



June 3, 2022

Mrs. Karen Campoli  
Remediation and Redevelopment Program  
Wisconsin Department of Natural Resources  
2984 Shawano Avenue  
Green Bay, Wisconsin 54313

Subject: Site Investigation Work Plan - 2  
Calumet Village  
1717 E. Calumet Street  
Appleton, Wisconsin 54911  
UEC Project No. 19044  
BRRTS #02-08-585360

Dear Mrs. Campoli:

On behalf of Bridgeview Associates LLP, United Engineering Consultants, Inc. (United) is pleased to submit this Site Investigation Work Plan (SIWP) for the above referenced property. The Wisconsin Department of Natural Resources (WDNR) requested the preparation and submittal of a SIWP in written correspondence dated May 19, 2022 in order to further define the degree and extent of tetrachloroethene (PCE) soil contamination west of the southwestern corner of the site building, to define the degree and extent of chlorinated solvent groundwater contamination west of the structure and to evaluate the sub-slab vapor quality at an accessible location east of the former dry-cleaning machine. If you have any questions or would like to discuss any part of this submittal please contact us at (262) 785-1447.

Sincerely,  
**UNITED ENGINEERING CONSULTANTS, INC.**

Nicholas J. Anderson, P.E.  
Staff Engineer

Timothy J. Anderson, P.E.  
Principal

**SITE INVESTIGATION WORK PLAN**

**PREPARED FOR:**

**CALUMET VILLAGE  
1717 E. CALUMET STREET  
APPLETON, WISCONSIN 54911**

**PREPARED BY:**

**UNITED ENGINEERING CONSULTANTS, INC.  
2938 S. 166<sup>TH</sup> STREET  
NEW BERLIN, WISCONSIN 53151**

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## CERTIFICATION

I, Timothy J. Anderson, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all 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.



Principal

June 3, 2022

I, Scott Brockway, 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.



Hydrogeologist

June 3, 2022

I, Nicholas J. Anderson, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (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.



Staff Engineer

June 3, 2022

## 1.0 INTRODUCTION

United has prepared this Site Investigation Work Plan (SIWP) for the Calumet Village property on behalf of Mr. Steve Winter of Bridgeview Associates LLP, the current property owner. The SIWP summarizes the proposed scope of work to define the degree and extent of tetrachloroethene (PCE) soil contamination west of the southwestern corner of the site building, to define the degree and extent of the chlorinated solvent groundwater contamination west of the structure and to evaluate the sub-slab vapor quality at an accessible location east of the former dry-cleaning machine. This work plan has been prepared in general accordance with Wisconsin Administrative Code (WAC) NR 716.09.

Contact information for the responsible party, consultant and drilling and analytical service commodity providers for this project are indicated below:

<u>Responsible Party:</u>	Mr. Steve Winter Bridgeview Associates LLP 3305 North Ballard Road, Suite C Appleton, Wisconsin 54911 Phone: (920) 733-3214
<u>Consultant:</u>	Mr. Timothy J. Anderson, P.E. United Engineering Consultants, Inc. 2938 South 166 <sup>th</sup> Street New Berlin, Wisconsin 53151 Phone: (262) 785-1447
<u>Drilling Commodity Provider:</u>	Probe Technologies, Inc. 7781 Pathfinder Lane West Bend, Wisconsin 53090 Phone: (262) 470-4768
<u>Analytical Commodity Provider:</u>	Environmental Monitoring and Technologies, Inc. 509 N. 3 <sup>rd</sup> Avenue Des Plaines, Illinois 60016 Phone: (800) 246-0663

## 1.1 PURPOSE

The purpose of this SIWP is to summarize the proposed soil, groundwater and vapor sample locations and laboratory analytical methodologies utilized to determine the lateral and vertical extent of the PCE and trichloroethene (TCE) impacts to the subsurface on the subject property.

## 1.2 SITE LOCATION

The subject property is located at 1717 E. Calumet Street which is within the Northwest  $\frac{1}{4}$  of the Northwest  $\frac{1}{4}$  of Section 5, Township 20 North, Range 18 East of the City of Appleton in Calumet County, Wisconsin (See Figure 1: Site Location Map). The parcel's Wisconsin Transverse Mercator (WTM) X and Y coordinates are 649433 and 420221, respectively, as noted by the Bureau for Remediation and Redevelopment Tracking System (BRRTS).

