December 4, 2020
File No. 25220166.00

Mr. Trevor Bannister
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Site Investigation Work Plan
Summit Credit Union Property (Former WaunaClean)
205 S. Klein Drive, Waunakee, Wisconsin
BRRTS # 02-13-561778

Dear Mr. Bannister:

SCS Engineers (SCS) has prepared this Site Investigation Work Plan for the former WaunaClean property in Madison, Wisconsin. SCS has been retained by the property owner to conduct additional site investigation at this former dry cleaner site, and work to define the extent of contamination.

The purpose of the investigation is to further evaluate the groundwater flow direction and degree and extent of groundwater contamination at the site, specifically to the east, to the south, and at depth, and recommend remedial alternatives, if needed. We anticipate conducting the well installation detailed in this work plan during January 2021.

If you have any questions regarding this work plan, please contact Tony Kollasch at 608-216-7381 or tkollasch@scsengineers.com.

Sincerely,

Tony Kollasch
Project Manager
SCS Engineers

Ray Tierney, PG
Vice President
SCS Engineers

TJK/AJR/RT

cc: Mr. Greg Polacheck, Summit Credit Union

Encl. Site Investigation Work Plan

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Site Investigation Work Plan

Summit Credit Union Property (Former WaunaClean)
205 S. Klein Drive, Waunakee, Wisconsin
BRRTS # 02-13-561778

SCS ENGINEERS

25220166.00 | December 4, 2020

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

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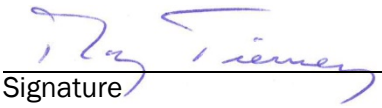
CERTIFICATIONS

I, Raymond Tierney, hereby certify that I am a hydrogeologist as the term is defined in s. 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.



Signature

Vice President
Title

December 4, 2020
Date

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1.0 INTRODUCTION AND BACKGROUND

1.1 PURPOSE

The purpose of this investigation is to evaluate the extent of solvent contamination in groundwater and/or soil, and to assess whether additional remediation of solvent-impacted soil and/or groundwater is necessary.

1.2 LOCATION AND PROJECT INFORMATION

1.	Site Owner:	Summit Credit Union
2.	Site Address	205 S Klein Drive Waunakee, WI
3.	Site Location:	NE¼, NE ¼, Section 07, T08N, R09E Dane County Wisconsin Transverse Mercator (WTM) Coordinates X 563562; Y 302151
4.	Environmental Consultant:	SCS Engineers 2830 Dairy Drive Madison, WI 53718-67581 608-224-2830 Phone 608-224-2839 Fax
5.	Project Manager	Tony Kollasch
6.	BRRTS #:	02-13-561778
7.	WDNR Contact:	Trevor Bannister Wisconsin Department of Natural Resources 3911 Fish Hatchery Road Fitchburg, WI 53711

2.0 SITE BACKGROUND

2.1 SITE HISTORY AND CURRENT STATUS

The location of the site is shown on **Figure1**. The property is 0.3 acres in size and has a single-story commercial building, (**Figure 2**). The building is currently vacant.

Dry cleaning related chemicals were discovered at the site during sampling conducted in preparation for a property transfer/ redevelopment. Review of information related to the historic uses of the property identified dry cleaning at the site from 1992 through 2013.

Subsequent sampling conducted at the site confirms that dry cleaning related chemicals are present at levels exceeding Wisconsin Department of Natural Resources (WDNR) standards in the soil, groundwater, and subslab vapors. Results from the assessment sampling were submitted to the WDNR. After review of the data the WDNR recommended that source area treatment be initiated at the site to limit further environmental impact.

2.2 PREVIOUS INVESTIGATIONS

Historical investigations at this site have identified soil, groundwater, and vapor impacts related to the former dry cleaner. Various investigations were completed between about 2013 and 2018, and were summarized in previous reports by others.

2.3 SOILS, GEOLOGY, AND HYDROGEOLOGY

Borings logs from the investigation document sandy material to weathered sandstone bedrock, observed at approximately 20 feet below the ground surface (bgs). Groundwater has been observed near the bedrock interface near 20 feet bgs. Groundwater flow has been measured in the water table wells to flow to the north.

