State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

# Technical Assistance and Environmental Liability Clarification Request

Form 4400-237 (R 10/13) 

**Notice:** Use this form to request **a written response (on agency letterhead)** from the Department of Natural Resources (DNR) regarding technical assistance or liability clarification for property with known or suspected environmental contamination. A fee may be required as is authorized by s. 292.55, Wis. Stats., and NR 749, Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31 - 19.39, Wis. Stats.].

## Definitions

**"Property"** refers to the subject property that is perceived to have been or has been impacted by the discharge of hazardous substances.

**"Liability Clarification"** refers to a written determination by the Department provided in response to a request made on this form. The response clarifies whether a person is or may become liable for the environmental contamination of a property, as provided in s. 292.55, Wis. Stats.

**"Technical Assistance"** refers to the Department's assistance or comments on the planning and implementation of an environmental investigation or environmental cleanup on a property in response to a request made on this form as provided in s 292.55, Wis. Stats.

## Select the Correct Form

**Do not use this form if one of the following applies:**

- Request for an **off-site liability exemption or clarification** for property that has been or is perceived to be contaminated by one or more hazardous substances that originated on another property containing the source of the contamination. Use DNR's Off-Site Liability Exemption and Liability Clarification Application Form 4400-201.
- Submittal of an Environmental Assessment for the **Lender Liability Exemption**, s 292.21, Wis. Stats., **if no response or review by DNR is requested**. Use the Lender Liability Exemption Environmental Assessment Tracking Form 4400-196.
- Request for an **exemption to develop on a historic fill site** or licensed landfill. Use DNR's Form 4400-226 or 4400-226A.
- **Request for closure** for property where the investigation **and cleanup actions** are completed. Use DNR's Case Summary and Closeout Request Form 4400-202.

**All forms, publications and additional information are available on the internet at: dnr.wi.gov/topic/Brownfields/Pubs.html.**

## Instructions

1. Complete Sections 1, 2, 6 and 7 for all requests. Be sure to provide adequate and complete information.
2. Select the type of assistance requested: Section 3 for technical assistance; Section 4 for a written determination or clarification of environmental liabilities; o Section 5 for a specialized agreement.
3. Include the fee payment that is listed in Section 3, 4, or 5, unless the property is in the Voluntary Party Liability Exemption Program **and** the questions in Section 2 direct otherwise.
4. Send the completed request and supporting materials to the appropriate DNR regional office where the property is located. See the map on the last page. Contact the DNR project manager or call the phone numbers listed with any questions.

The time required for DNR's determination varies depending on the complexity of the site, and the clarity and completeness of the request and supporting documentation.

## Section 1. Recipient of the Technical Assistance, Liability Clarification or Agreement from the Department

This is the person who is requesting that his or her liability be clarified or who is seeking technical assistance or a specialized agreement and is identified as the applicant in Section 7. DNR will address its response letter to this person.

| Last Name | First | MI | Organization/ Business Name | | |
|---|---|---|---|---|---|
| Rach | Jane | | Summit Credit Union | | |
| **Mailing Address** | | | **City** | **State** | **ZIP Code** |
| 2424 Rimrock Road | | | Madison | WI | 53713 |
| **Phone # (include area code)** | **Fax # (include area code)** | | **Email** | | |
| (608) 243-5000 | | | | | |

The applicant listed above: (select all that apply)

- ☒ Is currently the owner
- ☐ Is renting or leasing the property
- ☐ Has mortgagee interest in the property
- ☐ Other. Explain the status of the property with respect to the applicant:
- ☒ Is considering selling the property
- ☐ Is considering acquiring the property

## Contact Information (to be contacted with questions about this request)

| Contact Last Name | First | MI | Organization/ Business Name | | |
|---|---|---|---|---|---|
| Seymour | Robyn | | Seymour Environmental Services, Inc. | | |
| **Mailing Address** | | | **City** | **State** | **ZIP Code** |
| 2531 Dyreson Road | | | McFarland | WI | 53558 |
| **Phone # (include area code)** | **Fax # (include area code)** | | **Email** | | |
| (608) 225-9407 | | | rseymour@chorus.net | | |

## Environmental Consultant (if applicable)

| Contact Last Name | First | MI | Organization/ Business Name | | |
|---|---|---|---|---|---|
| Seymour | Robyn | | Seymour Environmental Services, Inc. | | |
| **Mailing Address** | | | **City** | **State** | **ZIP Code** |
| 2531 Dyreson Road | | | McFarland | WI | 53558 |
| **Phone # (include area code)** | **Fax # (include area code)** | | **Email** | | |
| (608) 225-9407 | | | rseymour@chorus.net | | |

## Attorney (if applicable)

| Contact Last Name | First | MI | Organization/ Business Name | | |
|---|---|---|---|---|---|
| | | | | | |
| **Mailing Address** | | | **City** | **State** | **ZIP Code** |
| | | | | | |
| **Phone # (include area code)** | **Fax # (include area code)** | | **Email** | | |
| | | | | | |

## Property Owner (if different from applicant)

| Contact Last Name | First | MI | Organization/ Business Name | | |
|---|---|---|---|---|---|
| | | | | | |
| **Mailing Address** | | | **City** | **State** | **ZIP Code** |
| | | | | | |
| **Phone # (include area code)** | **Fax # (include area code)** | | **Email** | | |
| | | | | | |

## Section 2. Property Information

| BRRTS ID No. (if known) | FID No. (if known) | Property Name | Tax Parcel # | |
|---|---|---|---|---|
| 02-13-561778 | | Waun A Clean | 191/0809-071-0725-5 | |
| **Street Address** | | **City** | **State** | **ZIP Code** |
| 205 South Klein | | Waunakee | WI | 53597 |

| County | Municipality where the property is located | Property is composed of: | Property Size Acres |
|---|---|---|---|
| Dane | ◉ City ○ Town ○ Village of Waunakee | ◉ Single tax parcel ○ Multiple tax parcels | 1 |

1. Is a response needed by a specific date? (e.g., property closing date) Note: Most requests are completed within 60 days. Please plan accordingly.
   ○ No ◉ Yes Reason: As soon as possible so the equipment can be ordered.

2. Is this property currently enrolled in or undergoing cleanup actions under the Voluntary Party Liability Exemption (VPLE) program?
   ◉ No. **Include fee that is required for your request in Section 3, 4 or 5.**
   ○ Yes. If yes, is the recipient listed above also the voluntary party who is currently reenrolled in the VPLE program at that
      ○ No. **Include fee that is listed for your request in Section 3, 4 or 5.**
      ○ Yes. **Do not include a separate fee.** This request will be billed separately through the VPLE Program.

**Fill out the information in Section 3, 4 or 5 which corresponds with the type of request: Section 3. Technical Assistance; Section 4. Liability Clarification; or Section 5. Specialized Agreement.**

## Section 3. Property Information

Select the type of technical assistance requested: **[Numbers in brackets are for WI DNR Use]**

☐ No Further Action Letter (NFA) (Immediate Actions) [183] - NR 708.09 - **Include a fee of $350.** Use for a written response to an immediate action after a discharge or discovery of hazardous substance. Generally, these are one-time spill event.

☐ Review of Site Investigation Work Plan [135] - NR 716.09 - **Include a fee of $700.**

☐ Review of Site Investigation Report [137] - NR 716.15 - **Include a fee of $1050.**

☐ Approval of a Site Specific Soil Cleanup Standard [67] - NR 720.19 Reports - **Include a fee of $1050.**

☐ Review of a Remedial Action Options Report [143] - NR 722.13 - **Include a fee of $1050.**

☒ Review of a Remedial Action Design Report [148] - NR 724.09 - **Include a fee of $1050.**

☐ Review of a Remedial Action Documentation Report [152] - NR 724.15 - **Include a fee of $350**

☐ Review of a Long-term Monitoring Plan [25] - NR 724.17 - **Include a fee of $425.**

☐ Review of an Operation and Maintenance Plan [192] - NR 724.13 - **Include a fee of $425.**

Other Technical Assistance [97] - s. 292.55, Wis. Stats. (For request to build on an abandoned landfill use Form 4400-226)

☐ Schedule a Technical Assistance Meeting - **Include a fee of $700.**

☐ Hazardous Waste Determination - **Include a fee of $700.**

☐ Other Technical Assistance - **Include a fee of $700.** Explain your request below or in an attachment.

**Skip Sections 4 and 5 if the technical assistance you are requesting is listed above. Complete Sections 6 and 7 of this form.**

## Section 4. Request for Liability Clarification

Select the type of liability clarification requested. Use the available space given or attach information, explanations, or specific questions that you need answered in DNR's reply. Complete Sections 6 and 7 of this form. **[Numbers in brackets are for DNR Use]**

☐ "Lender" liability exemption clarification [686] - s. 292.21, Wis. Stats.

❖ **Include a fee of $700.**

Provide the following documentation:

(1) ownership status; of the property;

(2) an environmental assessment, in accordance with s. 292.21, Wis. Stats.;

(3) the date the environmental assessment was conducted by the lender;

(4) the date of property acquisition;

(5) documentation showing how the property was acquired;

(6) a copy of the property deed with the correct legal description; and,

(7) the Lender Liability Exemption Environmental Assessment Tracking Form (Form 4400-196).

(8) If no sampling was done, please provide reasoning as to why it was **not** conducted. Include this either in the accompanying environmental assessment or as an attachment to this form, and cite language in s. 292. 21(1)(c)2.,h.-i., Wis. Stats.:

h. The collection and analysis of representative samples of soil or other materials in the ground that are suspected of being contaminated based on observations made during a visual inspection of the real property or based on aerial photographs, or other information available to the lender, including stained or discolored soil or other materials in the ground and including soil or materials in the ground in areas with dead or distressed vegetation. The collection and analysis shall identify contaminants in the soil or other materials in the ground and shall quantify concentrations.

i. The collection and analysis of representative samples of unknown wastes or potentially hazardous substances found on the real property and the determination of concentrations of hazardous waste and hazardous substances found in tanks, drums or other containers or in piles or lagoons on the real property.

☐ "Representative" liability exemption clarification (e.g. trustees, receivers, etc.) [686] - s.292.21, Wis. Stats.

❖ **Include a fee of $700.**

Provide the following documentation:

(1) ownership status of the property;

(2) the date of property acquisition by the representative;

(3) the means by which the property was acquired;

(4) documentation that the representative has no beneficial interest in any entity that owns, possesses, or controls the property;

(5) documentation that the representative has not caused any discharge of a hazardous substance on the property; and

(6) a copy of the property deed with the correct legal description.

☐ Clarification of local governmental unit (LGU) liability exemption at sites with: (select all that apply)

- ☐ hazardous substances spills - s. 292.11(9)(e), Wis. Stats. [649];
- ☐ hazardous waste - s.292.24 (2), Wis. Stats. [649]; and/or
- ☐ solid waste - s. 292.23 (2), Wis. Stats. [649].

❖ **Include a fee of $700, a summary of the environmental liability clarification being requested, and the following:**
(1) current and proposed ownership status of the property;
(2) date and means by which the property was acquired by the LGU, where applicable;
(3) a map and the ¼, ¼ section location of the property;
(4) summary of current uses of the property;
(5) intended or potential use(s) of the property;
(6) descriptions of other investigations that have taken place on the property; and
(7) (for solid waste clarifications) a summary of the license history of the facility.