The site is bordered to the west by several residences followed by the South Telulah Avenue right-of-way, to the south by the Coolidge Court right-of-way followed by an undeveloped parcel and an apartment complex (Schaefer Circle Apartments – 1503 Schaefer Circle), to the east by a multi-tenant commercial building (Ace Hardware, The Reel Shot and Ye Old Goat - 1919 E. Calumet Street) and associated asphaltic parking lot followed by a bank/insurance agency (Huntington Insurance – 1935 E. Calumet Street) and to the north by the East Calumet Street right-of-way followed by several residences.

## 1.3 SITE FEATURES

The subject property is approximately 0.94 acres in size and is currently developed with a six (6) unit, single-story commercial building, without a basement, approximately eight thousand four hundred (8,400) square feet in plan dimension. Concrete sidewalks are located west and east of the structure. A dumpster corral is located at the southwest corner of the parcel. The remainder of the site is covered with asphaltic concrete with the exception of landscaped areas of mown grass and a few deciduous trees located along the subject property's borders. The site building is currently leased by Highlites Hair Salon LLC, American Family Mutual Insurance Co., Edward D. Jones & Co LLP, Pizza King of Appleton LLC and Bayside Home Medical (See Figure 2: Site Plan Map).

Underground natural gas and potable water service enter the western elevation of the site building from laterals connected to mains in the East Calumet Street right-of-way. The sanitary sewer service enters the northeast corner of the structure from a lateral connected to a main in the East Calumet Street right-of-way. The existing interior floor drains are connected to the sanitary sewer lateral. Two (2) exterior catch basins are connected to the storm sewer in the East Calumet right-of-way. Overhead electric and telephone service also enter the western elevation of the site building from a utility pole located adjacent to the western property line.

A review of the information collected by the National Cooperative Soil Survey on behalf of the United States Department of Agriculture Natural Resources Conservation Service indicates the subject property is covered by Briggsville silt loam. The Briggsville silt loam is a moderately well-drained soil formed by stratified silty and clayey lacustrine deposits. This soil is considered prime farmland.

Topographic maps of the area indicate the site elevation ranges from approximately eight hundred (800) to eight hundred ten (810) feet above Mean Sea Level (MSL). The site is not located within an environmentally sensitive area.

Depth to bedrock in this region reportedly ranges from one hundred (100) to two hundred (200) feet below the ground surface (bgs). The uppermost bedrock unit below the subject property is believed to be of the Sinnipee Group. This formation is characterized by dolomite with some limestone and shale; includes Galena, Decorah and Platteville formations.

Groundwater was not encountered during the advancement of the probe throughout the approximate depths of the boreholes ranging from sixteen (16) to twenty (20) foot. During delayed sampling of the temporary wells, groundwater levels were measured between three (3) and six (6) feet bgs.

Groundwater elevation measurements recorded prior to initial development of the NR 141 compliant monitoring wells indicated approximate depth to groundwater ranging from 9.59 feet to 14.77 feet below the top of casing. Elevation measurements subsequent to sampling of the NR 141 compliant monitoring well network on July 8, 2020, October 23, 2020, January 8, 2021, May 26, 2021 and August 25, 2021 indicated the depth to groundwater ranged from approximately two (2) feet to eight (8) feet bgs.

No private drinking water wells have been identified at the site. Potable water service is provided by the City of Appleton.

#### **1.4 STORAGE TANKS**

No Underground Storage Tanks (USTs) or Aboveground Storage Tanks (ASTs) were registered for the subject property's addresses on the Department of Agriculture and Consumer Trade Protection's (DATCP) Storage Tank Database. Evidence of current or former USTs or ASTs on the site was not encountered during the site investigation activities.

#### **2.0 PREVIOUS INVESTIGATION ACTIVITIES**

A Phase I Environmental Site Assessment (ESA) performed by Cedar Corporation (Cedar) of Green Bay, Wisconsin dated June 5, 2019 indicated dry cleaning operations were performed at the subject property from 1987 until 2007. The current owner stated that the dry cleaner operated in Unit B which is the second unit from the north, currently occupied by Highlites Hair Salon L.L.C. (Highlites). Cedar stated that the former presence of dry-cleaning operations at the site is a Recognized Environmental Condition (REC). Based on this REC, Cedar recommended the performance of a Phase II ESA.

