some clay and silt. In some areas, the glacial deposits may have been reworked and deposited as alluvium. The depth to bedrock in the region is variable, but is anticipated to be approximately 75 to 100 feet deep near the site.

The U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) Web Soil Survey maps Mahtomedi loamy sand, 0% to 6% slopes, in the western portion of the site and Udorthents, loamy, gently sloping in much of the eastern portion of the site, with a thin section of the eastern portion of the site along Cleveland Avenue being mapped as Dunnville fine sandy loam, 1% to 4% slopes. The Mahtomedi series is described as being excessively drained soils located on outwash plains and stream terraces, having depths to a restrictive feature and water table of more than 80 inches, and generally consisting of a thin layer of loamy sand to a depth of approximately 8 inches overlying layers of sand to a depth of at least 60 inches. Udorthents are generally described as being areas where original soil has been excavated and/or covered with loamy fill material; the soils are described as being well drained, having depths to a restrictive feature and water table of more than 80 inches, and generally consisting of fine sandy loam to a depth of at least 60 inches. The Dunnville series is described as being moderately well drained soils located on stream terraces, having depths to a restrictive feature and water table of more than 80 inches, and generally consisting of a thin layer of fine sandy loam to a depth of approximately 8 inches, overlying layers of loam and sandy loam to a depth of approximately 36 inches, all overlying sand to a depth of at least 60 inches.

Regional groundwater flow direction is generally toward the Wisconsin River and major tributaries (*Water Resources of Wisconsin, Central Wisconsin River Basin, Hydrologic Investigations Atlas HA-367, 1971)*. Locally, groundwater flow direction is anticipated to be east-southeast toward the Wisconsin River which is located approximately 0.5 mile from the site. Based on topography and observations completed during the Phase 2 field exploration, the depth to groundwater on the site ranges between approximately 25 and 32 feet.

7.5-minute topographic map of the Wausau West and Wausau East, Wisconsin, quadrangles dated 2013, show the topography and surface water features in the vicinity of the site. The topographic maps show the site as being located in an area of relatively low relief and having an approximate elevation ranging between +1180 and +1190 feet above mean sea level. Overall topography in the area is shown to slope generally toward the Wisconsin River to the east and southeast of the site where ground surface elevations along the river are shown to be approximately +1160 feet above mean sea level. Survey data gathered during the Phase 2

also indicates the site is relatively flat, with elevations between Phase 2 sampling locations (excluding those at the drainage swale, which had the lowest recorded elevation) varying by less than 7 feet. The highest elevations recorded during the Phase 2 were at sample locations near the former manufacturing building (where the slab foundation is raised) and in the north-northwest portion of the site, and excluding the drainage swale, the lowest elevations were recorded at sample locations in the southern and eastern portions of the site.

2.3 Potential Migration Pathways and Receptors

Risks to human health and the environment are evaluated based on potential contaminant sources and exposure routes. If an exposure pathway is considered not to be relevant or is demonstrated to be incomplete based on contaminant concentrations, contaminant characteristics, or site conditions, the extent of additional assessment necessary to pursue regulatory closure is typically reduced and corrective actions are typically not required to prevent or mitigate exposures. The following exposure pathways were evaluated as part of this Work Plan: soil ingestion, inhalation, and dermal (soil direct contact); soil leaching to groundwater (soil-groundwater pathway); groundwater water ingestion; and indoor air inhalation from contaminated soil and groundwater (vapor intrusion). The site is currently zoned for industrial use; however, the City is considering end uses of the site that may require re-zoning for various possible non-industrial uses, including commercial, residential, and/or recreational/public use. Accordingly, potential exposures under both industrial and non-industrial end uses were considered.

Soil Direct Contact – Soil with detectable concentrations of heavy metals and PAHs from unconfirmed sources is present at depths within four feet of the ground surface, which is typically considered representative of the direct contact zone. The concentration of arsenic at one location exceeds both the non-industrial and industrial direct contact RCLs (because arsenic at this location also exceeds the BTV) and the concentrations of thallium at multiple locations exceed the non-industrial direct contact RCL within the upper four feet of soil. Additionally, the concentrations of several PAHs at multiple locations exceed the non-industrial direct contact RCLs and the concentration of one PAH (benzo[a]pyrene) at one location exceeds the industrial direct contact RCL within the direct contact zone. Existing concrete and asphalt slabs provide a barrier to direct contact in some areas of the site; however, current and future site occupants could reasonably come into contact with soil in unpaved areas. Accordingly, the soil direct contact pathway is considered a relevant exposure pathway for current and future site occupants. Likewise, the soil direct contact pathway is considered a relevant exposure pathway for utility contractors/construction workers who may disturb paved and unpaved areas of the site in the future.

Offsite migration of impacted soil onto (and soil direct contact on) adjoining properties is not considered a relevant exposure pathway, because site topography is relatively flat, there are no existing soil stockpiles or significant areas of eroded or exposed earth likely to create dust and the existing pavements and grassy topsoil vegetation across much of the site, and the vegetated woodland buffer along the eastern site boundary, substantially reduces the potential for surface migration of solids in storm water runoff and/or facilitates settling of solids in storm water runoff and limits the potential for wind-blown particulate, particularly in the prevailing (westerly) wind direction. Accordingly, we do not anticipate additional sampling to evaluate this exposure pathway for offsite receptors.

Soil-Groundwater Pathway – Soil with detectable concentrations of heavy metals and PAHs from unconfirmed sources is present at the site, with concentrations of several metals and PAHs being above the applicable groundwater pathway RCLs. However, the depth to groundwater on the site is between approximately 25 and 32 feet, the detections above groundwater pathway RCLs are currently associated with soils primarily in the upper 12 feet of the subsurface, and the inorganic and organic analytes of concern (heavy metals and PAHs) are typically strongly sorbed by soil particles and/or are relatively insoluble in water under normal conditions, which should limit the potential for leaching to groundwater. Groundwater samples collected from temporary wells installed during the Phase 2 did not reveal metals at concentrations above applicable PALs and only one PAH (chrysene) was detected at a concentration above a PAL, which is not uncommon for temporary wells because even the slightest turbidity related to temporary well construction (less filter pack around well screens) can result in a false positive (i.e., results are indicative of analytes sorbed to fine solids rather than an analyte dissolved in groundwater). However, because the locations of groundwater samples do not correlate to the locations with the most elevated concentrations of metals and PAHs in soil, additional assessment is likely necessary to evaluate this exposure pathway for metals and PAHs.