## Section 4 Request for Liability Clarification (cont.)

☐ Lease liability clarification [646] - s. 292.55, Wis. Stats.

- ❖ **Include a fee of $700 for a single property, or $1400 for multiple properties and the information listed below:**

(1) a copy of the proposed lease;

(2) the name of the current owner of the property and the person who will lease the property;

(3) a description of the lease holder's association with any persons who have possession, control, or caused a discharge of a hazardous substance on the property;

(4) map(s) showing the property location and any suspected or known sources of contamination detected on the property;

(5) a description of the intended use of the property by the lease holder, with reference to the maps to indicate which areas will be used. Explain how the use will not interfere with any future investigation or cleanup at the property; and

(6) all reports or investigations (e.g. Phase I and Phase II Environmental Assessments and/or Site Investigation Reports conducted under s. NR 716, Wis. Adm. Code) that identify areas of the property where a discharge has occurred.

General or other environmental liability clarification [682] - s. 292.55, Wis. Stats. - Explain your request below.

- ❖ **Include a fee of $700 and an adequate summary of relevant environmental work to date.**

☐ No Action Required (NAR) [682] - s. NR 716.05

- ❖ **Include a fee of $700.**

Use where an environmental discharge has or has not occurred, and applicant wants DNR determination that no further assessment or clean-up work is required. Usually this is requested after a Phase I and Phase II environmental assessment has been conducted; the assessment reports should be submitted with this form. This is not a closure letter.

☐ Clarify the liability associated with a "closed" property - s. 292.55, Wis. Stats.

- ❖ **Include a fee of $700.**

- Include a copy of any closure documents if a state agency other than DNR approved the closure.

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Use this space or attach additional sheets to provide necessary information, explanations or specific questions to be answered by the DNR.

## Section 5. Request for a Specialized Agreement

Select the type of agreement needed. Include the appropriate draft agreements and supporting materials. Complete Sections 6 and 7 of this form. More information and model draft agreements are available at: dnr.wi.gov/topic/Brownfields/lgu.html#tabx4.

☐ Tax cancellation agreement [654] - s. 75.105(2)(d), Wis. Stats.

- **Include a fee of $700, and the information listed below:**

  (1) Phase I and II Environmental Site Assessment Reports,
  (2) a copy of the property deed with the correct legal description; and,
  (3) a draft 75.105 agreement based on the DNR's model (dnr.wi.gov/topic/brownfields/documents/mod75-105agrmt.pdf).

☐ Agreement for assignment of tax foreclosure judgement - s.75.106, Wis. Stats. [666]

- **Include a fee of $700, and the information listed below:**

  (1) Phase I and II Environmental Site Assessment Reports,
  (2) a copy of the property deed with the correct legal description; and,
  (3) a draft 75.105 agreement based on the DNR's model (dnr.wi.gov/topic/brownfields/documents/mod75-106agrmt.pdf).

☐ Negotiated agreement - Enforceable contract for non-emergency remediation - s. 292.11(7)(d) and (e), Wis. Stats. [630]

- **Include a fee of $1400, and the information listed below:**

  (1) a draft schedule for remediation; and,
  (2) the name, mailing address, phone and email for each party to the agreement.

## Section 6. Other Information Submitted

Identify all materials that are included with this request.

**Include one copy of any document from any state agency files that you want the Department to review as part of this request. The applicant is responsible for contacting other state agencies to obtain appropriate reports or information.**

☐ Phase I Environmental Site Assessment Report - Date:_____

☐ Phase II Environmental Site Assessment Report - Date:_____

☐ Legal Description of Property (required for all liability requests and specialized agreements)

☐ Map of the property (required for all liability requests and specialized agreements)

Analytical results of the following sampled media: Select all that apply and include date of collection.

☐ Groundwater ☐ Soil ☐ Sediment ☐ Other medium - Describe:_____

Date of Collection:_____

☐ A copy of the closure letter and submittal materials

☐ Draft tax cancellation agreement

☐ Draft agreement for assignment of tax foreclosure judgment

☐ Other report(s) or information - Describe:_____

For property with newly identified discharges of hazardous substances only: Has a notification of a discharge of a hazardous substance been sent to the DNR as required by s. NR 706.05(1)(b), Wis. Adm. Code?

◯ Yes - Date (if known):_____
◯ No

Note: The Fax Notification for Hazardous Substance Discharge (non-emergency) form is available at: dnr.wi.gov/files/PDF/forms/4400/4400-225.pdf.

## Section 7. Certification by the Person who completed this form

☐ I am the applicant

☒ I prepared this request for: Summit Credit Union
Applicant Name

I certify that I am familiar with the information submitted on this request, and that the information on and included with this request is true, accurate and complete to the best of my knowledge. I also certify I have the legal authority and the applicant's permission to make this request.

Robyn Simonson
Signature

October 31, 2018
Date Signed

Hydrogeologist
Title

608 225 9407
Telephone Number (include area code)

## Section 8. DNR Contacts and Addresses for Request Submittals

Send or deliver the completed request, supporting materials, and fee to the region where the property is located. Contact the individual listed with any questions about this form or a specific situation involving contaminated property.

**DNR NORTHERN REGION**
Attn: RR Program Assistant
Department of Natural Resources
223 E Steinfest Rd Antigo, WI 54409
Carrie Stoltz (715) 365-8942

**DNR NORTHEAST REGION**
Attn: RR Program Assistant
Department of Natural Resources
2984 Shawano Avenue
Green Bay WI 54313
Annette Weissbach (920) 662-5165

**DNR SOUTHEAST CENTRAL REGION**
Attn: RR Program Assistant
Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg WI 53711
Janet DiMaggio (608) 275-3295

**DNR SOUTHEAST REGION**
Attn: RR Program Assistant
Department of Natural Resources
2300 North Martin Luther King Drive
Milwaukee WI 53212
Margaret Brunette (414) 263-8557

**DNR WEST CENTRAL REGION**
Attn: RR Program Assistant
Department of Natural Resources
1300 Clairemont Ave.
Eau Claire WI 54702
Loren Brumberg (715) 839-3770


*Note: These are the Remediation & Redevelopment Program's designated regions. Other DNR program regional boundaries may may be different.*

| DNR Use Only | | | |
|---|---|---|---|
| Date Received | Date Assigned | BRRTS Activity Code | BRRTS FID No. (if used) |
| DNR Reviewer | Comments | | |
| Fee Enclosed? ◯ Yes ◯ No | Fee Amount $ | Date Additional Information Requested | Date Requested for DNR Response Letter |
| Date Approved | Final Determination | | |

# INTERIM REMEDIATION DESIGN REPORT
# WAUN-A-CLEAN/SUMMIT CREDIT UNION
# 205 SOUTH KLEIN DRIVE
# WAUNAKEE, WISCONSIN

**WDNR Reference Number: 02-13-561778**

**PREPARED FOR:**

**TREVOR BANNISTER**
**WISCONSIN DEPARTMENT OF NATURAL RESOURCES**
**3911 FISH HATCHEERY ROAD**
**MADISON, WISCONSIN 53711**

**JANE RACH**
**SUMMIT CREDIT UNION**
**2424 RIMROCK ROAD**
**MADISON, WISCONSIN 53713**

**OCTOBER 2018**

SEYMOUR ENVIRONMENTAL SERVICES, INC.

P. O. BOX 398, 2531 DYRESON ROAD, McFARLAND, WISCONSIN 53558
TELEPHONE: 608-838-9120 FAX: 608-838-9121

# INTERIM REMEDIATION DESIGN REPORT
# WAUN-A-CLEAN
# 205 SOUTH KLEIN DRIVE
# WAUNAKEE, WISCONSIN

**WDNR Reference Number: 02-13-561778**

**PREPARED FOR:**

**TREVOR BANNISTER**
**WISCONSIN DEPARTMENT OF NATURAL RESOURCES**
**3911 FISH HATCHEERY ROAD**
**MADISON, WISCONSIN 53711**

**PREPARED BY:**
**SEYMOUR ENVIRONMENTAL SERVICES, INC.**
**2531 DYRESON ROAD**
**MCFARLAND, WISCONSIN 53593**

**OCTOBER 2018**

"I, Robyn Seymour, hereby certify that I am a hydrogeologist as that 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."

Robyn Seymour

October 2018

Signature and Title

Date

**TABLE OF CONTENTS**



TABLES



FIGURES



ATTACHMENTS

# 1.0 INTRODUCTION

## 1.1 Project Summary

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. The property is located near the western edge of the City of Waunakee (Figure 1).

Subsequent sampling conducted at the site confirms that dry cleaning related chemicals are present at levels exceeding 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.

Several alternatives for remediation of the dry-cleaning chemicals in the source area soils and groundwater were evaluated. Based on the contamination that has been identified at the site to date a multi-phase mechanical system was selected for source area treatment. This system uses a combination of soil vapor extraction, air sparging, and groundwater circulation. The selected remedial option should rapidly address the source area vadose zone soil contamination and associated vapor migration issues through the soil vapor extraction. Additionally, the groundwater sparging and recirculation system will result in a rapid reduction in the concentration of dry-cleaning chemicals over the source area (15,500 square feet). This work will be conducted in accordance with the requirements of NR724.

## 1.2 Project Information

| | |
|---|---|
| *Property Owner:* | Summit Credit Union<br>2424 Rimrock Road<br>Madison, Wisconsin 53713 |
| *Site Location:* | 205 South Klein Drive<br>Waunakee, Wisconsin<br>NE ¼, NE ¼, Section 7, T8N, R9E |
| *Consultant:* | Seymour Environmental Services, Inc.<br>2531 Dyreson Road<br>McFarland, Wisconsin 53593<br>Contact: Ms. Robyn Seymour (608) 838-9120 |

## 2.0 SUMMARY OF ENVIRONMENTAL ASSESSMENT DATA

### 2.1 Soil

Soil samples were collected at sixteen 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 one foot below the floor slab of the building to as deep as 20 feet. The PCE impacted soils extend over an area of ~5,600 square feet; across much of this area the PCE levels in the soil exceed WDNR groundwater pathway RCLs but are less than 150 ug/kg. Higher levels of contamination are present in the soils in an area of ~1,150 square feet surrounding the former dry-cleaning equipment. In this area PCE is present in the soil at concentrations above 1,000 ug/kg. Most of the identified PCE-impacted soil is present on the source property although soil with lower levels of PCE were identified on the abutting properties to the north and west. The off-site PCE soil contamination is present within 8 feet of the surface and does not extent to groundwater; concentrations in the off-site contamination were less than 200 ug/kg. An estimated 3,700 cubic yards of PCE impacted soil has been identified. Soil analytical data is compiled in Table 1 and soil contamination information is shown on Figure 2.

### 2.2 Groundwater

Groundwater sampling has been performed using monitoring wells. We were not able to collect groundwater samples from the Geoprobe™ borings because we encountered refusal. 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. Well construction and groundwater level monitoring data are summarized in Table 2.