Therefore, United performed a Phase II ESA which included the advancement of two (2) borings immediately east and west of Unit B to an approximate depth of twenty (20) feet to determine if the soils had been impacted by chlorinated solvents. The boreholes were subsequently converted to temporary monitoring wells to evaluate the groundwater quality. Additionally, a sub-slab vapor sample was collected in a utility closet in Unit B of the site building adjacent to a floor drain which is as near the former dry-cleaning machine as feasible due to the presence of a laminate floor for the majority of the unit. The collected soil, groundwater and vapor samples were analyzed for the presence of Volatile Organic Compounds (VOCs) by a State of Wisconsin certified laboratory.

The analytical results did not indicate the presence of any VOCs in the soil or sub-slab vapor at concentrations in exceedance of their respective detection limit and Vapor Risk Screening Level (VRSL), respectively. However, PCE and TCE were documented in the groundwater immediately west of the site building in exceedance of their respective Preventive Action Limit (PAL) and Enforcement Standard (ES).

Based on these exceedances, a release of PCE and TCE to the groundwater had occurred and Form 4400-225 Notification for Hazardous Substance Discharge was submitted to the Wisconsin Department of Natural Resources (WDNR) on February 26, 2020. The WDNR subsequently issued a Responsible Party (RP) letter on March 11, 2020.

The results of the laboratory analysis performed during the subsequent site investigation indicate PCE is present in the soil west of the southwest corner of the site building at the approximate three (3) feet to four (4) feet sample interval at a concentration which exceeds its Groundwater Pathway Residual Contaminant Level (RCL). PCE was not identified at this location at about one (1) foot bgs or in the deeper sample interval collected at five (5) to six (6) feet at concentrations at or above its respective Limit of Detection (LOD). PCE was also not detected in any of the other soil samples collected to the north of the documented Groundwater Pathway RCL exceedance and east of the structure at concentrations in exceedance of its respective LOD.

Methylene chloride was also documented in the soil west of the southwest corner of the site building at concentrations in exceedance of its Groundwater Pathway RCL from approximately three (3) feet to six (6) feet bgs. Due to its absence in any of the other collected soil samples or in the groundwater at concentrations at or above its LOD, the presence of methylene chloride in the soil is considered “de minimus” and is likely a laboratory artifact.

PCE and TCE were initially documented in the groundwater at concentrations in exceedance of their respective ES and PAL in a temporary groundwater monitoring well located west of Unit B. Therefore, NR 141 compliant monitoring wells were installed to the west, southwest, east, and southeast of Unit B. The groundwater flow direction was determined to trend predominantly east with seasonal variability to the northeast and southeast.



The laboratory analytical results of groundwater samples collected from the NR 141 compliant wells indicate the presence of PCE and TCE west of Unit B at concentrations above their respective ES and PAL in every sampling event with the exception of TCE in the initial sampling event which was documented at a concentration below its ES but above its PAL. PCE and TCE were not present at concentrations at or above their respective ES or PAL at the other monitoring well locations during any of the sampling events.

The laboratory analysis of the sub-slab vapor samples collected in Unit B did not indicate the presence of any VOCs at concentrations near their Residential or Small Commercial VRSLs. Additionally, the analysis of a grab sample of vapor collected from the sanitary sewer “cleanout” in Unit B did not indicate the presence of any VOCs at concentrations in exceedance of their respective Residential or Small Commercial VRSLs (See Figure 3: Soil Boring, Groundwater Monitoring Well and Vapor Sample Location Map).

### **3.0 FIELD SAMPLING PLAN**

The following sections discuss the planned activities including soil boring advancement, NR 141 compliant groundwater monitoring well and sub-slab vapor point installation and analytical sampling, sample handling, site survey and schedule.

#### **3.1 SOIL INVESTIGATION**

##### **3.1.1 Soil Boring Advancement**

In order to delineate the lateral extent of the soil contamination identified in the approximate three (3) feet to four (4) feet sample interval at GP-3, United recommends the advancement of three (3) soil borings to approximate depths of four (4) feet at a location in the curbed landscaped area west of GP-3 and in the asphaltic concrete north and southeast of GP-3. The exterior boreholes will be advanced utilizing a track-mounted geoprobe drill rig (See Figure 4: Proposed Soil Boring, Groundwater Monitoring Well and Sub-Slab Vapor Point Sample Location Map).