Groundwater Ingestion – Heavy metals and PAHs were detected in groundwater samples collected from the site but only one PAH analyte (chrysene) was detected at a concentration above a PAL. Chrysene has a very low vapor pressure and Henry's Law constant and as such, is considered to be practically insoluble in water under typical conditions. Based on analyte characteristics and the use of temporary wells for initial data collection, we anticipate the initial detections of chrysene in groundwater at the site are false positives (i.e., results are indicative of chrysene sorbed to fine solids rather than in the dissolved phase); however, additional sampling is likely necessary to confirm this opinion. If groundwater impacts above a PAL are confirmed at the site through additional assessment, the groundwater ingestion pathway would nonetheless likely be considered incomplete because current and future occupants of the site would not reasonably come into contact with groundwater that is more than 20 feet below the ground surface and local residents are provided potable water by the City via six water wells located between approximately 2 and 3 miles north (sidegradient) of the site. Furthermore,

Wausau Municipal Code regulates the construction and continued use of private wells within the city where public water service is provided, whereby a private well can be operated temporarily for a non-potable use, for a period not to exceed 5 years, if approved though issuance of a city permit. Based on available records, the City has indicated they are aware of only two private wells located within 1,200 feet of the site that are permitted for operation of a private well for non-potable uses: one at 227 Chellis Street (residence located approximately 600 feet south of the site) and one at 123 Adolph Street (residence located approximately 1,000 feet southeast of the site).

Vapor Intrusion – Vapor intrusion is not considered a relevant pathway at this site because VOCs are not a contaminant of concern (as evidenced by laboratory analysis of 44 soil samples and 3 groundwater samples collected during the Phase 2) and the analytes that were detected in soil and groundwater above regulatory standards at the site are not considered sufficiently volatile to allow for migration from subsurface media into the indoor air of current or future buildings. Accordingly, we do not anticipate additional sampling to evaluate this exposure pathway.

Based on the Phase 2 data and evaluation of potential contaminant sources and exposure routes above, we do not anticipate interim actions being required at this time. The results of this site investigation will determine the need for a remedial action, and if required, provide information necessary to select a remedial action that will be protective of human health and the environment and support regulatory case closure.

3. Investigation Approach and Methodology

3.1 Technical Approach

Based on the data obtained during the Phase 2 and discussion of potential migration pathways and receptors presented in Section 2.3 of this Work Plan, a technical approach for additional assessment of environmental media on the site is provided below.

3.1.1 Soil Direct Contact Pathway

Metals

The concentration of arsenic in soil at SB-8 (0'-4') slightly exceeds the BTV and therefore, is considered to be an exceedance of the non-industrial and industrial direct contact RCLs; however, the deeper sample at that location SB-8 (8'-12') and other samples collected during the Phase 2, including the shallow and deep samples collected at surrounding locations (SB-5, SB-6, SB-7, SB-9, SB-11, SB-13, and SB-14) do not exceed the RCLs. We anticipate additional sampling to confirm the initial arsenic detection at SB-8 and if confirmed, to define the extent of arsenic in soil above the BTV between SB-8 and surrounding Phase 2 locations. If the initial detection of arsenic is not confirmed, we anticipate no additional assessment of arsenic in soil at the site unless the soil-groundwater exposure pathway is deemed relevant for arsenic based on groundwater sampling proposed as part of this Work Plan (refer to Section 3.1.4).

The concentrations of thallium in soil at SB-1 (4'-8'), SB-2 (0'-4' and 4'-8'), SB-3 (0'-4' and 8'-12'), SB-4 (0.5'-4'), SB-6 (0'-4' and 8'-12'), SB-7 (0'-4'), SB-9 (0'-4' and 8'-12'), SB-10 (8'-12'), SB-11 (8'-12'), SB-12 (0'-4' and 8'-12'), SB-14 (0'-4'), SB-15 (0'-4'), SB-16 (0'-4'), SB-18 (0.5'-4' and 10'-12'), and SBGW-1 (11'-15') exceed the non-industrial direct contact RCL. These sample locations, along with nearby locations where thallium was not detected in soil above a RCL (SBGW-3, SB-19, SBGW-2, SB-13, and SB-17), characterize conditions across a majority of the site, except near SB-1 (where a sample from within the direct contact zone was not collected during the Phase 2 due to poor recovery), areas along the east-southeast site boundary (wooded areas east of locations SB-3, SB-6, SBGW-1 and SB-14), and the area beneath the concrete slab foundation of the former industrial building. Additional sampling is anticipated to:

- Evaluate soil conditions in the direct contact zone at SB-1.
- Evaluate soil conditions in the direct contact and deeper zones along the east-southeast boundary of the site and beneath the concrete slab of the former industrial building.

- Evaluate the potential source of thallium through re-sampling, in a more discrete manner, of multiple fill and apparent native soil layers at some of the locations assessed during the Phase 2 that included elevated thallium concentrations.

PAHs

The concentration of benzo(a)pyrene at SB-14 (0'-4' and 8'-12') exceeds the industrial direct contact RCL[2]; however, the shallow and deep samples collected at surrounding locations to the north (SBGW-2 and SB-17), south (SBGW-1, SB-8 and SB-9), and west (SB-11 and SB-13) do not exceed industrial direct contact RCLs. Additional sampling is anticipated to define the extent of benzo(a)pyrene in soil above industrial direct contact RCLs to the east of SB-14 (which includes the former finishing product AST area) and between SB-14 and the surrounding locations to the north, south, and west. The sampling program may provide information to establish whether the PAHs in this area are associated with the former AST systems, historical fill, or some other currently unidentified source.

The concentrations of one or more PAHs in soil at SB-4 (0.5'-4'), SB-5 (0'-4'), SB-8 (0'-4'), SB-9 (0'-4'), SB-10 (0'-4'), and SB-14 (0'-4' and 4'-8') exceed the non-industrial direct contact RCLs. Additionally, due to significantly elevated detection limits reported by the laboratory for soil samples at SB-6 (0'-4' and 8'-12'), soil at that location may also be considered to exceed the non-industrial direct contact RCLs for PAHs. However, shallow and deep samples collected at other locations (particularly SB-15, SB-7, SB-11, SB-13, SBGW-2, SB-17, SBGW-1, and SB-3) where non-industrial direct contact RCLs were not exceeded, partially define the extent. Additional sampling is anticipated to:

- Evaluate soil conditions in the direct contact and deeper zones at and east of SB-6 and beneath the concrete slab of the former industrial building.
- Evaluate soil conditions between sample locations with non-industrial direct contact exceedances and locations without such exceedances to better define the extent, where appropriate.
- Evaluate the potential source of PAHs through re-sampling of multiple fill and apparent native soil layers at some of the locations assessed during the Phase 2 that included concentrations of PAHs, with some locations coinciding with those being assessed for the soil-groundwater and groundwater ingestion pathways.