The water-table monitoring wells at the site are screened within the unconsolidated sediments. 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. Water table wells are in the Waunakee right-of-way in the area and adequately define the limit of groundwater containing dry cleaning chemicals above NR140 groundwater quality standards.

Piezometers were installed in two areas at the site, the source area and ~175 feet to the north (downgradient based on data from the water-table aquifer). Three piezometers are present in the source area. All the piezometers are screened in the bedrock aquifer. 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. The depth for PZ-4 was selected based on analytical data collected at the source area well nest.

Groundwater level data indicate that flow in the shallow groundwater generally is toward the north. The horizontal gradient and direction of flow could not be determined in the bedrock aquifer since only two well locations are present. 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 ~0.025 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 measured.

Analytical data from the monitoring wells show that dry cleaning chemicals extend across about one-half of the subject parcel and approximately 175 feet north. The highest contaminant levels in the water table aquifer are present near the northwest corner of the building at the site (MW-1). This is the same location where soil contamination was identified. PCE in this area is present at about 2,000 ug/l. Much lower levels of dry-cleaning chemicals were identified in the groundwater at the other two water table monitoring wells located on the subject parcel (25 ug/l at MW-2 and 150 ug/l at MW-3). No significant PCE contamination was identified in the water table aquifer at the 5 monitoring wells located in the right-of-way surrounding the site. The estimated distribution of PCE in the groundwater at the water table is shown on Figure 3 and groundwater analytical data is compiled in Table 3.

PCE contamination in the groundwater extends from the water-table aquifer into the bedrock aquifer. In the source area located near the northwest corner of the building (PZ-1) PCE is present above the ES in each of the 3 piezometers. The maximum PCE concentration, ~5,000 ug/l, was noted in groundwater at a depth of ~50 feet below grade. At the source area well nest the PCE levels decline with depth after 50 feet and were less than 20 ug/l in groundwater 110 feet below grade (PZ-1B). No PCE was detected in groundwater ~90 feet below grade at PZ-4 which is located 175 feet north of the subject property

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 ~16 feet below grade in the source area.
- Groundwater samples from the water table wells shows that PCE in the shallow groundwater extends across about 1/2 of the subject parcel and approximately 175 feet north (Figure 3). Groundwater at wells on-site contained PCE 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.
- Three deeper wells were installed in the source area (PZ-1, PZ-1A, and PZ-1B). The shallower well, PZ-1, is screened at a depth of ~45-50 feet (~30 feet below the water table). Sampling shows that PCE levels in the groundwater in this area peak around the depth of PZ-1 (Figure 4). PCE levels decline with depth based on data from PZ-1A which is approximately 85 feet deep and PZ-1B which is approximately 110 feet deep.
- A piezometer located to the north, PZ-4, is approximately 90 feet deep and is not impacted by the release of dry-cleaning chemicals.

## 2.3 Vapor Intrusion Pathway Screening

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.

### 2.4 Contaminant Mass Estimation

The total extent of impacted groundwater has not been determined so it is not possible to develop an accurate estimate of the total contaminant mass. However, the distribution of dry-cleaning chemicals in the soil has been sufficiently constrained to estimate the contaminant mass in the soil. Additionally, the vertical distribution of the contaminants in the groundwater at the source area has been determined. This allows for a general estimation of contaminant mass in the groundwater in the proposed source area treatment zone.

Soil contamination at the site extends over an area of ~5,600 square feet. Significant soil contamination appears to be limited to the vadose zone. No elevated organic vapor levels were noted during field screening of soils and bedrock below the water table. An estimated 3,700 cubic yards of soil at the property contain PCE; no other dry-cleaning chemicals were identified in soils at the site. The total mass of PCE present in the contaminated soil is estimated to be 4.7 pounds. Most of the contaminant mass in the soil is present in 750 cubic yards of soil located in a small (~1,150 square foot) area near the former dry-cleaning equipment. PCE levels in this area are typically 1,000-2,000 ug/kg from a few feet below grade to the groundwater. Approximately 3.6 pounds of PCE is present in the soil in this area.

The contaminant mass within the groundwater cannot be estimated with any certainty since the lateral extent of the impacted groundwater has yet to be delimited. However, available data does provide an idea of the amount of dry-cleaning chemicals in the groundwater around the site and within the proposed source remediation area. The proposed source remediation area is ~15,500 square feet. Significant levels of dry-cleaning chemicals have been identified from the water table to a depth of ~80 feet. The volume of impacted groundwater within the source area is approximately 1,762,500 gallons based on an effective porosity of 0.25. Peak levels of PCE in the source area are 5,000 ug/l. Based on these values upper limit of the PCE mass in the proposed source treatment area is 73.4 pounds.

The vertical distribution of PCE in the groundwater determined at the PZ-1 monitoring nest was used to estimate the mass of dry-cleaning chemicals present as dissolved phase contamination across the interim remediation area. This data shows an average PCE concentration of 2,940 ug/l. This average data provides a more probable estimate of the remedial masses expected at the site. This data shows that the PCE mass in the source treatment area is 34.9 pounds. Other dry-cleaning chemicals present in the source area include TCE (0.46 pounds) and DCE (0.61 pounds).

## 3.0 REMEDIAL ALTERNATIVE SELECTION

Contaminant levels in the source area at the site are substantial enough to warrant interim remedial activities. Two remedial alternatives were evaluated to address the high levels of dry-cleaning chemicals present in the source area; in-situ chemical sorption and anaerobic

dechlorination and in-situ multi-phase mechanical treatment. Details of the two remedial alternatives are discussed below.

In-Situ Chemical Remediation

To adequately treat the source area contamination using in-situ chemical remediation two distinct chemicals and chemical placement systems will be needed. Enhanced sorption would be used to address dry cleaning chemicals in the unconsolidated soil from the surface to a depth of ~30 feet. A proprietary chemical would be injected into the soil. This chemical bonds with the dry-cleaning compounds to prevent their migration into groundwater or vapor. The chemical is placed as a semi-liquid slurry and would require the installation of 50 direct push points to a depth of ~30 feet across the area of contamination. Dry cleaning chemicals deeper within the bedrock aquifer would be treated using enhanced biodegradation. Specifically, a carbon source and a buffer would be injected to promote anaerobic degradation of the chlorinated compounds in the groundwater. To achieve the desired cleanup 16 injection wells would be installed around the site.

In-Situ Mechanical Remediation

The other remedial alternative we considered is the Accelerated Remediation Technologies, Inc. (ART) system which utilizes in-situ treatment of the soil and groundwater. To treat the source area contamination using in-situ mechanical remediation two treatment wells will be installed at the site. Each of the wells would be constructed with two screens; an upper screen in the unsaturated horizon, and a lower screen within the horizon of high groundwater contamination levels. Dry cleaning chemicals will be extracted from the unsaturated soils via the upper screen using a vapor extraction blower. Dry cleaning chemicals present in the groundwater will be removed using in-well stripping. An extraction pump will remove groundwater through the lower screen and pump it to the top of the wellhead. Inside the well casing the water will be discharged through a spray bar. Contaminants present within the water droplets will be stripped by the SVE system. The clean water will then re-infiltrate to the aquifer at the upper screen. The removal of the compounds will also enhance the bioremediation at the site. We believe that this technology will be less expensive than chemical remediation.

## 4.0 PROPOSED SOURCE AREA REMEDIATION SYSTEM

Assessment data collected at the site indicates that the highest levels of dry-cleaning chemicals are located around the northwest corner of the building and beneath the building. Maximum soil, groundwater, and vapor contamination levels were identified in this area. Because contaminant levels identified in this area are much higher than elsewhere at the site the interim remedial activities will be undertaken in this area. The interim remedial system should dramatically reduce and the levels of dry-cleaning chemicals in the soils and soil vapors at the property. Additionally, the system will remove dry cleaning chemicals from the groundwater across the western half of the property to a depth of ~85 feet below grade. The resulting reduction of the contaminant mass in the groundwater will prevent further environmental impairment. The remediation well network can be expanded laterally if needed.

## 4.1 Layout and Design

The selected remedial system is comprised of four primary components. These include the remedial well(s), a vapor extraction blower, an air compressor for sparging, and a submersible pump for circulation of groundwater. The component design/sizing was developed based on the site-specific conditions, particularly aquifer texture/conductivity and contaminant distribution. Details regarding the various system components are discussed below.

Based on the area of contamination and an estimated hydraulic conductivity of $1 \times 10^{-5}$ cm/second in the bedrock aquifer we propose to install two 6-inch wells for source remediation. The system will consist of a 3-point blower/compressor skid style system provided by ART. The ART system combines in-situ air stripping, air sparging, soil vapor extraction, enhanced biodegradation/oxidation and the details are attached.

The two remediation points will be installed in the source area (Figure 6). Each point will be advanced to a depth of approximately 80 feet and a 6" diameter PVC well will be installed. The remediation wells will be equipped with a two-level screen. The upper screen will be installed from ~6 to 40 feet below grade and the lower screen will be installed from ~50 to 80 feet below grade.

The ARTS system addresses contamination in the vadose zone by soil vapor extraction. A single blower will be used to extract the soil gasses. The blower is equipped with a 3-phase electric motor and can produce 180 scfm of air at the design vacuum of 40 inches $H_2O$. Hand operated control valves allow for the adjustment of the air flow from the individual extraction points. A moisture condensate tank is located between the wellhead and the vacuum blower. The tank is equipped with a reservoir to hold small quantities of condensate. A transfer pump removes the accumulated moisture from the condensate tank and into a tank for off-site disposal as needed.

Groundwater remediation is accomplished by air sparging. In the ARTS system the sparging occurs primarily within the well casing. Air is injected through a filter screen in the lower section of the ARTS well. This air passes by the water column within the well casing removing the volatile contaminants from the water. The sparge air is captured in the upper portion of the well using the soil vapor extraction blower. The compressor used to perform the sparging can produce 30 scfm up to a pressure of 100 psi.

To remediate the aquifer around the wells groundwater is pumped from the lower screen in the well to the upper portion of the well where it is discharged inside of the casing through a spray bar. The groundwater pumping rate will be 10 gpm at each of the two ARTS wells. Dry cleaning chemicals are stripped from the spraying water which then migrates back into the aquifer through the upper screen of the ARTS well. The upper screen will be from 6 to 40 feet below grade. The infiltrating clean water creates vertical circulation around the well expanding the area of impact both vertically and horizontally. Based on the design water flow rate and aquifer conditions at the site we anticipate that each ARTS point will produce a radius of impact slightly larger than 50 feet.

## 4.2 Permit Requirement Evaluation

Anticipated air emissions rate from the proposed treatment system should comply with WDNR air emission standards. The maximum identified levels of VOCs identified in vapors at the site were present in the subslab samples from SS-1 and SS-2. The PCE concentrations identified in these points were 120,000 and 8,900 ppbv. Based on the design system flow of 75 cfm and assuming the continuous discharge at these concentrations the system could produce 360 pounds of VOCs per year (~1 pound per day). However, data from the long-term operation of the mitigation system indicates that substantially lower concentrations should be expected in the discharge air. PID monitoring of the mitigation points in the most highly contaminated area showed a consistent 6-7 vppm concentration in the soil vapors. Using this data for estimating, anticipated VOC discharge rates from the system are 146 pounds of VOCs per year (~0.4 pound per day). The discharge level is compliant with the WDNR standards of 300 pounds of VOCs per year and peak limit of 5.7 lbs per hour. We will notify the Air Department of our intention to start the system and that we do not believe this will require an air permit. They will be notified immediately if conditions change so that we remain compliant.