2.4 SOIL ANALYTICAL RESULTS

Soil samples were collected at 16 locations at the site. Data collected to date indicate the soil contamination is located primarily near the northwest corner and beneath the building at the site. Soil with dry cleaning chemical contamination was identified as shallow as 1 foot below the floor slab of the building to as deep as 20 feet.

The tetrachloroethylene (PCE) impacted soils were observed at levels in the soil exceeding WDNR groundwater pathway residual contaminant levels (RCLs). Source area concentrations near the former cleaning equipment are at PCE concentrations above 1,000 micrograms per kilogram (ug/kg). PCE-impacted soil has been found on properties to the north and west.

2.5 GROUNDWATER ANALYTICAL RESULTS

Groundwater sampling has been performed using monitoring wells. Shallow bedrock nearly coincident with the water table has not allowed groundwater sampling from the Geoprobe™ borings. Thirteen NR141 monitoring wells have been installed at the site. Nine of the wells were constructed as water-table monitoring wells. Four of the wells were constructed as piezometers.

The water-table monitoring wells at the site are screened within the unconsolidated sediments and weathered bedrock. These wells are typically 25 to 28 feet deep; groundwater is present at an average depth of 17 feet in the wells on the property. Piezometers are installed in two areas at the site, the source area (three nested with MW1 at varying depths) and approximately 175 feet to the north (downgradient based on data from the water-table aquifer). All piezometers are screened in bedrock. The source area piezometers are 50, 83, and 110 feet deep and have 5-foot screens. A single piezometer is located downgradient from the releases area adjacent to MW-4. This well, PZ-4, is 93 feet deep and has a 5-foot screen.

Groundwater level data indicate that flow in the shallow groundwater is generally toward the north. Data from the well nests show that a downward vertical gradient is present at the site. The vertical gradient between the unconsolidated aquifer and the uppermost bedrock aquifer is reported at approximately 0.025 foot per foot (ft/ft) downward in the source area. The vertical gradient appears to increase within the bedrock aquifer in the source area; from 50 to 83 feet below grade a downward vertical gradient of 0.083 ft/ft was reported.

Summary of Groundwater Results

- Nine monitoring wells and four piezometers are present around the site. Water level data from the wells indicates the shallow groundwater flow is toward the north northwest.

- The water table is present approximately 17 feet below grade in the source area.

- Groundwater samples from the water table wells shows that PCE in the shallow groundwater is present below the subject parcel and extends offsite to the north and west. Groundwater PCE concentrations are present above the enforcement standard. Several other dry-cleaning related contaminants were present in the groundwater sample from the well located to the northwest of the building near the former dry-cleaning equipment.

- PCE levels in the deeper groundwater just northwest of the building peak at around 50 feet, and decline with depth.

- A piezometer located to the north, PZ-4, is screened to about 90 feet and has not been reported with volatile organic compounds (VOC) impacts.

2.6 VAPOR ANALYTICAL RESULTS

Vapor intrusion testing has been done at the subject building, the commercial building immediately south, and the residence immediately west. High levels of dry-cleaning chemicals were present below the floor slab in the subject building and a vapor mitigation system (subslab depressurization) was installed. Low contaminant concentrations (below WDNR action levels) were present in subslab vapors beneath the other buildings sampled. Based on followup testing, it appears that the mitigation system (which may be currently turned off since there is no power to the building) is effective in mitigating high vapor concentrations below the floor slab.

The following is from a Seymour Environmental summary describing the vapor mitigation system:

In January 2016 a vapor mitigation system was installed in the building on the subject parcel. The system is designed to induce a low negative pressure beneath the floor slab to reduce intrusion of vapors into in the building.