Other Analytes

Based on the data obtained during the Phase 2 and site background presented in Section 1.4, we do not anticipate the assessment of additional organic or inorganic analytes in soil (e.g., PCP,

[2] The WDNR is proposing revisions to NR 700 whereby direct contact RCLs for some analytes, including benzo(a)pyrene, may be raised by an order of magnitude. If promulgated, the revised RCLs may impact the level of assessment and/or remedy necessary to address some of the PAH detections at this site.

1,4-dioxane, VOCs, and PFAS) with respect to the direct contact pathway unless field screening of samples collected during the site investigation suggest it may be warranted based on observed conditions (i.e., petroleum/solvent odors or elevated photoionization detector [PID] readings).

3.1.2 Soil-Groundwater Pathway

Metals

The concentrations of metals in soil exceed the groundwater pathway RCLs at the following sample locations:

- SB-1, SB-2, SB-3, SB-4, SB-7, SB-10, SB-11, SB-12, SB-15, SB-16, SB-18, and SBGW-1 (thallium only);
- SB-5 (lead only);
- SB-6 (mercury and thallium);
- SB-8 (antimony and arsenic);
- SB-9 (antimony, lead, selenium, and thallium);
- SB-14 (antimony, cadmium, lead, and thallium); and
- SB-17 (antimony and lead).

We anticipate that groundwater sampling proposed in this Work Plan (refer to Section 3.1.4) will be sufficient to demonstrate that the soil-groundwater pathway for metals is incomplete at this site because the depth to groundwater is between approximately 25 and 32 feet, the detections above groundwater pathway RCLs are currently associated with soils primarily in the upper 12 feet of the subsurface, and metals are typically strongly sorbed by soil particles and/or are relatively insoluble in water under normal conditions. Accordingly, except at SB-6 to confirm the initial mercury detection and near SB-17, which is currently a perimeter sample location in the northeast portion of the site with no other RCL exceedances, additional sampling of metals in soil solely (i.e., not associated with evaluation of direct contact pathway) to define the extent of groundwater pathway RCL exceedances is not anticipated unless the soil-groundwater exposure pathway is confirmed for metals based on groundwater sampling, and additional data is necessary to determine the extent of a remedy (e.g., remedial excavation or soil cover) required to protect groundwater quality.

Regardless of groundwater sampling results, we anticipate additional soil sampling at/around SB-17 to define the extent of antimony in soil above a groundwater pathway RCL (and also other metals above a BTV [refer to Section 1.3.1]). If groundwater sampling reveals a complete soil-groundwater exposure pathway for metals, we anticipate an amendment to this Work Plan being prepared and submitted for WDNR review and concurrence if additional soil sampling is

necessary to determine the extent of a remedy required to protect groundwater quality or the extent of soil requiring management as a solid waste during site redevelopment.

PAHs

The concentrations of PAHs in soil exceed the groundwater pathway RCLs at the following sample locations:

- SB-1 and SB-4 (chrysene only);
- SB-5, SB-9, SB-10, and SB-14 (benzo[a]pyrene, benzo[b]fluoranthene, and chrysene); and
- SB-8 (benzo[a]pyrene only).

We anticipate that groundwater sampling proposed in this Work Plan (refer to Section 3.1.4) will be sufficient to demonstrate that the soil-groundwater pathway for PAHs is incomplete at this site because the depth to groundwater is between approximately 25 and 32 feet, the detections above groundwater pathway RCLs are currently associated with soils primarily in the upper 12 feet of the subsurface, and PAHs are typically strongly sorbed by soil particles and/or are relatively insoluble in water under normal conditions. Accordingly, additional sampling of soil for PAHs solely (i.e., not associated with evaluation of direct contact pathway) to define the degree and extent of groundwater pathway RCL exceedances at the site is not anticipated unless the soil-groundwater exposure pathway is confirmed for PAHs based on groundwater sampling, and additional data is necessary to determine the extent of a remedy (e.g., remedial excavation or soil cover) required to protect groundwater quality. If groundwater sampling reveals a complete soil-groundwater exposure pathway for PAHs, we anticipate an amendment to this Work Plan being prepared and submitted for WDNR review and concurrence if additional soil sampling is necessary to determine the extent of a remedy required to protect groundwater quality.

Other Analytes

Based on the data obtained during the Phase 2 and site background presented in Section 1.4, we do not anticipate the assessment of additional organic or inorganic analytes in soil with respect to the soil-groundwater pathway unless field screening of samples collected during the site investigation suggest it may be warranted based on observed conditions (i.e., petroleum/solvent odors or elevated PID readings).

PFAS detections in soil at the site are below current RCLs. Nevertheless, based on an initial meeting with the WDNR, additional soil sampling is anticipated to evaluate the potential source of PFAS (i.e., background condition versus onsite source) through re-sampling of fill and apparent native soil layers at the locations assessed during the Phase 2 that included the highest concentrations of PFAS (SB-8 and SB-14).

3.1.3 Soil BTVs

The concentrations of metals in soil exceed the BTVs at the following sample locations:

- SB-1 (chromium only [0'-4']);
- SB-5 (copper [0'-4'] and lead [8'-12']);
- SB-8 (arsenic [0'-4'] and copper [0'-4']);
- SB-9 (copper [0'-4'] and lead [0'-4']);
- SB-13 (copper only [0.5'-4']);
- SB-14 (cadmium [4'-8'], copper [4'-8'], and lead [4'-8']); and
- SB-17 (copper [8'-12']and lead [8'-12']).

Except for lead at/near SB-5 and copper and lead at/near SB-17, we do not anticipate additional sampling at the site for metals solely to define the extent of BTV exceedances because the detections above a BTV at other locations (except SB-13) coincide with metals and/or PAHs above RCLs that will dictate remedy selection and/or soil management decisions during site redevelopment. At SB-13, the vertical extent of copper above a BTV is defined by SB-13 (8'-12'), the lateral extent to the north and west is already defined by surrounding sample locations (SBGW-2, SB-11, SB-12, SB-16), and the lateral extent to the east and south is already defined (SB-2, SB-3, SB-5 and SB-6) or will be defined coincidentally with metals sampling proposed along the east-southeast boundary of the site for the direct contact pathway.

Additional sampling is anticipated to:

- Evaluate the vertical extent of lead BTV exceedances (deeper than 12 feet) at SB-5. Because the lateral extent of lead BTV exceedances is currently defined by surrounding sample locations SB-1, SB-3, SB-4, SB-6, SB-7, and SB-8, if BTV exceedances do not extend deeper than 12 feet at SB-5, we would not anticipate further assessment of lead at/near SB-5. If lead BTV exceedances extend deeper than 12 feet at SB-5, we anticipate an amendment to this Work Plan being prepared and submitted for WDNR review to further evaluate the lateral extent of lead BTV exceedances near SB-5.
- Evaluate the vertical extent of copper and lead BTV exceedances (deeper than 12 feet) at SB-17 and the lateral extent of copper and lead BTV exceedances to the north and east of SB-17. The lateral extent to the west is already defined by surrounding sample locations SBGW-2 and SB-19 and the lateral extent to the south will be defined coincidentally with metals sampling proposed along the east-southeast boundary of the site for the direct contact and groundwater pathways.