# 5.0 SAMPLING AND MONITORING

We will conduct testing from the stack at least monthly beginning during the startup of the system. Initial air sampling will also be conducted from each of the extraction points. The samples will be analyzed for CVOCs. The results from the monthly monitoring will be used to determine future operation of the SVE and if extraction points should be added.

Semi-annual groundwater monitoring for VOCs is proposed to determine the impact of the SVE on the groundwater associated with the interim action. Continued groundwater investigation may also be conducted independent of the system monitoring depending on the results after the remediation has started.

# 6.0 PROJECT SCHEDULING AND REPORTING

Upon approval of this interim remedial action plan the specialized equipment needed for the treatment system will be ordered from Accelerated Remediation Technologies. The typical lead-time for these materials is 45 days. While awaiting the equipment, contractors will be retained to provide the other major services for the project including installation of the electrical service, installation of the remediation wells, and trenching/installation of remedial system piping and electrical controls. Drilling Mechanical and/or remediation contractors will be contracted to provide the required excavation, plumbing and electrical work needed for the system.

While the equipment is on order, we will begin work with the remediation contractors to install the extraction points and the SVE system.

The system installation documentation and initial air monitoring data will be provided in a report after system startup.

# TABLES

TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
Summit Credit Union Property
205 S. Klein Street - Waunakee, Wisconsin

| Date | Boring | Depth (ft) | Tetrachloroethene | Trichloroethene | cis 1,2 dichloroethene | trans 1,2 dichloroethene | Vinyl chloride |
|---|---|---|---|---|---|---|---|
| 12/31/13 | GP-1 | 4 | **820** | <28 | <24 | <29 | <21 |
| | GP-2 | 4 | **870** | <28 | <24 | <29 | <21 |
| | GP-3 | 4 | **770** | <28 | <24 | <29 | <21 |
| 05/19/14 | GP-4 | 10 | **360** | <28 | <24 | <29 | <21 |
| | GP-4 | 18 | **550** | <28 | 25.8 | <29 | <21 |
| | GP-5 | 3.5 | <49 | <28 | <24 | <29 | <21 |
| | GP-5 | 10 | <49 | <28 | <24 | <29 | <21 |
| | GP-5 | 20 | <49 | <28 | <24 | <29 | <21 |
| | GP-6 | 3.5 | **58** | <28 | <24 | <29 | <21 |
| | GP-6 | 10 | <49 | <28 | <24 | <29 | <21 |
| | GP-6 | 19 | <49 | <28 | <24 | <29 | <21 |
| | GP-7 | 3.5 | <49 | <28 | <24 | <29 | <21 |
| | GP-7 | 10 | <49 | <28 | <24 | <29 | <21 |
| | GP-7 | 20 | <49 | <28 | <24 | <29 | <21 |
| | GP-8 | 10 | **1150** | <28 | <24 | <29 | <21 |
| | GP-8 | 19 | **1730** | <28 | <24 | <29 | <21 |
| | GP-9 | 10 | **910** | <28 | <24 | <29 | <21 |
| | GP-9 | 20 | **1840** | <28 | <24 | <29 | <21 |
| | GP-10 | 3.5 | <49 | <28 | <24 | <29 | <21 |
| | GP-10 | 10 | <49 | <28 | <24 | <29 | <21 |
| | GP-10 | 18 | <49 | <28 | <24 | <29 | <21 |
| | GP-11 | 3.5 | <49 | <28 | <24 | <29 | <21 |
| | GP-11 | 10 | <49 | <28 | <24 | <29 | <21 |
| | GP-11 | 19.5 | <49 | <28 | <24 | <29 | <21 |
| 09/29/14 | GP-12 | 8 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| | GP-13 | 8 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| | GP-14 | 4 | **35.6** | <25.0 | <25.0 | <25.0 | <25.0 |
| | GP-14 | 8 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| | GP-15 | 4 | **152** | <25.0 | <25.0 | <25.0 | <25.0 |
| | GP-15 | 7.5 | <25.0 | <25.0 | <25.0 | <25.0 | <25.0 |
| 10/14/14 | B-1 | 0.75-1.3 | **1830** | <25.0 | <25.0 | <25.0 | <25.0 |
| Groundwater Protection RCL | | | 4.5 | 3.6 | 41.2 | 58.8 | 0.1 |
| Direct Contact Hazard Level | | | 30,700 | 644 | 156,000 | 211,000 | 67 |

- Results are reported in ug/kg
- ns = no standard established
- Standards from WDNR R&R Calculator
- Bold Values exceed groundwater protection RCL (DAF=2)
* - Direct Contact Hazard Level for Non-industrial properties

# TABLE 2
## SUMMARY OF WELL DETAILS AND WATER LEVEL DATA
## Summit Credit Union Property - 205 S. Klein Street - Waunakee, Wisconsin

### WELL CONSTRUCTION INFORMATION

| WELL | Date Installed | TOC Elevation | Well Depth | Screen Length | Top of Screen Elevation | Base of Screen Elevation |
|---|---|---|---|---|---|---|
| MW-1 | 9/29/2014 | 935.58 | 28.80 | 10 | 916.78 | 906.78 |
| MW-2 | 9/29/2014 | 934.63 | 26.62 | 10 | 918.01 | 908.01 |
| MW-3 | 9/29/2014 | 935.69 | 26.72 | 10 | 918.97 | 908.97 |
| MW-4 | 6/10/2015 | 931.49 | 28.25 | 15 | 918.24 | 903.24 |
| MW-5 | 6/10/2015 | 929.33 | 25.55 | 15 | 918.78 | 903.78 |
| MW-6 | 6/10/2015 | 931.30 | 27.20 | 15 | 919.10 | 904.10 |
| MW-7 | 6/11/2015 | 933.81 | 26.50 | 15 | 922.31 | 907.31 |
| MW-8 | 7/25/2016 | 934.04 | 25.8 | 15 | 923.24 | 908.24 |
| MW-9 | 7/25/2016 | 933.76 | 25.65 | 15 | 923.11 | 908.11 |
| PZ-1 | 7/27/2016 | 935.63 | 49.95 | 5 | 890.68 | 885.68 |
| PZ-1D | 8/09/2017 | 935.59 | 83.45 | 5 | 857.14 | 852.14 |
| PZ-1DP | 1/30/2018 | -- | 110 | 5 | -- | -- |
| PZ-4 | 8/18/2017 | 931.48 | 91.32 | 5 | 845.16 | 840.16 |

### GROUNDWATER LEVEL DATA

| Date | 06/26/15 | | 02/25/16 | | 09/14/16 | | 01/21/17 | | 08/30/17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WELL | GW Depth | GW Elevation | GW Depth | GW Elevation | GW Depth | GW Elevation | GW Depth | GW Elevation | GW Depth | GW Elevation | GW Depth | GW Elevation |
| MW-1 | 19.19 | 916.39 | 18.30 | 917.28 | 16.63 | 918.95 | 17.53 | 918.05 | 15.50 | 920.08 | | |
| MW-2 | 17.83 | 916.80 | 16.81 | 917.82 | 15.22 | 919.41 | 15.97 | 918.66 | 14.11 | 920.52 | | |
| MW-3 | 18.77 | 916.92 | 18.05 | 917.64 | 16.57 | 919.12 | 17.33 | 918.36 | 14.76 | 920.93 | | |
| MW-4 | 15.91 | 915.58 | 14.92 | 916.57 | 13.56 | 917.93 | 14.38 | 917.11 | 12.51 | 918.98 | | |
| MW-5 | 13.39 | 915.94 | 12.72 | 916.61 | 11.55 | 917.78 | 12.24 | 917.09 | 10.72 | 918.61 | | |
| MW-6 | 13.49 | 917.81 | 12.44 | 918.86 | 11.04 | 920.26 | 11.10 | 920.20 | 9.97 | 921.33 | | |
| MW-7 | 16.79 | 917.02 | 15.84 | 917.97 | 14.33 | 919.48 | 14.82 | 918.99 | 12.81 | 921.00 | | |
| MW-8 | ni | ni | ni | ni | 15.89 | 918.15 | 17.22 | 916.82 | 15.15 | 918.89 | | |
| MW-9 | ni | ni | ni | ni | 15.48 | 918.28 | 16.81 | 916.95 | 14.97 | 918.79 | | |
| PZ-1 | ni | ni | ni | ni | 17.29 | 918.34 | 17.99 | 917.64 | 16.22 | 919.41 | | |
| PZ-1B | ni | ni | ni | ni | ni | ni | ni | ni | 19.15 | 916.44 | | |
| | | | | | | | | | | | | |
| PZ-4 | ni | ni | ni | ni | ni | ni | ni | ni | 15.51 | 915.97 | | |
| Vertical Gradient | | | MW-1 / PZ-1 | | 0.0258 ft/ft downward | | 0.01737 ft/ft downward | | 0.0284 ft/ft downward | | | |
| | | | PZ-1 / PZ-1B | | ni | | ni | | 0.0886 ft/ft downward | | | |
| | | | PZ-1B / PZ-1C | | ni | | ni | | ni | | | |
| | | | MW-4 / PZ-4 | | ni | | ni | | 0.0442 ft/ft downward | | | |

- All data is listed in feet or feet above mean sea level

- ni = well not yet installed

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Summit Credit Union Property
205 S. Klein Street - Waunakee, Wisconsin

| Select VOCs | Date | Tetrachloroethene | Trichloroethene | cis 1,2 dichloroethene | trans 1,2 dichloroethene | Vinyl chloride | Toluene |
|---|---|---|---|---|---|---|---|
| MW-1 water table | 10/10/14 | **4110** | **40.8** (J) | 30.6 (J) | <12.8 | <8.8 | <25.0 |
| | 06/26/15 | **3860** | **38.4** (J) | 33.7 (J) | <10.3 | <7.0 | <20.0 |
| | 02/25/16 | **1850** | **13.0** (J) | 6.0 (J) | <5.1 | <3.5 | <10.0 |
| | 09/14/16 | **2320** | **18.8** (J) | 8.9 (J) | <5.1 | <3.5 | <10.0 |
| | 01/21/17 | **1910** | **13.6** (J) | 5.3 (J) | <5.1 | <3.5 | <10.0 |
| | 08/30/17 | **1350** | **8.2** | <5.1 | <5.1 | <3.5 | <10.0 |
| | 03/04/18 | **2120** | **19.1** (J) | 8.6 (J) | <5.1 | <3.5 | <10.0 |
| MW-2 water table | 10/10/14 | **27.1** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 06/26/15 | **38.3** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 02/25/16 | **17.3** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 09/14/16 | **20.7** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | **12.3** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | **10.8** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| MW-3 water table | 10/10/14 | **86.2** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 06/26/15 | **101** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 02/25/16 | **100** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 09/14/16 | **167** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | **160** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | **163** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| MW-4 water table | 06/26/15 | 0.70 (J) | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 02/25/16 | 0.67 (J) | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 09/14/16 | 0.60 (J) | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| MW-5 water table | 06/26/15 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 02/25/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 09/14/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| MW-6 water table | 06/26/15 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 02/25/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 09/14/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| MW-7 water table | 06/26/15 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | 0.70 (J) |
| | 02/25/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 09/14/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| MW-8 water table | 09/14/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| MW-9 water table | 09/14/16 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 01/21/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| NR140 PAL | | 0.5 | 0.5 | 7 | 20 | 0.02 | 200 |
| NR140 ES | | 5 | 5 | 70 | 100 | 0.2 | 1000 |