Installation of the system was performed by Zander Solutions of Verona, Wisconsin. The mitigation system consists of three pickup points extending through the slab and a single exhaust blower. Each of the drop points is equipped with a manometer so that the vacuum at each point may be measured. The mitigation system piping is comprised of 4" diameter PVC. The piping runs are located in the attic of the building. The piping is manifolded together above the drop point located in the former solvent filtering room (VM-1). The exhaust fan is located immediately above VM-1 and vents through the building roof. The mitigation fan used at the site is a Fantech HP-220. The vapor mitigation system layout is shown on Figure A. In addition to installing the mitigation system a large crack in the floor slab was sealed to minimize vapor migration into the interior building space.

After construction of the system was completed, monitoring was performed to evaluate the effectiveness of the system. Monitoring conducted on February 25, 2016 showed that the mitigation system applies a vacuum of between 1.4 and 1.6 inches of water at each of the three drop points. Low vacuums (~3/4 inch water) were measured at the sub-slab probes indicating that the system maintains negative pressure beneath the slab. Vapor samples were collected at the drop points and the sub-slab probes and organic vapor levels were measured using a photoionization detector equipped with a 10.6 eV lamp. The organic vapor levels in the discharge stream ranged from 0 vapor parts per million (vppm) in the drop point along the north wall (VM-3) to 17.2 vppm at the drop point located in the former solvent filtering room (VM-1). No organic vapors were detected during

screening of vapor samples from the sub-slab probes. For reference, prior to installation of the mitigation system, organic vapor levels in these probes were 327 vppm (SS-1) and 8.3 vppm (SS-2).

Based on the initial data it appears that the mitigation system removed hazardous levels of vapors from directly beneath the floor slab by capturing the chlorinated volatile organic compound (CVOC) vapors. Based on the PID reading from February 2015 and mitigation system flow data Seymour estimated that ~0.85 pounds per day (lb/day) of CVOC vapors were being extracted from the ground beneath the building during the initial month after mitigation system installation.

3.0 FIELD INVESTIGATION

Based on a review of the available data and conversations with WDNR to determine their concerns about a pathway to closure for this case, SCS Engineers (SCS) proposes to install one additional water table monitoring well and two additional piezometers to verify the deeper groundwater flow direction and evaluate the extent of impacts in groundwater east and southeast of the building. SCS's standard field procedures are summarized in **Appendix A**. Proposed sampling locations are shown on **Figure 2**.

Actual locations will be determined in the field based on utility locations and general accessibility. We assume that all locations will be accessible with the selected drill rig. Utilities in the public right-of-way will be located and marked by Digger's Hotline. Utilities on the site where a boring or well will be installed will be located and marked by a private utility locator.

Soil samples will be collected continuously from all borings and described according to the Unified Soil Classification System (USCS), noting stratigraphy and moisture. Sample headspace will be analyzed in the field at approximate 2- to 2.5-foot intervals using a photo-ionization detector (PID).

Soil samples will be analyzed from the well nest east of the building, up to four samples from the unconsolidated materials, and will be analyzed for VOCs.

All borings and wells will be documented consistent with Wisconsin Administrative Code NR 141.

The wells will be developed consistent with NR 141, and the top-of-casing elevations will be surveyed relative to mean sea level.

Investigative Waste Management

All soil cuttings will be contained in 55-gallon steel drums and left on site pending receipt of analytical results. We propose to use analytical results from soil sampling to arrange for disposal of the soil cuttings at an appropriate waste disposal facility (landfill).

Groundwater Monitoring

SCS will conduct groundwater monitoring for VOCs within approximately 2 weeks of well development. A second round of sampling will be conducted within approximately 8 to 12 weeks of the first event, and a third round 2 to 3 months after that, as needed.

Monitoring well development and purge water will be contained in 55-gallon steel drums. We plan to use analytical data to arrange for disposal of the water at a publicly owned treatment works (POTW).