3.1.4 Groundwater Ingestion Pathway

Metals

We anticipate sampling being required to evaluate groundwater quality with respect to the soil-groundwater pathway RCL exceedances for metals summarized in Section 3.1.2. However, we do not anticipate that groundwater quality will be assessed at every location with RCL exceedances but rather, only at select locations (primarily coinciding with those being used for evaluation of PAHs in groundwater) where soil conditions are considered representative of the risk to groundwater quality at the site. Accordingly, additional sampling is anticipated to:

- Evaluate groundwater at SB-1 related to thallium (most elevated soil concentration), which coincides with a location proposed for assessment of PAHs in groundwater;
- Evaluate groundwater at SB-5 related to lead (most elevated soil concentration), which coincides with a location proposed for assessment of PAHs in groundwater;
- Evaluate PP metals in groundwater at SB-14, which corresponds to the most elevated soil concentration of antimony and cadmium and the second most elevated soil concentration of lead; and
- Evaluate thallium in groundwater at SBGW-1, which coincides with a location proposed for assessment of PAHs in groundwater.

PAHs

We anticipate sampling being required to confirm the initial detections of PAHs (chrysene) in groundwater above a PAL and to evaluate groundwater quality with respect to the soil-groundwater pathway RCL exceedances for PAHs summarized in Section 3.1.2. However, we do not anticipate that groundwater quality will be assessed at every location with RCL exceedances but rather, only at select locations where soil conditions are considered representative of the risk to groundwater quality at the site. Accordingly, additional sampling is anticipated to:

- Confirm the initial detections of PAHs (chrysene) in groundwater above a PAL at SBGW-1 and SBGW-3, with SBGW-1 being representative of conditions downgradient of nearby location SB-9 where elevated (but not the most elevated) concentrations of PAHs were identified in soil and SBGW-3 potentially being representative of upgradient (i.e., offsite) groundwater influences;
- Evaluate PAHs in groundwater at SB-1 related to chrysene in soil, where SB-1 (along with SBGW-3) could potentially be representative of upgradient (i.e., offsite) groundwater influences;
- Evaluate PAHs in groundwater at SB-5 related to benzo(a)pyrene, benzo(b)fluoranthene, and chrysene in soil; and

- Evaluate PAHs in groundwater at SB-14 related to benzo(a)pyrene, benzo(b)fluoranthene, and chrysene in soil, which represent the most elevated PAH concentrations detected in soil during the Phase 2.

Other Analytes

Based on the data obtained during the Phase 2 and site background presented in Section 1.4, we do not anticipate the assessment of additional organic or inorganic analytes in groundwater unless analytical results of other soil samples proposed as part of this Work Plan reveal a potential soil-groundwater pathway exposure (e.g., if VOC soil sampling is completed based on results of field screening and analytical results indicate groundwater pathway RCL exceedances for VOCs).

3.2 Investigation Activities

The primary objectives of the site investigation are to further characterize the risks to human health and the environment related to organic and inorganic analytes detected in soil and groundwater on the site during the Phase 2, gather information necessary to evaluate remedial alternatives for addressing those risks, and define the extent of environmental media requiring management as a solid waste if disturbed during future site redevelopment. Activities proposed to satisfy these objectives are illustrated on Figure S2 and summarized below.

3.2.1 Soil Sampling

Soil borings will be advanced and soil samples will be collected from multiple depth intervals at the following locations to further characterize soil conditions on the site. The naming convention for the proposed borings with a prefix of "SIWP-" will be adjusted at the time of fieldwork, based on the field progression at that time, to follow the naming convention established during the Phase 2 (i.e., borings will have a "SB-" prefix and sequential numbers starting with SB-20).

- SIWP-1 to SIWP-5: characterize conditions beneath the concrete slab of the former industrial building, with PAHs and PP metals being assessed at all locations;
- SIWP-6: characterize conditions in the northeast corner of the site with respect to PAHs and PP metals;
- SIWP-7, SIWP-8, and SB-17R: evaluate the lateral and vertical extent of antimony, copper, and lead at/near Phase 2 sample location SB-17;
- SIWP-9, SIWP-10, SIWP-11, SIWP-12, and SB-14R: evaluate the lateral and vertical extent of PAHs and metals (antimony, cadmium, copper, lead, and thallium) at/near original sample location SB-14R and characteristics of fill and native soil layers with respect to PAHs and metals;
- SIWP-13: characterize conditions along the east boundary of the site with respect to PAHs and metals (antimony, cadmium, copper, lead, and thallium);

- SIWP-14: characterize conditions east of Phase 2 sample location SB-6 with respect to PAHs and metals (mercury and thallium);
- SIWP-15: characterize conditions along the east-southeast boundary of the site with respect to thallium;
- SIWP-16: characterize conditions between Phase 2 sample locations SB-2, SB-5 and SB-6 with respect to PAHs;
- SBGW-1R: evaluate the vertical extent of thallium at Phase 2 sample location SBGW-1;
- SB-1R: characterize conditions in the direct contact zone at Phase 2 sample location SB-1 with respect to PAHs and metals (copper, lead, and thallium);
- SB-2R: evaluate the vertical extent of thallium at Phase 2 sample location SB-2 and characteristics of fill and native soil layers with respect to thallium;
- SB-3R: evaluate the vertical extent of thallium at Phase 2 sample location SB-3 and characteristics of fill and native soil layers with respect to thallium;
- SB-5R: confirm the initial detection of copper and evaluate the vertical extent of lead at Phase 2 sample location SB-5;
- SB-6R: re-assess PAHs (due to prior elevated detection limits), confirm the initial detection of mercury, evaluate the vertical extent of thallium, and evaluate characteristics of fill and native soil layers with respect to thallium at Phase 2 sample location SB-6;
- SB-8R: confirm the initial detection of arsenic and evaluate the characteristics of fill and native soil layers with respect to PFAS at Phase 2 sample location SB-8 (assess arsenic at contingency locations around SB-8R if initial detection of arsenic above the BTV is confirmed);
- SB-9R: evaluate the vertical extent of thallium at Phase 2 sample location SB-9 and characteristics of fill and native soil layers with respect to thallium;
- SB-10R: evaluate the vertical extent of thallium at Phase 2 sample location SB-10;
- SB-11R: evaluate the vertical extent of thallium at Phase 2 sample location SB-11; and
- SB-12R: evaluate the vertical extent of thallium at Phase 2 sample location SB-12.
- SB-14R: evaluate the vertical extent of PAHs and metals (antimony, cadmium, copper, lead, and thallium) and evaluate the characteristics of fill and native soil layers with respect to PFAS at Phase 2 sample location SB-14 .
- SB-17R: evaluate the vertical extent of metals (antimony, copper, and lead) at Phase 2 sample location SB-17.