- Results are reported in ug/l
- All detected compounds in table
- (J) = less than limit of quantitation
- NR140 PAL = Preventative Action Limit (exceedances underlined)
- NR140 ES = Enforcement Standard (exceedances bold)

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL DATA
Summit Credit Union Property
205 S. Klein Street - Waunakee, Wisconsin

| Select VOCs | Date | Tetrachloroethene | Trichloroethene | cis 1,2 dichloroethene | trans 1,2 dichloroethene | Vinyl chloride | Toluene |
|---|---|---|---|---|---|---|---|
| PZ-1 50 ft deep | 09/14/16 | **9570** | **106** | **141** | <25.7 | <176 | <50.0 |
| | 01/21/17 | **9340** | **64.9** (J) | **120** | <25.7 | <17.6 | <50.0 |
| | 08/30/17 | **7650** | **57.0** (J) | **74.0** (J) | <25.7 | <17.6 | <50.0 |
| | 03/04/18 | **7640** | **75.6** (J) | **95.2** (J) | <25.7 | <17.6 | <50.0 |
| | | | | | | | |
| PZ-1D ~ 83 ft deep | 08/09/17 | **60.1** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| | 08/30/17 | **916** | <3.3 | <2.6 | <2.6 | <1.8 | <5.0 |
| | 03/04/18 | **829** | **4.0** | <2.6 | <2.6 | <1.8 | <5.0 |
| PZ-1DP ~110 ft deep | 03/04/18 | **17.6** | <0.33 | <0.26 | <0.26 | <0.18 | <0.50 |
| PZ-4 ~ 93 ft deep | 08/30/17 | <0.50 | <0.33 | <0.26 | <0.26 | <0.18 | 0.53 (J) |
| NR140 PAL | | 0.5 | 0.5 | 7 | 20 | 0.02 | 200 |
| NR140 ES | | 5 | 5 | 70 | 100 | 0.2 | 1000 |

- Results are reported in ug/l
- All detected compounds in table
- (J) = less than limit of quantitation
- NR140 PAL = Preventative Action Limit (exceedances underlined)
- NR140 ES = Enforcement Standard (exceedances bold)

TABLE 4
PROPOSED REMEDIAL SYSTEM MONITORING SCHEDULE
Summit Credit Union Property
205 S. Klein Street - Waunakee, Wisconsin

| Media | Air | | Groundwater | |
|---|---|---|---|---|
| Days | Inlet | Exhaust | Recovery Wells | Monitoring Wells |
| 0 (startup) | X | X | X | X |
| 7 | | X | | |
| 14 | | X | | |
| 21 | | X | | |
| 30 | | X | | |
| 60 | X | X | X | |
| 90 | | X | | |
| 120 | | X | | |
| 150 | | X | | |
| 180 | X | X | X | X |
| 210 | | X | | |
| 240 | | X | | |
| 270 | | X | | |
| 300 | | X | | |
| 330 | | X | | |
| 360 | X | X | X | X |

- Inlet air samples will be analyzed for CVOCs
- Exhaust air samples will be analyzed for VOCs
- Groundwater samples will be analyzed for VOCs

# FIGURES


N

0 1500' 3000'

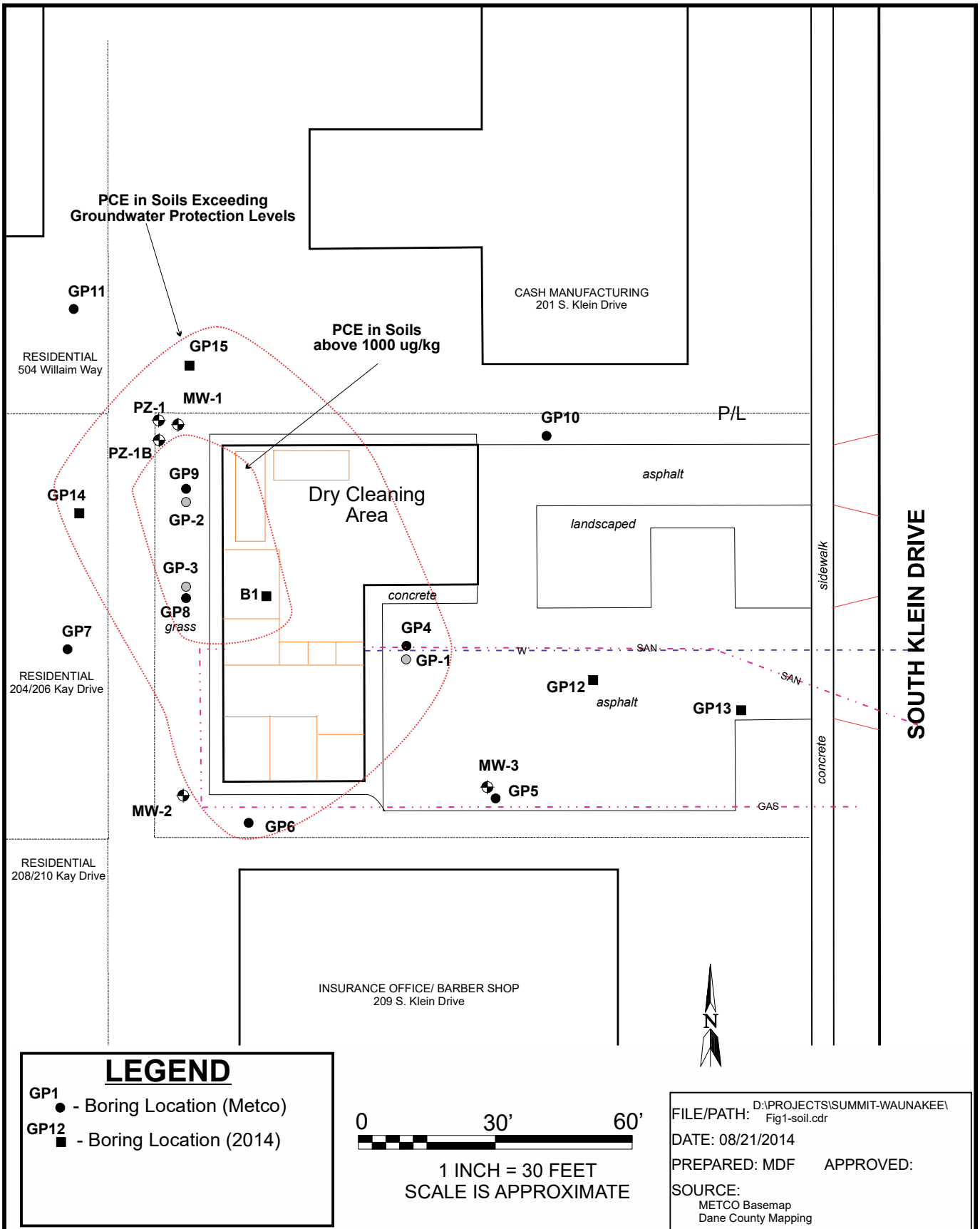
1 INCH = 1500 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\SUMMIT-WAUNAKEE\Location.cdr
DATE: 08/21/2014
PREPARED: MDF APPROVED:
SOURCE: DeLORME TOPO USA

SEYMOUR ENVIRONMENTAL SERVICES, INC.

SITE LOCATION
SUMMIT CREDIT UNION
205 South Klein Drive
Waunakee, Wisconsin

FIGURE 1




## LEGEND

GP1 ● - Boring Location (Metco)

GP12 ■ - Boring Location (2014)

0 30' 60'

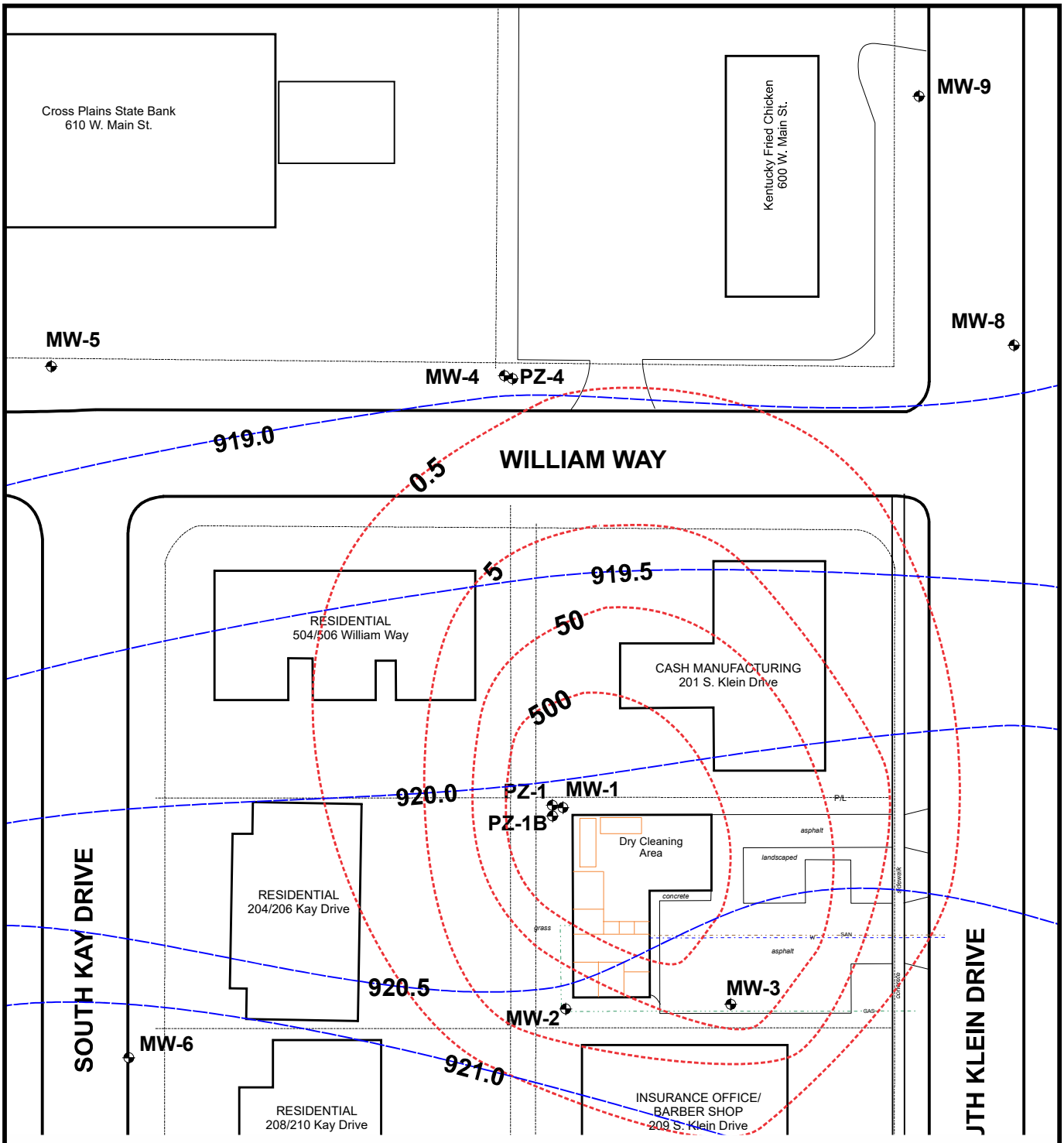
1 INCH = 30 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\SUMMIT-WAUNAKEE\Fig1-soil.cdr
DATE: 08/21/2014
PREPARED: MDF APPROVED:
SOURCE:
METCO Basemap
Dane County Mapping

SEYMOUR ENVIRONMENTAL SERVICES, INC.