4.0 SITE INVESTIGATION REPORT

A report that documents the field investigation activities and presents the investigation results will be prepared following an evaluation of the field and laboratory data. The report will include the following:

- Description of sampling activities and laboratory analysis.
- WDNR soil boring logs, well construction forms, and well development forms.
- Tabulated results of laboratory chemical analysis performed on groundwater samples.
- Tabulated groundwater elevations.
- A water table flow map
- Geologic cross-sections (two)
- A map showing the extent of groundwater contamination
- Laboratory analytical reports
- Waste disposal documentation
- Recommendations for additional investigation or remediation, if necessary

Schedule

The following is an estimated schedule for the project:

January – February 2021 – Well installation, well development, surveying, 1st round of groundwater monitoring, disposal of investigative wastes (soil and groundwater).

March - April 2021 – 2nd round of groundwater monitoring. Disposal of purge water.

June 2021 – 3rd round of groundwater monitoring.

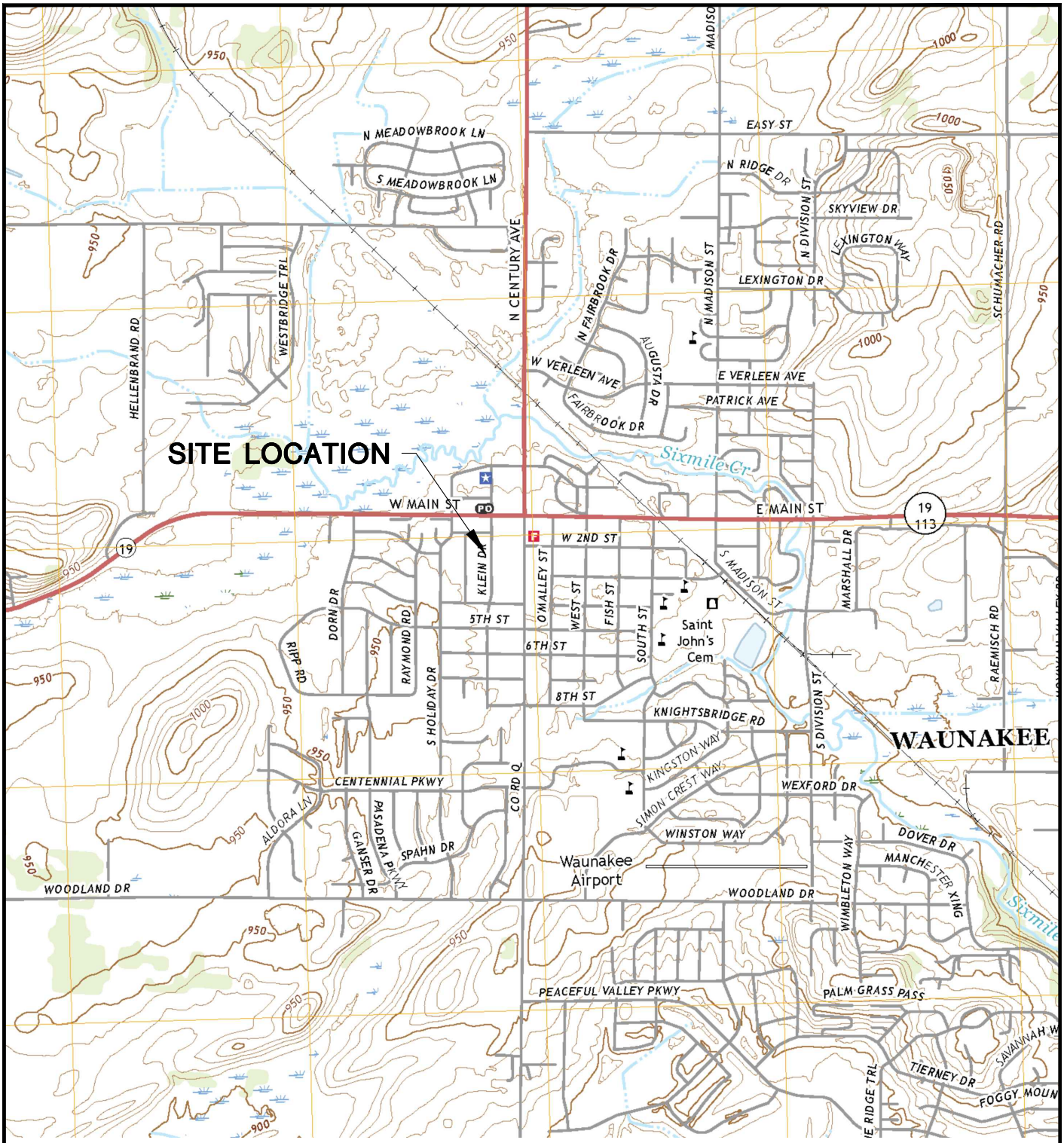
July 2021 - Report site investigation results.