3.2.2 Groundwater Sampling

Groundwater monitoring wells will be installed and groundwater will be sampled at the following locations to further characterize groundwater conditions on the site:

- SBGW-1R: to confirm the initial detection of chrysene (above a PAL) and assess thallium.
- SBGW-3R: to confirm the initial detection of chrysene (above a PAL);
- SB-1R: to assess thallium and PAHs;
- SB-5R: to assess lead and PAHs; and
- SB-14R: to assess PP metals and PAHs.

3.3 Investigation Methods

The following soil boring and monitoring well positioning, soil sampling, groundwater monitoring well installation, and groundwater sampling methods are proposed to meet the objectives of this Work Plan.

3.3.1 Soil Boring and Monitoring Well Positioning

Following receipt of WDNR concurrence on this Work Plan, GEI will mobilize to the site with Trimble Geographical Positioning System (GPS) equipment (Trimble R8S Receiver) to re-establish the original Phase 2 soil boring and monitoring well locations and stake/mark the sampling locations proposed in this Work Plan. At that time, proposed sampling locations will be assessed for utility clearance, aboveground obstructions, and other issues that may preclude advancement of borings as planned. If sampling locations must be moved, GEI will provide a revised Figure S2 and explanation of the proposed changes to the WDNR for review and concurrence.

3.3.2 Soil Sampling

Soil borings for collection of soil samples will be advanced using hydraulic direct-push (i.e., Geoprobe) technology, with samples being collected in a clear polyvinyl chloride (PVC) liner contained within a 4-foot-long, 2-inch-diameter Macrocore sampler. As the sampler is retrieved, soils will be preliminarily classified in the field and sub-samples retained from the liner for field screening and laboratory analyses. Soil samples will be field-screened using visual and olfactory observations and a photoionization detector (PID) equipped with a 10.6-electron volt lamp to qualitatively assess the presence of VOCs. Information regarding soil types, drilling conditions, field-screening results, apparent depth to water, and approximate locations of stratigraphic changes will be noted at the time of sampling and documented on the field logs. Soil classifications will be based upon the texture and plasticity of the soil, in general accordance with the Unified Soil Classification System (USCS).

Soil samples selected for laboratory analysis will be placed in appropriate containers provided by the laboratory and immediately placed into a cooler with ice for temporary field storage. Each soil sample container will be labeled with the sample location, sample depth,

sample preservative, sample date and time, and project number. The samples will be maintained in a cooler with ice during the fieldwork and until they can be delivered to the analytical laboratory for analysis.

Down-hole soil sampling equipment (Macrocore sampler, etc.) will be decontaminated using an Alconox® or equivalent detergent wash followed by a potable water rinse, before arriving to the site, prior to its initial use, and between sample locations to reduce the potential for cross-contamination. For the two locations proposed for PFAS soil sampling, the potable water rinse will be followed by a final rinse using PFAS-free water. Additionally, field personnel and contractors will use powderless nitrile gloves; refrain from wearing clothing known or suspected to include waterproofing, water-repelling or dirt and/or stain-resisting coatings; and generally, follow other recommended procedures associated with PFAS sampling.

The anticipated direct-push boring termination depths for each sample location are summarized below; however, final depths may be adjusted shallower or deeper at some locations depending on fill encountered (e.g., 24-foot boring beneath the building may be adjusted shallower if apparent native soil is encountered at a depth of 8 feet).

Probe Location	Termination Depth (feet)	Probe Location	Termination Depth (feet)	Probe Location	Termination Depth (feet)
SB-1R	4	SB-17R	24	SIWP-9	24
SB-2R	24	SBGW-1R	24	SIWP-10	24
SB-3R	24	SIWP-1	24	SIWP-11	24
SB-5R	24	SIWP-2	24	SIWP-12	24
SB-6R	24	SIWP-3	24	SIWP-13	24
SB-8R	24	SIWP-4	24	SIWP-14	24
SB-9R	2	SIWP-5	24	SIWP-15	24
SB-11R	24	SIWP-6	24	SIWP-16	24
SB-12R	24	SIWP-7	24		
SB-14R	24	SIWP-8	24		

3.3.3 Montoring Well Installation

Following the collection of soil samples, additional soil borings will be blind-drilled using 4.25-inch inside diameter (approximately 8.25-inch outside diameter) hollow stem augers for the installation of monitoring wells at the proposed groundwater sampling locations. No soil samples will be collected for classification or laboratory analysis from the auger borings.

Down-hole soil sampling equipment (augers, etc.) will be decontaminated before arriving to the site, prior to its initial use, and between sample locations to reduce the potential for cross-contamination. The decontamination occurring on the site will include an Alconox® or equivalent detergent wash followed by a potable water rinse.

The anticipated auger boring termination depths are summarized below; however, final depths may be adjusted shallower or deeper depending on the depth to groundwater encountered during drilling.

Auger Location	Termination Depth (feet)	Auger Location	Termination Depth (feet)	Auger Location	Termination Depth (feet)
SB-1R	30 - 35	SB-14R	30 - 35	SBGW-3R	35 - 40
SB-5R	30 - 35	SBGW-1R	30 - 35		

Groundwater monitoring wells will be installed in accordance with Chapter NR 141, Wisconsin Administrative Code, with the wells being constructed of a factory-cut, 2-inch diameter, 10-foot long section of Schedule 40 PVC well screen threaded onto an end cap. The upper end of the screened portion will be threaded onto 5- to 10-foot sections of 2-inch diameter solid PVC pipe that will terminate a few feet above the ground surface to allow for the installation of an aboveground, lockable steel protector pipe. The upper end of the solid PVC pipe will be fitted with a locking well plug with an expandable gasket. The well screens will be installed to intersect the groundwater surface encountered during advancement of the soil borings, which is anticipated to be between approximately 25 and 32 feet based on Phase 2 observations. A silica sand filter pack will be placed in the bottom of the borehole and in the annular space between the boring wall and monitoring well such that the filter pack extends at least 6 inches below and 2 feet above the well screen. Bentonite will be used to fill/seal the remaining annular space from the top of the filter pack to the ground surface.