SOIL SAMPLES / IDENTIFIED CONTAMINATION
SUMMIT CREDIT UNION
205 South Klein Drive
Waunakee, Wisconsin

FIGURE 2




## LEGEND

MW-6 - Monitoring Well

N

0 60' 120'

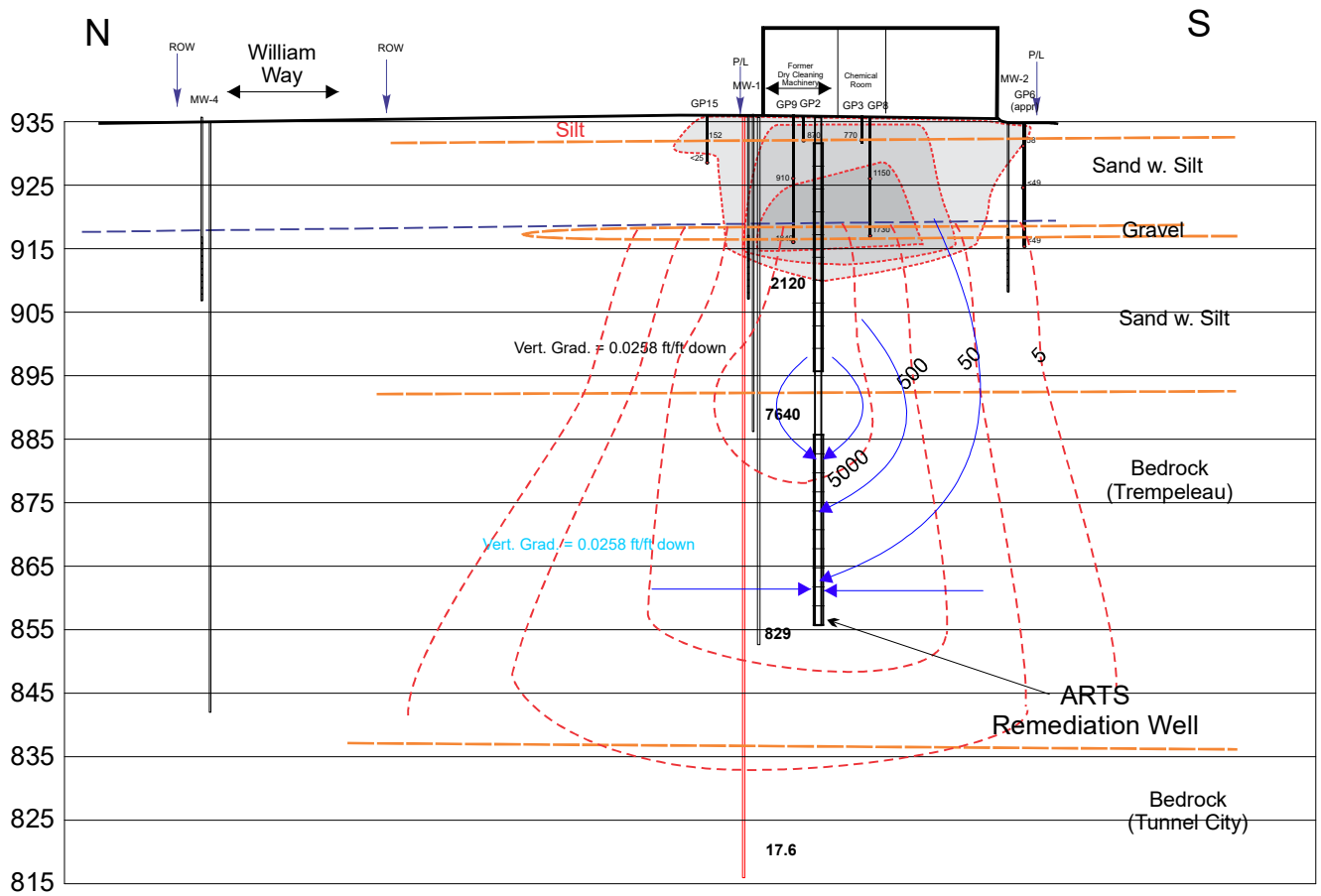
1 INCH = 60 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\SUMMIT\ Layout.cdr
DATE: 02/11/2018
PREPARED: MDF APPROVED:
SOURCE: Dane County Mapping

SEYMOUR ENVIRONMENTAL SERVICES, INC.

GROUNDWATER CONTAMINATION (Water-Table)
SUMMIT CREDIT UNION
205 South Klein Drive
Waunakee, Wisconsin

FIGURE 3




## LEGEND

GP1 ● - Boring Location (Metco)

GP12 ■ - Boring Location (2014)

MW-1 ⊕ - Monitoring Well

N

0 60’ 120’

1 INCH = 60 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\SUMMIT-WAUNAKEE\Fig5-gefeb16.cdr

DATE: 05/20/2016

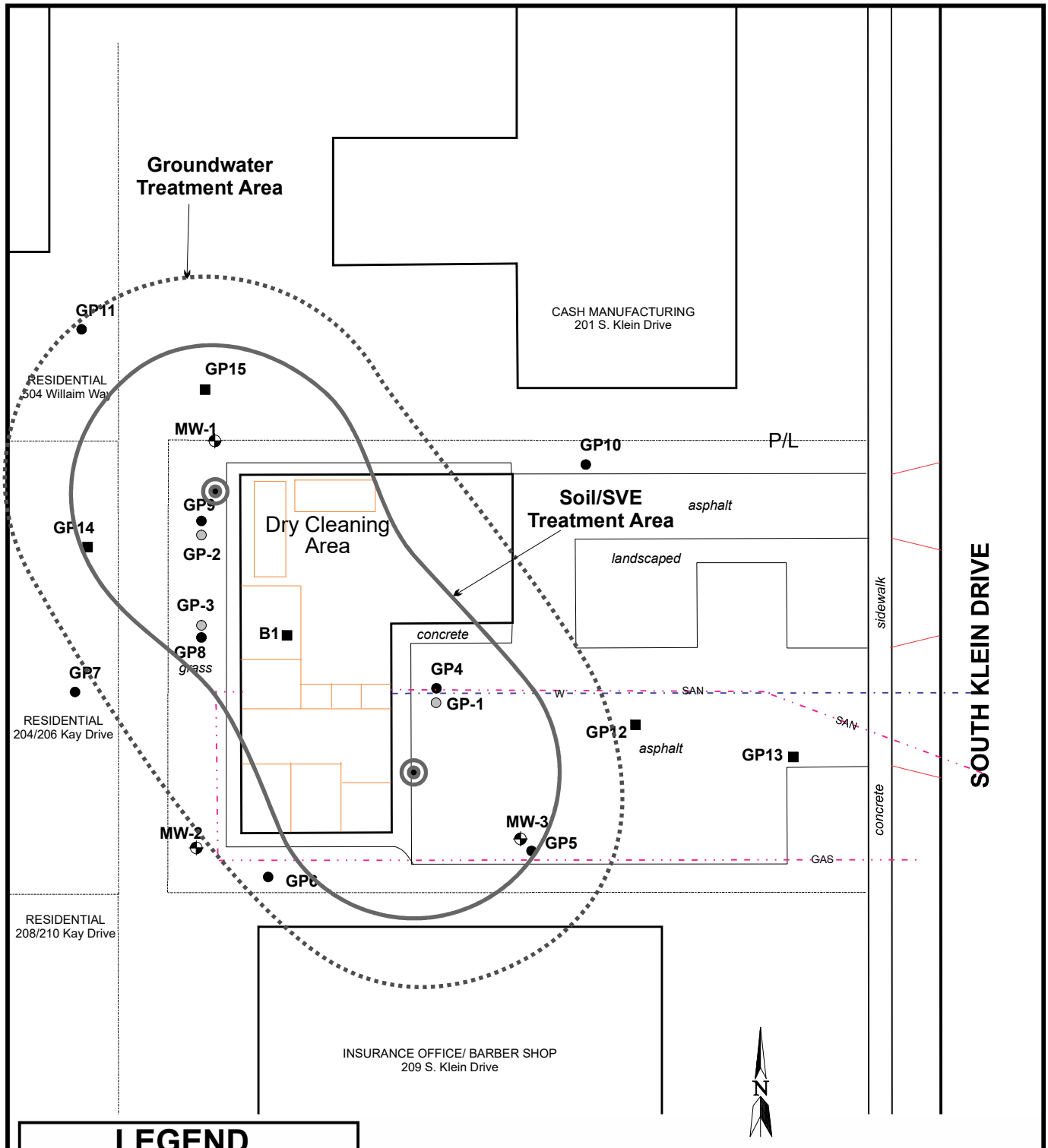
PREPARED: MDF APPROVED:

SOURCE:
METCO Basemap
Dane County Mapping

SEYMOUR ENVIRONMENTAL SERVICES, INC.