United personnel will log the soil borings using the Unified Soil Classification System. In addition, visual and olfactory observations such as staining and odor will be recorded along with other pertinent information.

##### **3.1.2 Soil Analytical Sampling**

The soil samples will be collected in accordance with NR 716.13 and a minimum of one (1) sample will be collected from each borehole and submitted to a state-certified laboratory. The soil samples will be submitted for VOC analysis.

## **3.2 GROUNDWATER INVESTIGATION**

### **3.2.1 Groundwater Monitoring Well Installation**

One (1) NR 141 compliant monitoring well, two (2) inches in diameter, will be installed in June of 2022 by a track-mounted drill rig utilizing continuous flight hollow stem augers. The monitoring well will be located directly adjacent to MW-2 within the curbed landscaped area west of Unit B of the site building (See Figure 4: Proposed Soil Boring, Groundwater Monitoring Well and Sub-Slab Vapor Point Sample Location Map). If additional monitoring wells are warranted to determine the lateral extent of the TCE and PCE contaminant plume(s), they will be installed as needed.

The monitoring well construction will consist of a ten (10) foot section of two (2) inch diameter PVC screen, with 0.010-inch factory machine cut slots, and two (2) inch diameter PVC flush-threaded riser pipe extending to within approximately two (2) inches of the ground surface.

A medium-grained silica sand backfill will be utilized as a filter medium around the screened PVC to about six (6) inches above the top of the screen section, and an approximate six (6) inch layer of fine silica sand will be placed on top of the filter medium. The remaining annular space will be filled to within about one (1) foot of the ground surface with bentonite chips.

Subsequently, a protective cover will be installed. To reduce disturbance to the installation, a locking expandable cap will be fitted onto the top of the PVC riser.

### **3.2.2 Groundwater Analytical Sampling**

The monitoring well will be developed utilizing a peristaltic pump approximately twenty-four (24) hours after its installation. This well and MW-2 network will then be sampled using a peristaltic pump, and the samples will be submitted to a state-certified laboratory for analysis for the presence of VOC. All analysis will be performed by WDNR approved methods.

## **3.3 VAPOR INVESTIGATION**

### **3.3.1 Sub-Slab Vapor Point Installation**

One (1) sub-slab vapor point will be installed within the customer area of the High-lites salon (Unit B) in an accessible location east of the former dry-cleaning machine in order to confirm the absence of PCE in the sub-slab vapor at concentrations above its residential and small commercial VRSL (See Figure 4: Proposed Soil Boring, Groundwater Monitoring Well and Sub-Slab Vapor Point Sample Location Map).

The sampling will be performed by installing a five-eighth (5/8) inch diameter brass vapor pin with an exterior silicon seal into the concrete slab. The vapor pin will be placed within an over drilled one and one-half (1 ½) inch diameter hole to allow the port to remain in-place. The airtightness of the probe seal is to be confirmed utilizing the water dam method, and the airtightness of the sampling train is to be confirmed utilizing the shut-in test. The water dam method consists of sealing a small section of two (2) inch PVC pipe to the concrete floor with a soft pliable adhesive compound and subsequent placement of water in the pipe section. A constant water level indicates an airtight seal. The shut-in test consists of inducing a vacuum within the sampling train and a “pass” is achieved if the canister’s vacuum gage remained steady for at least one (1) minute.

### **3.3.2 Vapor Analytical Sampling**

United will collect the vapor sample by connecting a semi-rigid, one-quarter (1/4) inch outside diameter silicone tube from the vapor pin to a six (6) liter Summa Canister regulated at a collection rate of approximately one hundred (100) mL/min. The vapor sample will be submitted to Pace Analytical Services, Inc. for analysis for the presence of VOC by EPA method TO-15.

## **3.4 SAMPLE HANDLING**

Samples will be collected in containers provided by the laboratories and following WDNR field sampling protocol and standard chain-of-custody procedures. Applicable field preservatives will be used as directed by laboratory methods, and all soil and groundwater samples will be preserved on ice. Chain-of-custody forms will be included in an updated Site Investigation (SI) report.

## **3.5 SITE SURVEY**

United will revise the site survey to include the location of the proposed soil borings, NR 141 compliant groundwater monitoring well and sub-slab vapor point. Additionally, the elevation of the NR 141 compliant groundwater monitoring well, based on MSL, will be determined. This information will be incorporated into figures and maps as required.