5.0 REFERENCES

Mickelson, D.M, and McCartney, 1979, Glacial Geology of Dane County, Wisconsin, University of Wisconsin- Extension Geological and Natural History Survey, Madison, Wisconsin.

DNR Site File for Subject Site

Figures



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WAUNAKEE QUADRANGLE
WISCONSIN–DANE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'

CLIENT	summit CREDIT UNION SUMMIT CREDIT UNION 1709 LANDMARK DRIVE COTTAGE GROVE, WI 53527	SITE	FORMER WAUN–A–CLEAN PROPERTY WAUNAKEE, WISCONSIN
			SITE LOCATION MAP

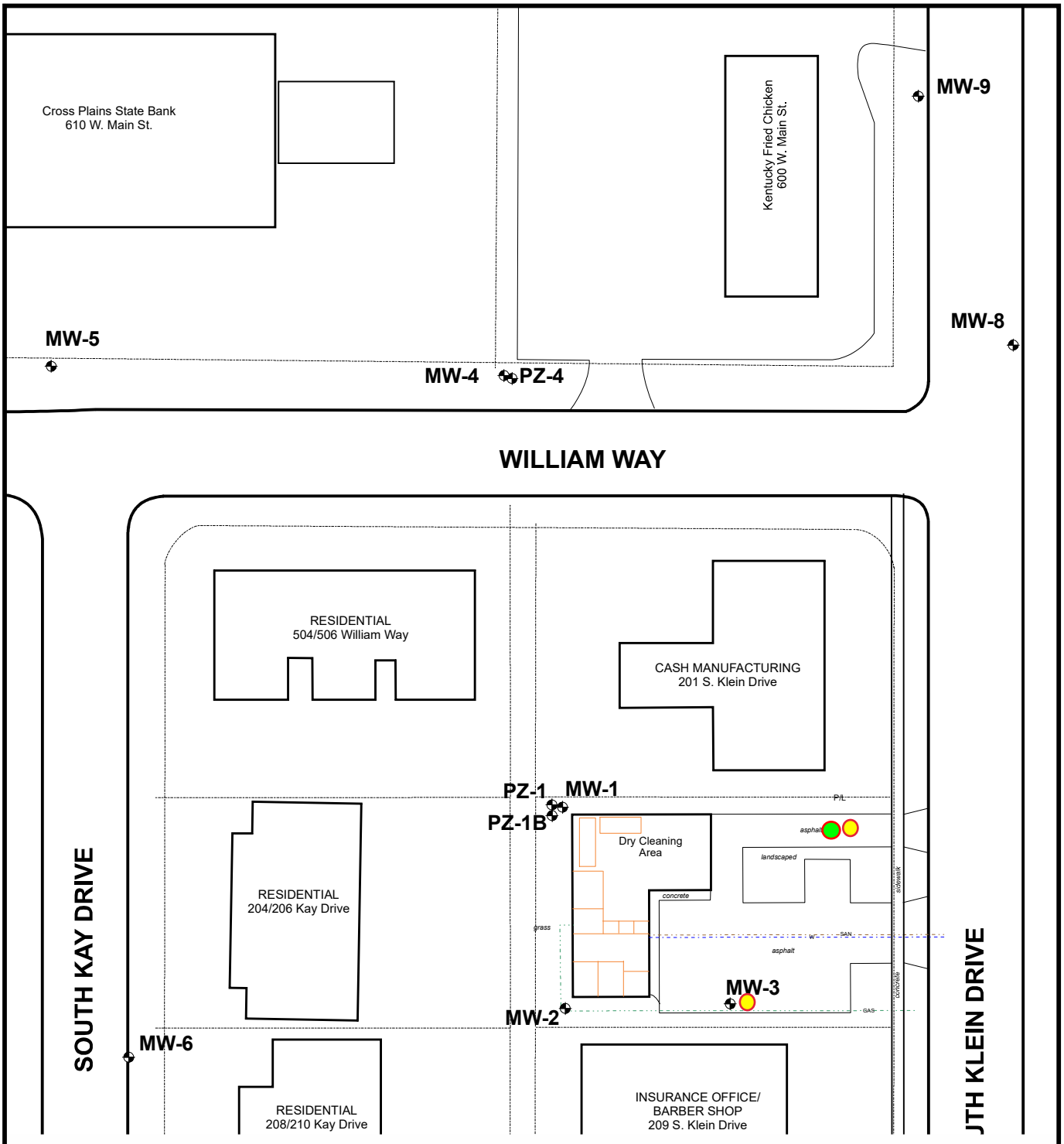
PROJECT NO.	25220166.00	DRAWN BY:	KP
DRAWN:	12/03/2020	CHECKED BY:	TJK
REVISED:	12/03/2020	APPROVED BY:	TJK 12/03/2020