3.3.4 Groundwater Sampling

Following installation, the groundwater monitoring wells will be developed with surge and purge methods in accordance with Chapter NR 141, Wisconsin Administrative Code, either by using PVC bailers or a pump with high-density polyethylene, silicone, or other suitable materials. The wells will be allowed to recover for at least two days before measuring the water level and well depths, purging, and colleting groundwater samples for laboratory analysis using PVC bailers or a pump with appropriate tubing. Groundwater samples will be placed in appropriate containers provided by the laboratory and immediately placed into a cooler with ice for temporary field storage. Each groundwater sample container will be labeled with the sample location, sample preservative, sample date and time, and project number. The samples will be maintained in a cooler with ice during the fieldwork and until they can be delivered to the analytical laboratory for analysis.

3.3.5 Quality Assurance/Quality Control

Quality assurance and quality control (QA/QC) measures are activities completed to demonstrate the accuracy and precision of environmental monitoring. Per NR 716.13, QA/QC measures must include: the decontamination of all sampling instruments between each sampling event, unless dedicated or disposable sampling devices are used in a manner

that prevents cross contamination or other unintended contamination of samples; use of chain-of-custody documentation; preparation/use of field, trip, and temperature blanks; and collection of duplicate samples. Chain-of-custody use and decontamination procedures are described in preceding sections of this Work Plan.

Field and trip blanks are used to evaluate the potential for cross contamination of site samples, with trip blanks being used to assess the potential for contaminant migration during sample shipment and storage (typically only for VOC samples) and field blanks being used to assess the potential for procedural contamination during sampling. Temperature blanks are used to evaluate the effectiveness of sample preservation methods for those sample containers that require cooling for preservation. Duplicate samples are most often used to evaluate the precision/reproducibility of laboratory results.

Based on sampling proposed in this Work Plan and requirements of NR 716.13, we propose the following QA/QC measures:

- Samples will be submitted under chain-of-custody control;
- Samples will be maintained on ice and one temperature blank will be included in each cooler used for temporary storage and delivery of samples to the laboratory;
- Sampling equipment will be decontaminated prior to its initial use and between sample locations or dedicated or disposable sampling devices will be used in a manner that prevents cross contamination or other unintended contamination of samples;
- Duplicate water samples will be generated at a rate of 1 for every 10 or fewer site samples, with a minimum of 1 per day of groundwater sample collection; and
- One equipment blank, consisting of a water sample collected from the final PFAS-free water rinse of the Macrocore sampler, will be collected before initiating sampling at each location proposed for PFAS assessment.

3.4 Sample Analysis

Environmental samples for laboratory analysis will be submitted to a Wisconsin-certified analytical laboratory for analysis of analytes of concern specific to each assessment location. A summary of the number of samples anticipated at each assessment location, approximate depth intervals of those samples, and the associated analytes is provided below. Except where samples are being collected to define the lateral extent of analyte concentrations previously detected within a specific interval (e.g., samples at SIWP-8 will include 0'-4' and 8'-12' intervals, similar to what was completed at SB-17 during the Phase 2), the numbers of samples and depths may be adjusted at some locations based on field observations. Additionally, VOCs may be added to the analyte list for certain samples if elevated PID readings or other evidence of VOC impact are noted during sampling.

3.4.1 Soil Analytical

Location	Sample Quantity	Soil Sample Intervals (Feet)	PAHs	PFAS	PP Metals	Antimony	Arsenic	Cadmium	Copper	Lead	Mercury	Thallium
SB-1R	2	0.5-2, 2-4	X						X	X		X
SB-2R	6	0-2, 2-4, 8-10, 12-14, 16-18, 22-24										X
SB-3R	5	0-2, 2-4, 12-14, 16-18, 22-24										X
SB-5R	2	0-2, 2-4							X			
	3	12-14, 16-18, 22-24								X		
SB-6R	2	0-2, 2-4									X	
	7	0-2, 2-4, 5-7, 8-12, 12-14, 16-18, 22-24	X									X
SB-8R	2	0-2, 2-4					X					
	6	0-2, 2-4, 4-8, 8-12, 16-18, 22-24		X								
SB-9R	6	0-2, 2-4, 6-8, 12-14, 16-18, 22-24										X
SB-10R	3	12-14, 16-18, 22-24										X
SB-11R	3	12-14, 16-18, 22-24										X
SB-12R	3	12-14, 16-18, 22-24										X
SB-14R	4	8-12, 12-14, 16-18, 22-24	X			X		X	X	X		X
	6	0-2, 2-4, 4-8, 8-12, 16-18, 22-24		X								
SB-17R	3	12-14, 16-18, 22-24				X			X	X		
SBGW-1R	4	0-2, 2-4, 16-18, 22-24										X
SIWP-1	6	0.5-4, 4-8, 8-12, 12-14, 16-18, 22-24	X		X							
SIWP-2	6	0.5-4, 4-8, 8-12, 12-14, 16-18, 22-24	X		X							
SIWP-3	6	0.5-4, 4-8, 8-12, 12-14, 16-18, 22-24	X		X							
SIWP-4	6	0.5-4, 4-8, 8-12, 12-14, 16-18, 22-24	X		X							
SIWP-5	6	0.5-4, 4-8, 8-12, 12-14, 16-18, 22-24	X		X							
SIWP-6	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X		X							
SIWP-7	6	0.5-2, 2-4, 8-12, 12-14, 16-18, 22-24				X			X	X		
SIWP-8	6	0-2, 2-4, 8-12, 12-14, 16-18, 22-24				X			X	X		
SIWP-9	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X			X		X	X	X		X
SIWP-10	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X			X		X	X	X		X
SIWP-11	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X			X		X	X	X		X
SIWP-12	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X			X		X	X	X		X
SIWP-13	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X			X		X	X	X		X
SIWP-14	2	0-2, 2-4									X	
	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X									X
SIWP-15	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24										X
SIWP-16	7	0-2, 2-4, 4-8, 8-12, 12-14, 16-18, 22-24	X									

Anticipated analytical methods and minimum detection limits (MDLs) associated with soil sample analyses are summarized below. If matrix interferences are encountered, which is common for environmental media, higher minimum detection limits may be reported by the laboratory.

- PAHs: Analytical Method (EPA 8270); MDLs (varies by analyte, but generally between 20 and 80 micrograms per kilogram).
- PFAS: Analytical Method (LC/MS/MS with Isotope Dilution); MDLs (varies by analyte, but generally between 0.2 and 20 micrograms per kilogram).
- Metals: Analytical Methods (EPA 6010 & 7471); MDLs (varies by analyte, but generally between 0.01 and 0.02 milligrams per kilogram for mercury and between 0.1 and 2 milligrams per kilogram for other metals).