## **3.6 REPORTING**

Upon delineation of the lateral and vertical extent of the TCE and PCE contaminant plume, an updated NR 716 compliant SI report will be submitted to the WDNR summarizing the investigation methods, analytical results and other pertinent field information collected during the investigative activities. The SI report will also include conclusions and recommendations for remediation and/or case closure.

## **4.0 REFERENCES**

Wisconsin Administrative Code: Chapter NR 716

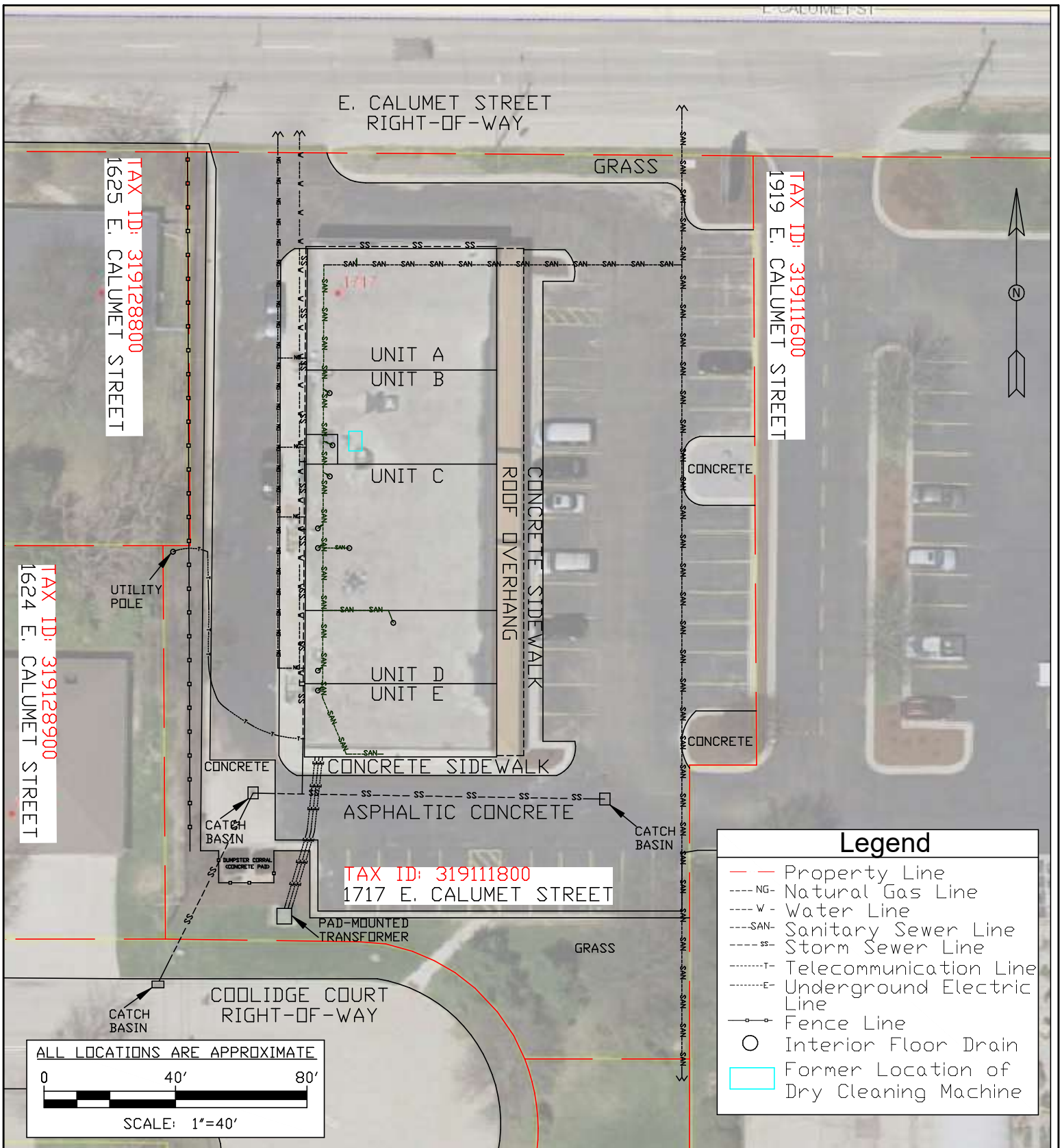
Depth to Bedrock In Wisconsin - Compiled by L. C. Trotta and R. D. Cotter, 1973