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718–6751
PHONE: (608) 224–2830

FIGURE
1

I:\25220166.00\Drawings\Site Location.dwg, 12/3/2020 2:29:51 PM



LEGEND

- Proposed Monitoring Well
- MW-6 - Monitoring Well
- Proposed Piezometer

N

0 60' 120'

1 INCH = 60 FEET
SCALE IS APPROXIMATE

FILE/PATH: I:\25220166.00\Drawings\New Well Locations
DATE: 12/1/2020
PREPARED: MDF APPROVED:
SOURCE: Dane County Mapping
Metco Basemap

SCS ENGINEERS

PROPOSED NEW WELLS
SUMMIT CREDIT UNION
205 South Klein Drive
Waunakee, Wisconsin

FIGURE
2

Appendix A

SCS Engineers Standard Geoprobe™ Soil Sampling Procedures

The hydraulic-driven Geoprobe™ (geoprobe) system can be used to collect discrete soil, groundwater, and soil vapor samples from the subsurface. The system is useful in areas of low overhead clearance, since no drill mast is necessary. Soft shallow soil can be drilled and sampled quickly. During drilling, the probe-driven sampler remains sealed as it is pushed or driven to the desired sampling depth. Therefore, only a minimal amount of drill cuttings is produced. A piston stop-pin is removed after the sampler has reached the sampling depth. This allows the piston to retract so that soil enters the sampling tube as it is driven through the soil sampling interval. The soil sample interval is approximately 2 feet long, and the soil sample cores are about 1-inch in diameter.

The geoprobe can be used to collect discrete soil samples for logging, field screening, and soil sample collection. The soil sampling procedures to be used by SCS Engineers (SCS) personnel are similar to those used in soil sampling using split-spoons in augered borings. The geoprobe sampler is operated by a subcontractor. The SCS geologist is responsible for selecting sampling intervals, logging samples after they are collected, placing samples in appropriate containers for laboratory analysis, and documenting sampling procedures.

Soil Sampling Procedures

- Collect geoprobe soil samples continuously using 4-foot intervals, unless another interval is specified in the project Workplan. Borings may be sampled at less than continuous intervals if, in the judgment of the field geologist, site characteristics are sufficiently uniform that continuous sampling is not necessary.

- Examine each soil sample for soil type (Unified Soil Classification System [USCS]), moisture, grain size distribution, color, stratigraphic features, and petroleum discoloration or odors.

Headspace Analysis

- Screen soil from all borings in the field for the presence of organic vapors in a headspace established above the sample using a flame-ionization detector (FID) calibrated with methane gas or a photoionization detector (PID) calibrated with isobutylene.

  Analyze headspace by placing a uniform quantity of soil into a polyethylene bag, sealing it tightly, labeling the bag, and measuring organic vapor concentrations in the headspace after the sample has been allowed to equilibrate.