3.4.2 Water Analytical

Location	PAHs	PFAS	PP Metals	Lead	Thallium
SB-1R	X				X
SB-5R	X			X	
SB-14R	X		X		
SBGW-1R	X				X
SBGW-3R	X				
Duplicates (SB-14R)	X		X		
Equipment Blanks (Macrocore)		X			

Anticipated analytical methods and MDLs associated with water sample analyses are summarized below. If matrix interferences are encountered, which is common for environmental media, higher minimum detection limits may be reported by the laboratory.

- PAHs: Analytical Method (EPA 8270 by HVI); MDLs (varies by analyte, but generally between 0.005 and 0.02 micrograms per liter).
- PFAS: Analytical Method (LC/MS/MS with Isotope Dilution); MDLs (varies by analyte, but generally between 0.5 and 4 nanograms per liter).
- Metals: Analytical Methods (EPA 6020 & 7470); MDLs (varies by analyte, but generally between 0.05 and 0.07 micrograms per liter for mercury and between 0.1 and 10 micrograms per liter for other metals).

We anticipate soil and water samples being analyzed by Pace Analytical Services, LLC (Pace) and/or Eurofins TestAmerica (Eurofins). Both laboratories have Wisconsin certifications for the most common organic and inorganic analytes (PAHs, metals, etc.). Eurofins also currently has Wisconsin certifications for PFAS in solids and water. Pace has a Wisconsin certification for PFAS in drinking water but does not currently have certifications

for PFAS in groundwater or solids; Pace has applied for those certifications but as of the date of this Work Plan, certifications have not yet been granted. If Pace is not granted Wisconsin certifications for PFAS in groundwater and solids before site investigation samples are collected, we anticipate PFAS samples being submitted to Eurofins for analysis.

3.5 Investigative Waste Management

Soil cuttings generated during advancement of auger borings and excess soil generated during advancement and sampling of direct-push borings will be placed in 55-gallon capacity steel drums (with fastened lids) and stored on the site until the site investigation is complete. Likewise, water generated during development and purging of groundwater monitoring wells will be placed in separate 55-gallon capacity steel drums and stored on the site until the site investigation is complete. The drums will be properly labeled with the site address, contents, generation date, and contact name and phone number. At the conclusion of the site investigation, drummed soils and water will be properly disposed, with waste characterization being completed as necessary to satisfy waste acceptance conditions of the selected disposal facilities.

3.6 Reporting

Following the completion of site investigation activities, a Site Investigation report will be prepared to document the methods and results of the investigation and provide interpretations of the data in general accordance with Chapter NR 716, Wisconsin Administrative Code. The report will include a tabular summary of soil analytical results for samples collected during the investigation and the prior Phase 2; site diagrams depicting sample locations, analytical results, and anticipated extent of impacts above NR 720 RCLs and NR 140 PALs and ESs; cross sections; copies of laboratory analytical reports; and discussion of additional actions that may be necessary to pursue regulatory case closure.

4. Schedule

Wisconsin Administrative Code requires a site investigation to be initiated within 90 days of Work Plan submittal or within 60 days of WDNR review of the Work Plan, if WDNR review is requested and the mandatory review fee is paid. Additionally, Wisconsin Administrative Code requires the Site Investigation report to be completed within 60 days of the completion of the site investigation. This Work Plan is being submitted for WDNR review and concurrence and therefore, we anticipate the site investigation commencing within 60 days after receiving WDNR concurrence.

5. References

GEI Consultants, Inc., *REI, Phase I Environmental Site Assessment Report, Former Business Incubator, 1300 Cleveland Avenue, Wausau, WI 54401, February 4, 2020*.

REI*, Phase I Environmental Site Assessment Report, Former Business Incubator, 1300 Cleveland Avenue, Wausau, WI 54401, February 4, 2020*

United States Geological Survey, *Water Resources of Wisconsin, Lake Michigan Basin, Hydrologic Investigations Atlas HA-432, 1973*.

U.S. Department of Agriculture, Natural Resource Conservation Service Web Soil Survey, information available as of September 22, 2016.

Wisconsin Department of Natural Resources, *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin, PUB-RR-800, December 2010*.

6. Certification

I, Michael DeBraske, hereby certify that I am a Professional engineer as that term is defined in NR 712.03(2), 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.

Michael L. DeBraske, P.E
Senior Project Engineer

April 14, 2021
Date

I, Roger Miller, hereby certify that I am a hydrogeologist as that term is defined in NR 712.03(1), 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.

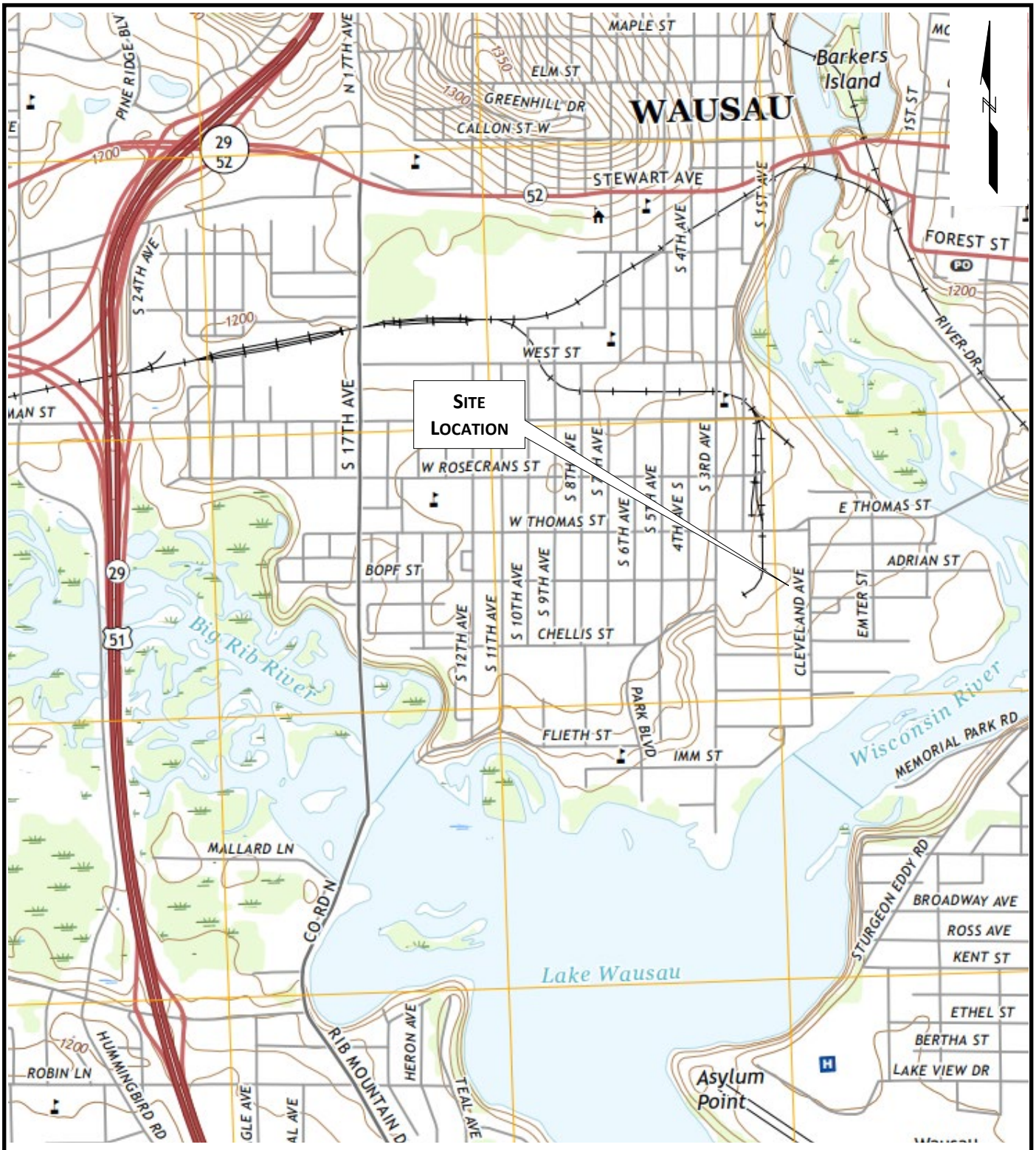
Roger A. Miller, P.G., C.P.G.
Senior Hydrogeologist