Bedrock Geology of Wisconsin - Geological and Natural History Survey, Revised 2006

## **FIGURES**

**FIGURE 1:  
SITE LOCATION MAP**





**Figure 2: Site Plan Map**

**United Engineering  
Consultants, Inc.**

2938 S. 166th Street  
New Berlin, Wisconsin 53151

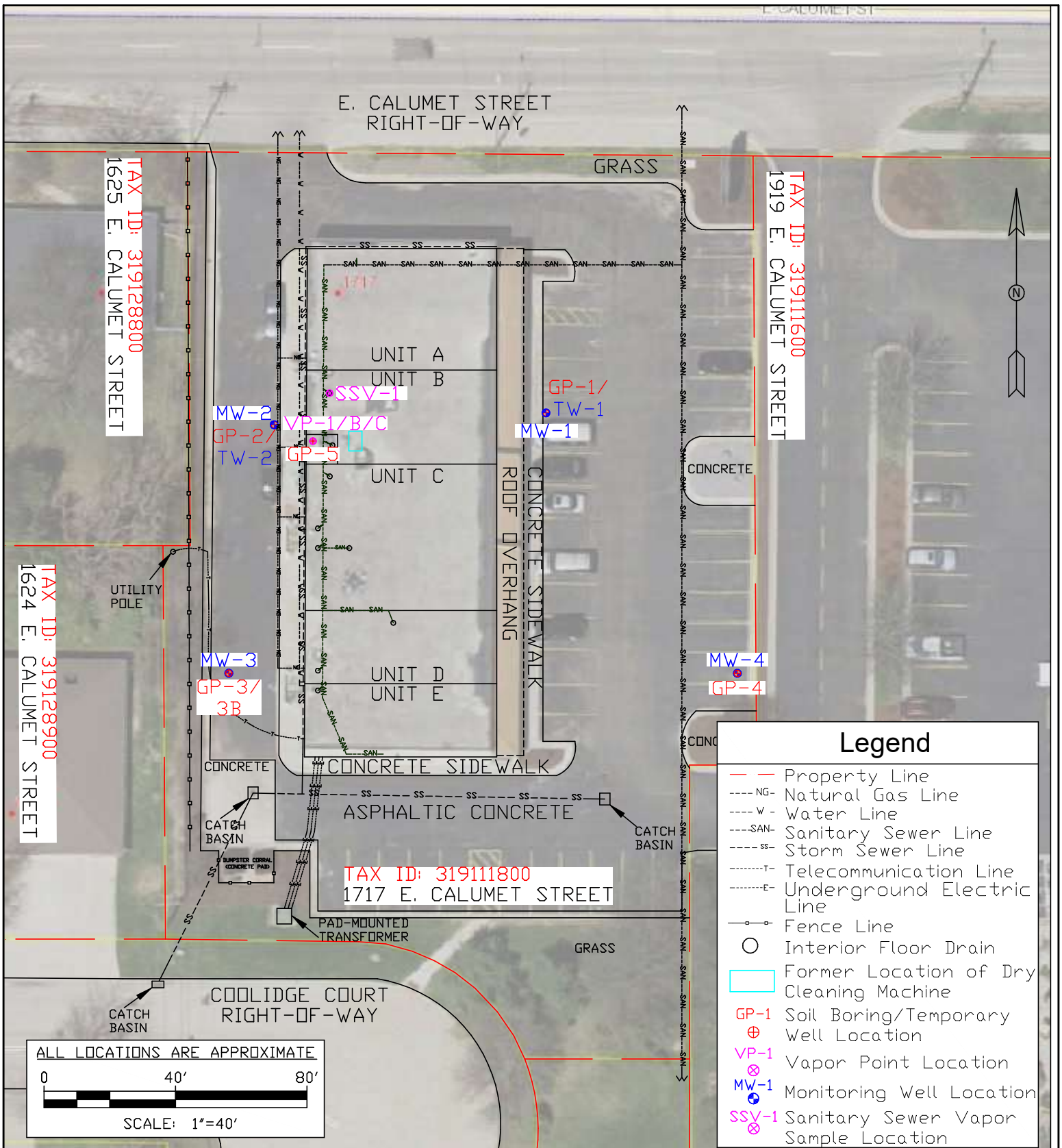
Tel. (262) 785-1447  
Fax (262) 706-4400