Laboratory Sample Collection

- Send one to two soil samples from each boring to a laboratory for analysis, unless another approach is specified in the project Workplan.

- Place soil samples into sample containers appropriate for the analytical method.

- Place all laboratory sample jars immediately on ice in a cooler and deliver by courier to a laboratory certified by the Wisconsin Department of Natural Resources (WDNR) to analyze the target analyte(s). Analytical methods approved by the WDNR in the "LUST analytical guidance" will be used.

Equipment Decontamination

- Wash all soil sampling tools in an Alconox solution followed by a clean water rinse. Use tap water from a clean supply well or distilled water for the final rinse. Sampling equipment will be air or towel dried between sampling locations.

Documentation

- Record field observations and measurements on field record forms. Record information concerning field activities and conditions directly and legibly in the field logbooks in ink. If an entry must be changed, the change will not obscure the original entry. Document the date, weather conditions, site activities, and personnel on site, including visitors in the logbook.

- Identify soil samples by the sampling location and sample number. For example, soil sample number two from geoprobe boring number three will be designated as GB3S2. Identify field samples with sample labels that list the date, sample collection time, and SCS project number.

- Prepare chain of custody forms that include sample number, sampling procedures, analysis required, the signature of the sampler, type of sample (grab or composite), number of containers, and signature blocks for all who handle the sample (with the exception of shipping personnel).

SCS Engineers Standard Rotary Drilling Soil Sampling Procedures

Soil Borings

- Advance soil borings with 2.25-inch or 4.25-inch inside diameter hollow-stem augers.
- Collect split-spoon samples at 2.5-foot intervals using standard split-spoon sampling techniques. Split-spoons will be driven 18 to 24 inches, with the longer interval to be used if sample recovery is poor.
- Sample borings continuously if, in the judgment of the field geologist, soil particle size, stratigraphy (layering), or degree of sorting are so variable that the entire soil column needs to be sampled.
- Examine each split-spoon sample for soil type (Unified Soil Classification System [USCS]), moisture, grain size distribution, consolidation (blow counts), color, stratigraphic features, and petroleum discoloration or odors.

Headspace Analysis

- Screen soil from all borings in the field for the presence of organic vapors in a headspace established above the sample using a photoionization detector (PID) calibrated with isobutylene.
- Analyze headspace by placing a uniform quantity of soil into a polyethylene bag, sealing it tightly, labeling the bag, and measuring organic vapor concentrations in the headspace after the sample has been allowed to equilibrate. This headspace technique is equivalent to the headspace technique presented in Appendix B of COMM 10 Flammable and Combustible Liquids. Advantages of using polyethylene bags include:
  - Using a polyethylene bag, soils can be readily crumbled by kneading once the bag is sealed.
  - Polyethylene bags collapse when headspace samples are collected, thus preventing introduction of fresh air into the headspace.
  - Polyethylene bag seals are superior to aluminum foil seals used on glass jars.

Laboratory Sample Collection

- Send one to two samples from all borings to a laboratory for analysis.
- Place soil samples into sample containers appropriate for the analytical method.
- Place all laboratory sample jars immediately on ice in a cooler and deliver by courier to a laboratory certified by the WDNR to analyze the target analyte(s). Analytical methods, approved by the WDNR in the “LUST analytical guidance,” will be used.

Equipment Decontamination

- Wash all soil sampling tools in an Alconox solution followed by a clean water rinse. Use tap water from a clean supply well or distilled water for the final rinse. Sampling equipment will be air or towel dried between sampling locations.

Documentation

- Record field observations and measurements on field record forms. Record information concerning field activities and conditions directly and legibly in the field logbooks in ink. If an entry must be changed, the change will not obscure the original entry. Document the date, weather conditions, site activities, and personnel on site including visitors in the logbook.

- Identify soil samples by the sampling location and sample depth. For example, a soil sample from soil boring number B-3 collected from a depth interval of 7 to 9 feet will be designated as B-3, 7 to 9 feet. Identify field samples with sample labels that list the date, sample identification, and SCS project number.