April 14, 2021
Date

Figures

Figure S1 – Site Location Map

Figure S2 – Proposed Work Plan Assessment Locations



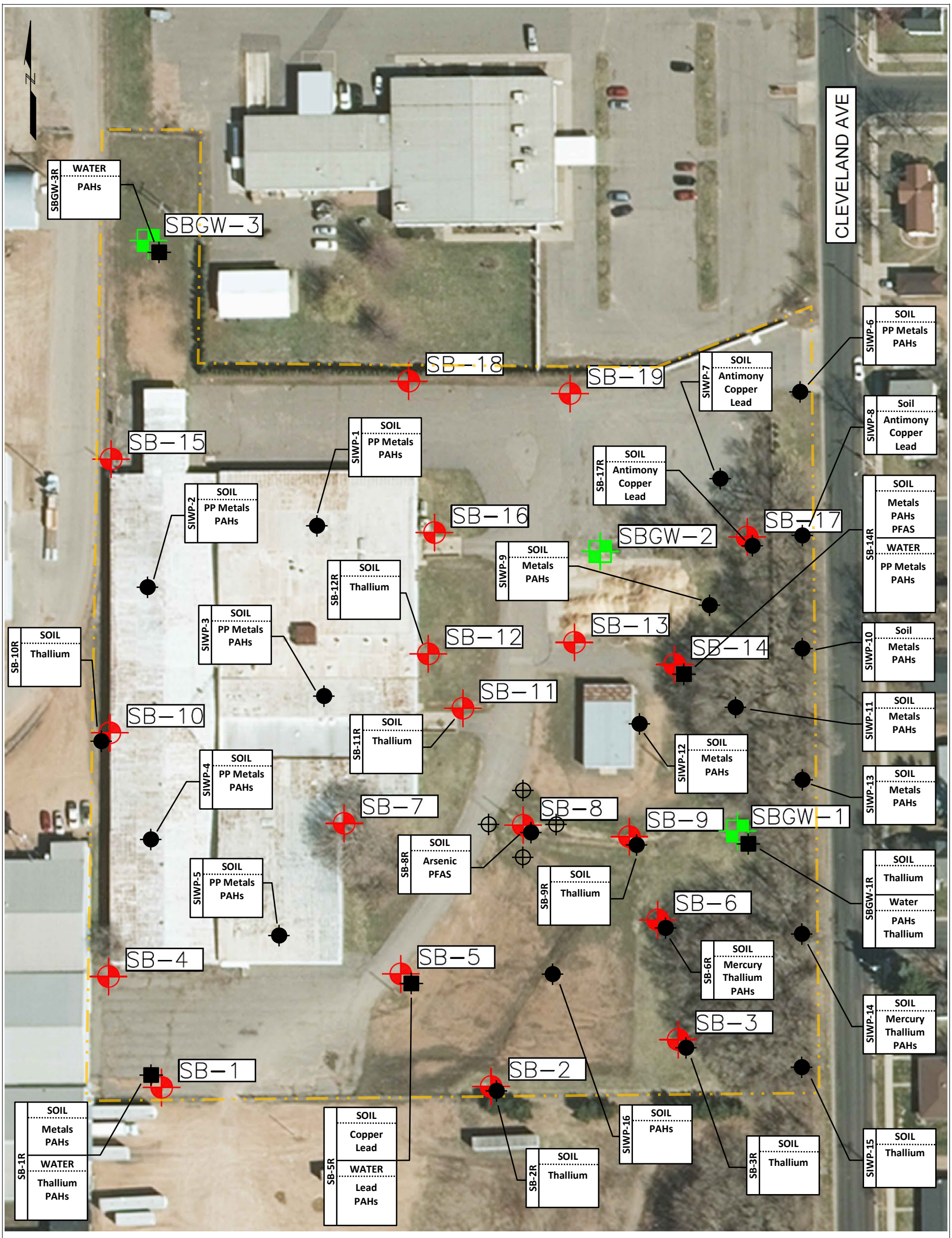
NOTES:

1. BASED ON A 2018 USGS MAP (WAUSAU WEST, WI)

0 1600 3200

APPROXIMATE SCALE

1300 Cleveland Avenue Wausau, Wisconsin	GEI Consultants	SITE LOCATION MAP
City of Wausau Wausau, Wisconsin	Project 2004400	April 2021 Fig. S1



LEGEND

- PREVIOUS SOIL BORING LOCATION
- PROPOSED SOIL BORING LOCATION (PRIMARY)
- PROPOSED SOIL BORING LOCATION (CONTINGENT)
- PREVIOUS TEMPORARY MONITORING WELL LOCATION
- PROPOSED NR 141 MONITORING WELL LOCATION
- SITE BOUNDARY

NOTES

1. REFER TO WORK PLAN FOR SPECIFIC "METALS" ANALYTES AT EACH LOCATION

0 70 140

SCALE: 1" =70'

1300 Cleveland Avenue Wausau, WI	GEI Consultants	Proposed Work Plan Assessment Locations
City of Wausau	2004400	April 2021 Figure S2