SECTION WITH REMEDIATION WELL
SUMMIT CREDIT UNION
205 South Klein Drive
Waunakee, Wisconsin

FIGURE 4




## LEGEND

- GP1 ● - Boring Location (Metco)
- GP12 ■ - Boring Location (2014)
- MW-1 ⊕ - Monitoring Well
- ◎ - ARTS Treatment Well (proposed)

0 30' 60'

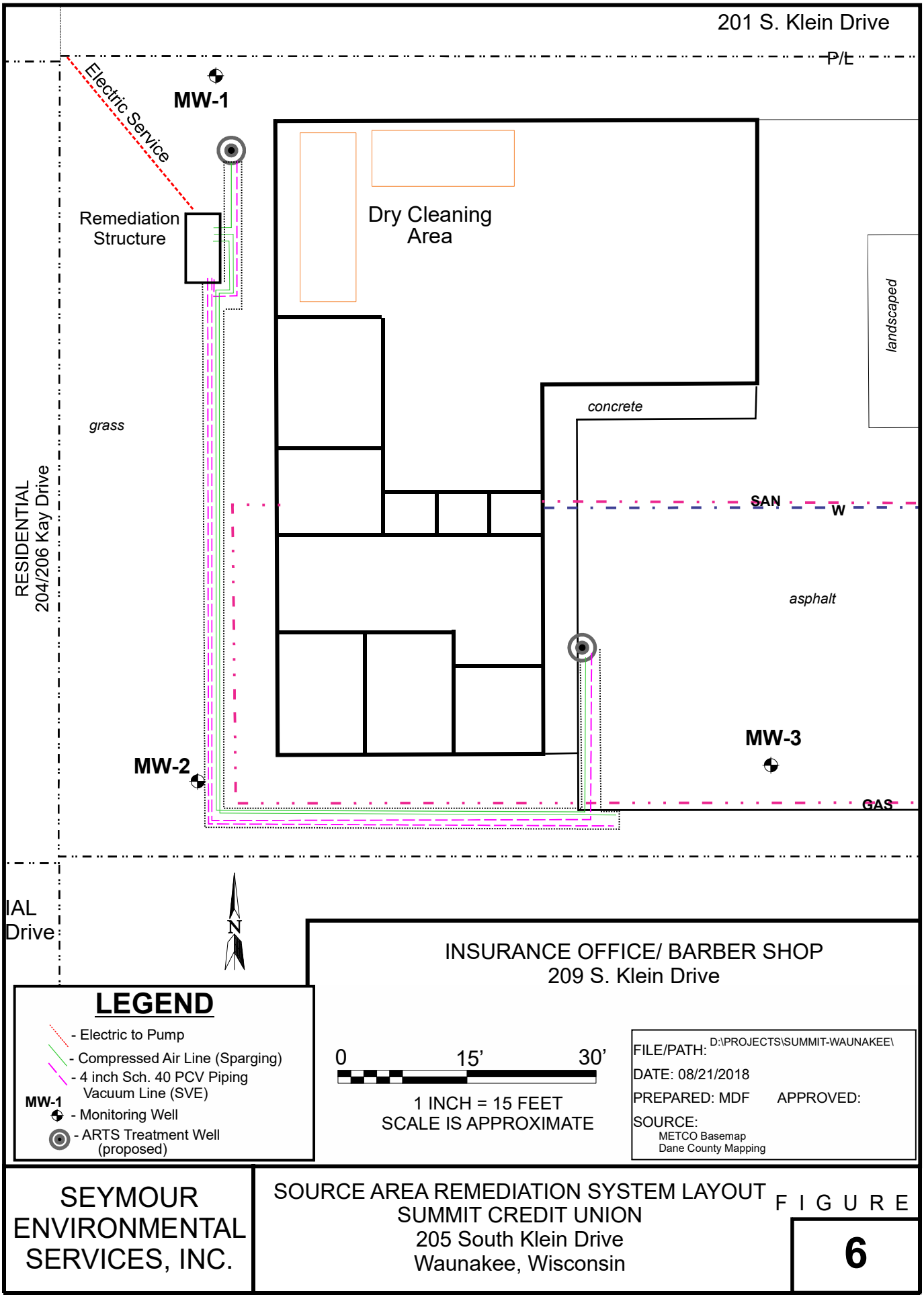
1 INCH = 30 FEET
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\SUMMIT-WAUNAKEE\Fig1-soil.cdr
DATE: 08/21/2018
PREPARED: MDF APPROVED:
SOURCE:
METCO Basemap
Dane County Mapping

SEYMOUR ENVIRONMENTAL SERVICES, INC.

SOURCE AREA TREATMENT ZONE OF IMPACT
SUMMIT CREDIT UNION
205 South Klein Drive
Waunakee, Wisconsin

FIGURE 5




SEYMOUR ENVIRONMENTAL SERVICES, INC.

SOURCE AREA REMEDIATION SYSTEM LAYOUT
SUMMIT CREDIT UNION
205 South Klein Drive
Waunakee, Wisconsin

FIGURE 6

# ACCELERATED REMEDIAL TECHNOLOGIES INFORMATION

January 29, 2018

Robyn Seymour
Seymour Environmental Services, Inc.
2531 Dyreson Road
McFarland, Wisconsin 53558

**Ref: Proposal for ART Technology Installation, Waunakee, Wisconsin**

Dear Ms. Seymour;

Accelerated Remediation Technologies, Inc. (ART) is pleased to submit this proposal to Seymour Environmental Services, Inc. (Seymour) to install the ART Technologies at the above referenced site. The objective is to mitigate chlorinated compounds in soils and groundwater. The groundwater table is encountered at approximately 16 feet below ground surface. Hydraulic conductivity at the site is assumed to exceed $10^{-5}$ cm/second.

***ART Integrated Remediation System***

ART has developed an innovative, patented, remediation technology that is based on well-proven and established concepts. The ART Technology combines in-situ air stripping, air sparging, soil vapor extraction, enhanced bioremediation/oxidation and Dynamic Subsurface Circulation™ in an innovative wellhead system. The technical value of installing the ART Integrated Remediation System includes:

- Proven petroleum, chlorinated and recalcitrant compound remediation
- Multiple, proven technologies working together – stripping, sparging, SVE, oxygenation enhanced bioremediation, and Dynamic Subsurface Circulation™
- Vadose zone remediation
- Dynamic circulation in the subsurface affects remediation of larger area – vertically and horizontally
- Concentrated, multiple stripping in concert with Dynamic Subsurface Circulation™ effects maximize remediation
- No potential for soil matrix collapsing "*air locking"* inherent with injection technologies
- Field flexibility - e.g. could do total fluids recovery if free product is encountered
- Very low risk – multiple technologies at work; can add chemical amendments via Dynamic Subsurface Circulation™ process (if necessary).

The combined effects of the ART Technology result in reduced time to closure and reduction in long-term project costs.

***Scope of Work***

The proposed scope of work consists of the installation of a total of two (2) ART Technologies systems in pre-existing 4 or 6 inch wells (6-inch preferred) at the site along with an adequately

sized mechanical equipment, skid style unit. If trailer style or wood framed enclosure options to house the mechanical system are requested, ART can forward possible cost differences at that time.

ART's scope of work consists of the following tasks:

- Produce, prepare and ship the ART systems and materials to the site
- Procure and ship a 3-point blower/compressor skid style system. Client will unload, position and connect skid at site to utilities including electrical services, carbon, and piping.
- Install the ART Technologies in two pre-drilled 4 or 6-inch wells, 6 inch preferred
- Procure and install a submersible water pump and associated lines in each well.
- Complete ART wellhead installation and
- Make wellhead connection to existing remediation utilities
- Assist consultant with start up and optimization of the ART system.

Tasks to be completed by others:

- Well drilling and installation
- All electrical work associated with system installation
- All permitting
- Client to install well connections for SVE line at the well
- All trenching, piping or manhole construction (per ART configuration/tolerances)
- Any additional vapor treatment that may be required
- System operation and maintenance per the O&M manual provided with the system
- Any required system housing, security or insurances
- Placement and connections of carbon drums or effluent treatment
- All other activities that are not presented on the aforementioned scope of work

Typical general specifications for a 3-point skid mounted remedial system are attached to this document.

ART will work closely with the remediation team to ascertain final system requirements prior to installation. Experienced remediation personnel will manage and guide the installation and start-up tasks and will be present at the site for ART system installation activities. ART field personnel have completed appropriate training and have extensive field experience. ART field personnel have completed the initial 40 hour Hazwopper training and are up to date on the 8 hour refresher Hazwopper training and hold the appropriate certificates as such.

***ART Support Role***

ART is committed to assisting client/consultant in evaluating the efficacy of the ART Technology at the site. Accordingly, a close relationship relative to pre-installation and follow up support will be provided. As the successful outcome of the project is the goal, ART is committed to providing reasonable follow up support upon project installation and successful startup. However, ART cannot be held responsible for operational or equipment issues beyond our control or participation (for example: power supply, blower or compressor issues, faulty well installation/filter pack, air/vapor treatment control issues).

***Cost***

Estimated costs to purchase two ART well systems and an adequately sized mechanical equipment skid (SVE blower and air compressor skid unit), as detailed, are summarized in the attached Table 1. As discussed, the skid unit will be a 3-point system for possible future expansion. All cost estimates are based on the assumption that the client will provide adequate support in terms of electricians, maintenance or other personnel familiar with the site. Cost estimates are valid for the next 30 days.

The startup activities are important to the success of the ART System, all ancillary power supplies, controls, vacuum pumps/blowers, and compressors should be fully operational and available at the wellhead *upon ART personnel's arrival on site.*

ART appreciates the opportunity to provide this proposal and look forward to working with you on this project. ART will mobilize to the site once an installation date is verified. Should you have any questions or need additional information, please contact us.

Sincerely,
Accelerated Remediation Technologies, Inc.

Mohamed M. Odah, Ph.D., P.E
Principal Engineer

Accepted By: _____

Signature: _____ Date: _____
Attachments:
Warranty and Limitations
Table 1: Cost Estimate Summary
General Specifications of 3-Point Remedial Skid Style System

# Warranty and Limitations

- ART will have accepted as true, information obtained from consultant or client involved at the site. ART cannot, therefore, warrant the actual conditions at each site.
- ART's liability to client and client's exclusive remedy of any cause of action for claims arising out of or in any way relating to this project shall not exceed, in the aggregate, the amount of payment to ART for that task of this project. All claims arising out of or in any way relating to this project or any particular work order shall be waived unless made in writing and received by ART on or before two years from the date of this Agreement or the date the work order for that project is signed by the Client.
- ART makes no other warranty either expressed or implied.
- Only manufacturer warranty applies for compressors, blowers, pumps, and other equipment.
- This patented, proprietary technology installation (in-well components and ART wellhead) and its use are limited to the specific site and well location where it is originally installed. Duplication or use at any other well or location is prohibited.
- ART is exclusively providing ART remediation equipment, technology, and ART related installation services only and is not responsible for remediation design, inadequately designed or improperly installed systems by others. ART typically performs a limited review of information provided by the client. It is understood that the project consultant has performed an adequate analysis of groundwater levels and quality, geological formation, soil types, and its potential impact relative to the operation of the technology.
- ART will require 50% of estimated costs upon project award. The remaining 50% will be invoiced following the project installation. If installation is delayed by the client for more than 30 days after system completion, the remaining 50%, minus traveling related charges, will be invoiced and will be due within 30 days. Traveling related charges will be invoiced following installation.

SPECIALTY SYSTEMS INTEGRATORS INC.
14150 23rd Ave N; Plymouth, Minnesota 55447 | tel: 763-450-2600 | WWW.2SSI.COM | email: sales@2ssi.com

Tuesday, January 31, 2018 SSI Quote #018007

Robyn Seymour and Mark Symon
Seymour Environmental Services, Inc.
2531 Dyreson Road
McFarland, Wisconsin 53558
P: (608) 838-9120| C: (608) 220-4847| Email: rseymour@chorus.net

**Reference:** ***SSI-OS-30 Ozone Injection System***

***Specialty Systems Integrators, Inc. (SSI)*** appreciates this opportunity to submit this proposal for your consideration. We have prepared this proposal in accordance with the provided engineering bid documents.

SSI's proposal is to provide a complete turnkey ozone system in a compact skid-mounted enclosure. SSI's ozone injection systems include some of the most proven components in the market with the least amount of maintenance.