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**Figure 3: Soil Boring, Groundwater Monitoring Well and Vapor Sample Location Map**

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New Berlin, Wisconsin 53151

Tel. (262) 785-1447  
Fax (262) 706-4400

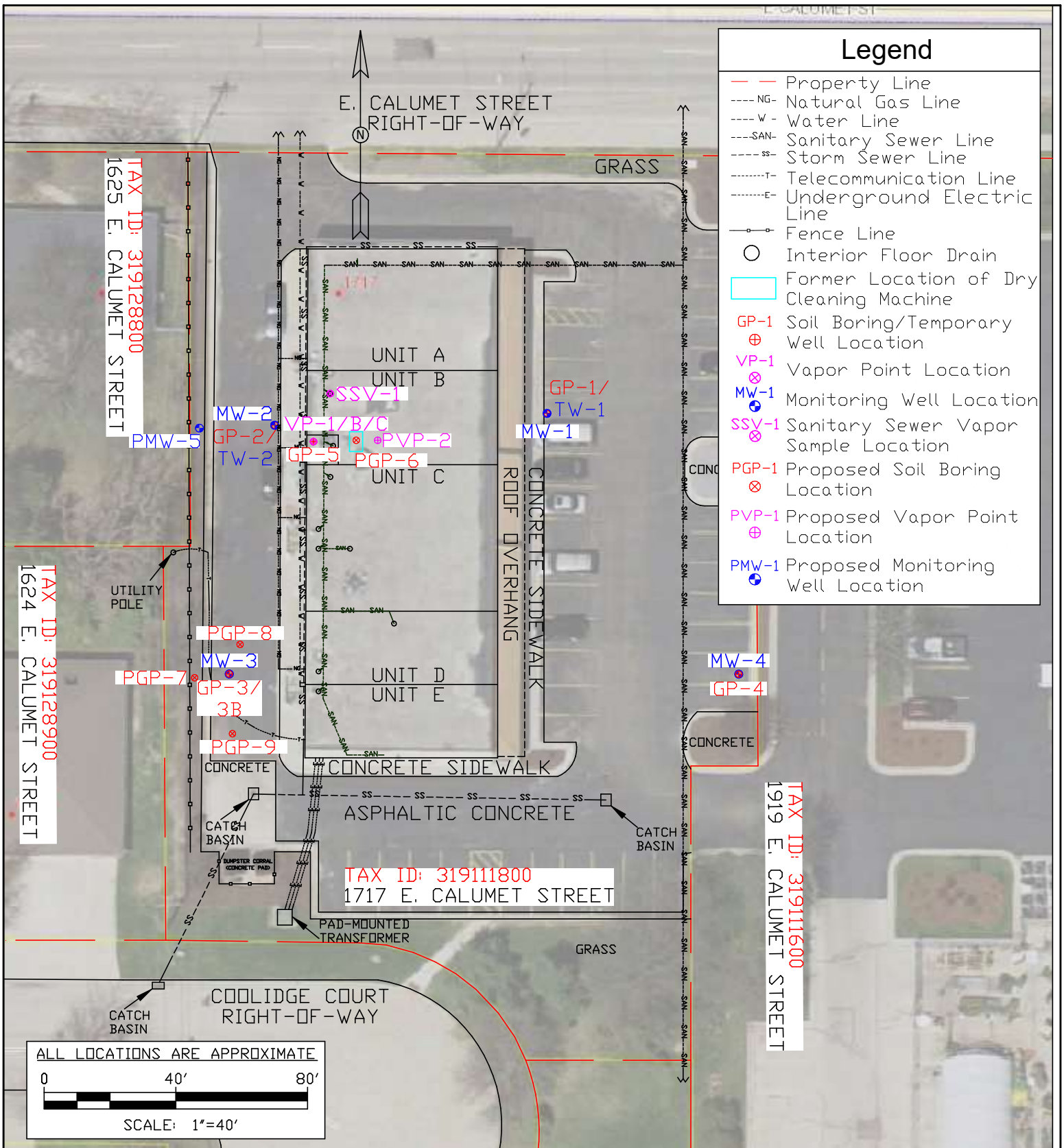
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**Figure 4: Proposed Soil Boring, Groundwater Monitoring Well and Sub-Slab Vapor Point Location Map**

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