- Prepare chain of custody forms that include sample number, sampling procedures, analysis required, the signature of the sampler, type of sample (grab or composite), number of containers, and signature blocks for all who handle the sample (with the exception of shipping personnel).

SCS Engineers Standard Groundwater Sampling Procedures

Well Construction and Development

- Construct and develop all groundwater monitoring wells in accordance with NR 141.
- Develop wells by bailing them dry, if possible. Develop wells that cannot be bailed dry by alternately surging and purging with a polyvinyl chloride (polyvinyl chloride [PVC]) bailer, B-K pump, or a Grundfos submersible pump. Surged and purge each well for 30 minutes, and then purge the well continuously until 10 well volumes of water are removed or the water is clear.

Water Level and Well Depth Measurements

- Open all wells and allow water levels to equilibrate before measuring depths to water. Measure water levels several times at 10- to 15-minute intervals to ensure that the water levels have stabilized.
- Measure and record the depth to water and depth to the bottom of the well using an electric water level indicator tape.
- Measure the depth to water at least three times to ensure accuracy and precision of measurement.

Well Purging

- Purge and sample monitoring wells in accordance with WDNR guidelines.
- Proceed with groundwater sampling from the least-contaminated well (based upon observations and field instrument readings during drilling) to the most-contaminated well.
- Purge each well immediately prior to sampling using a PVC, Teflon, or stainless steel bailer attached to a dedicated sampling rope, or a Grundfos submersible pump.
- Measure the volume of water removed from the wells so that if the well cannot be purged dry, 3 to 5 volumes of water will be removed.

Sampling

- After well purging has been completed, collect samples using a dedicated PVC bailer with a pre-cleaned bottom unloading device.
- Place groundwater samples in a sample container appropriate for the analytical method.
- Place all laboratory sample jars immediately on ice in a cooler and deliver by courier to a laboratory certified by the WDNR to analyze the target analyte(s). The analytical methods used will be approved by the WDNR as listed in the “LUST analytical guidance.”

Equipment Decontamination

- Decontaminate all groundwater sampling equipment by washing in an Alconox solution followed by a clean water rinse. Decontaminate pumps and bailers, if possible, in locations removed from possible sources of cross contamination.

Documentation

- Record field observations and measurements on field record forms. Information concerning field activities and conditions will be recorded directly and legibly in the field logbooks in ink. If an entry must be changed, the change will not obscure the original entry. Document in the logbook the date, weather conditions, site activities, and personnel on site including visitors.

- Identify groundwater samples by the monitoring well name (e.g., MW-2). Label field samples with sample labels that list the date, sample collection time, and SCS project number.

- Prepare chain of custody forms which include sample number, sampling procedures, analysis required, the signature of the sampler, type of sample (grab or composite), number of containers, and signature blocks for all who handle the sample (with the exception of shipping personnel).

SCS Engineers Waste Management Plan

Soil

- Borehole cuttings will be subjected to FID/PID headspace analysis in the field.
- Contaminated soil with FID/PID readings greater than 10 parts per million (ppm) will be covered with plastic and stockpiled on site, or placed into 55-gallon drums and stored on site. Following soil sample analysis, the stored soil will be properly remediated or landfilled.
- Soil with FID/PID readings less than 10 ppm will be thin spread on site or blended into landscaped areas, if sufficient space is available. If space is not available, clean cuttings will also be stored on site in drums.

Groundwater

- Potentially contaminated groundwater will be generated during the development, purging, and sampling of the monitoring wells.
- Development and purge water with FID/PID readings greater than 10 ppm, or with concentrations of any compounds above their NR 140 standards, will be discharged to the local sanitary sewer, or collected in 55-gallon drums to be disposed of at an approved publicly owned treatment works or through other appropriate and approved means.

Free Product

- Any free product collected from groundwater wells will be collected in 55-gallon or smaller drums that are approved for storage of flammable liquids. The free product will be reused for engine fuel if this can occur without treatment. Otherwise, the free product will be properly treated or disposed of as hazardous waste.