The following proposal outlines the specifications of a standard OS-30 Ozone Injection System

**GOALS/REQUIREMENTS:**

- Produce 30 g/hr. of ozone @70 psig (20 SCFH injection flow)
- Provide up to 20 psig Ozone Sparge Pressure with optional pressure boosting to 70 psig
- Provide 3.9 CFM @ 90 PSI for Air Sparge Formation Breakthrough
- Relay-Based Control System
- Fully assembled in a weather-proof enclosure

**EQUIPMENT LIST:**

The following is the list of equipment and instrumentation to fulfill the proposed system requirements. The system includes an air compressor, an oxygen generator and ozone generator. System discharge will have a flow control valve, flow meter and pressure gauge.

*System Includes:*

- Air Compressor
- Inlet Filter and Desiccant air dryer
- Oxygen Concentrator
- Ceramic Plate Plasma Ozone Generator
- System Controller
- Equipment enclosure
- Ancillary equipment, racks, Interconnecting Teflon, clamps, valves, etc.

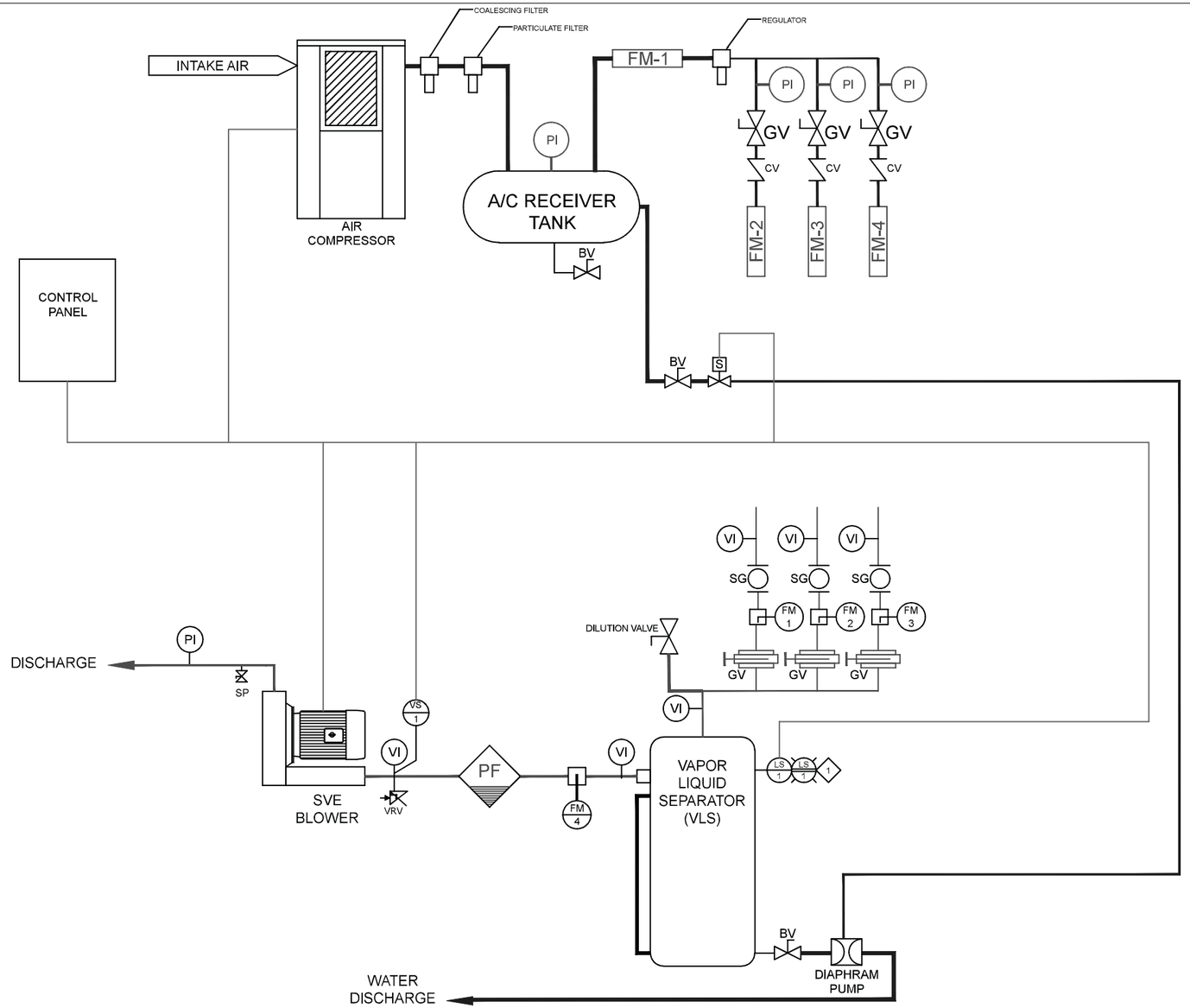
**Site Power = 120VAC, 1ø, 60hz, 15 Amp**

**System to be fully tested prior to shipping**

# REMEDIAL SYSTEM DESIGN PLANS

SOLENOID VALVE
GATE VALVE
BALL VALVE
VACUUM INDICATOR
PRESSURE INDICATOR
SAMPLE PORT
CHECK VALVE
CAM-LOCK FITTING W/HOSE
FATAL ALARM FAULT INPUT

| | |
|---|---|
| SG | SIGHT GLASS |
| LS | LEVEL SWITCH |
| FM | FLOW METER |
| FT | FLOW TOTALIZER |
| PF | PARTICULATE FILTER |
| VS | VACUUM SWITCH |
| HPS | HIGH PRESSURE SWITCH |
| LPS | LOW PRESSURE SWITCH |
| VTA | VENT TO ATMOSPHERE |

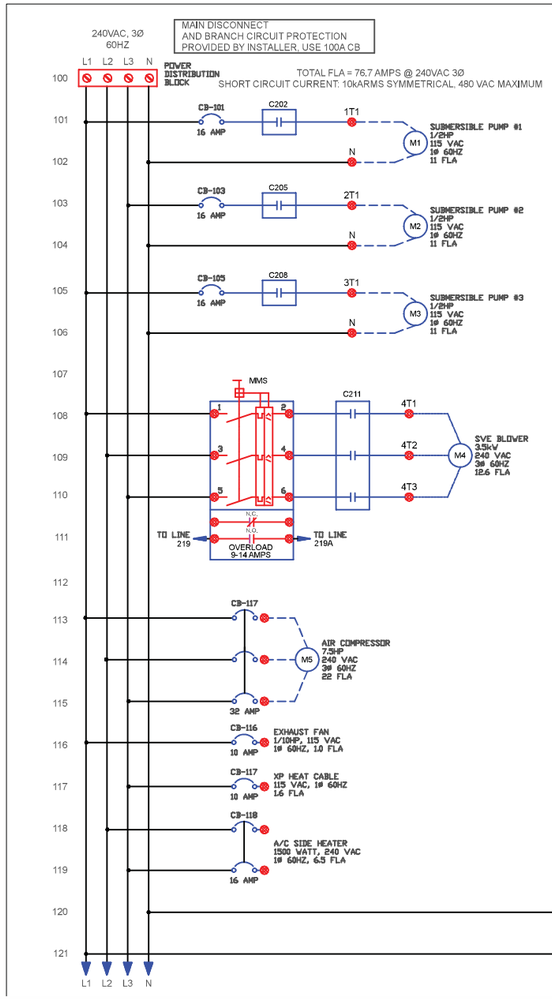


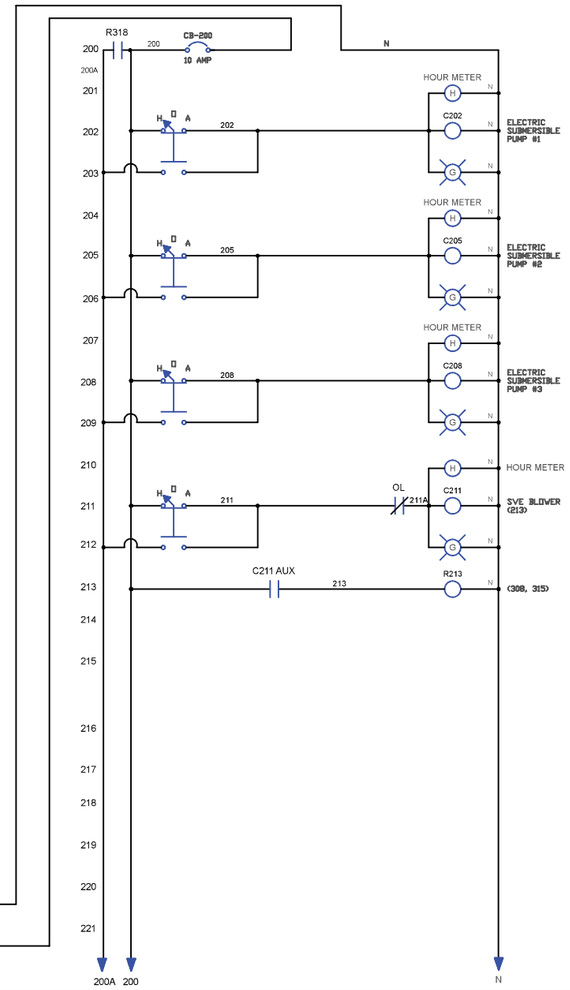

# PROCESS and INSTRUMENTATION DIAGRAM

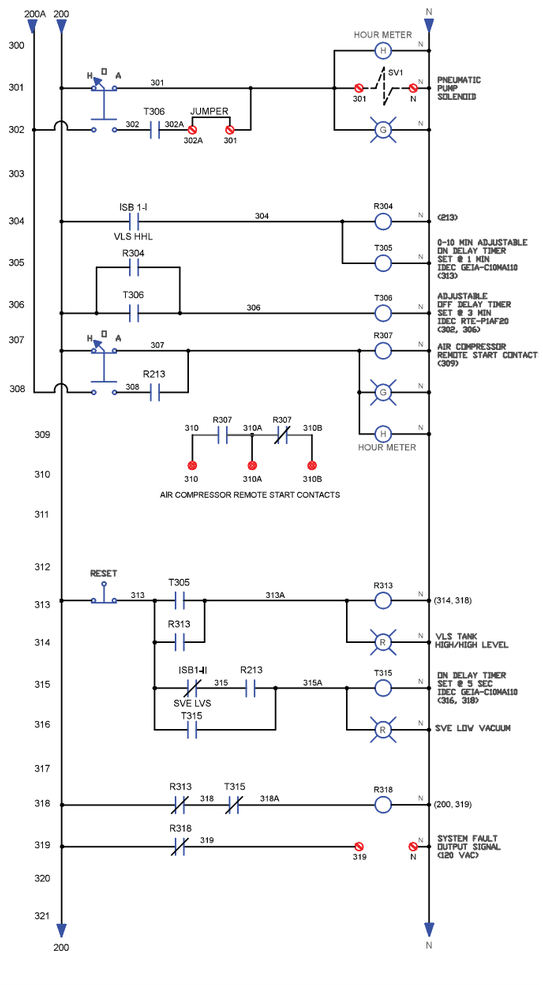
FILE/PATH: D:\PROJECTS\CCP\Summit\InterimSystem.cdr
DATE: 10/14/2018
PREPARED: MDF APPROVED:
SOURCE: DeLORME TOPO USA

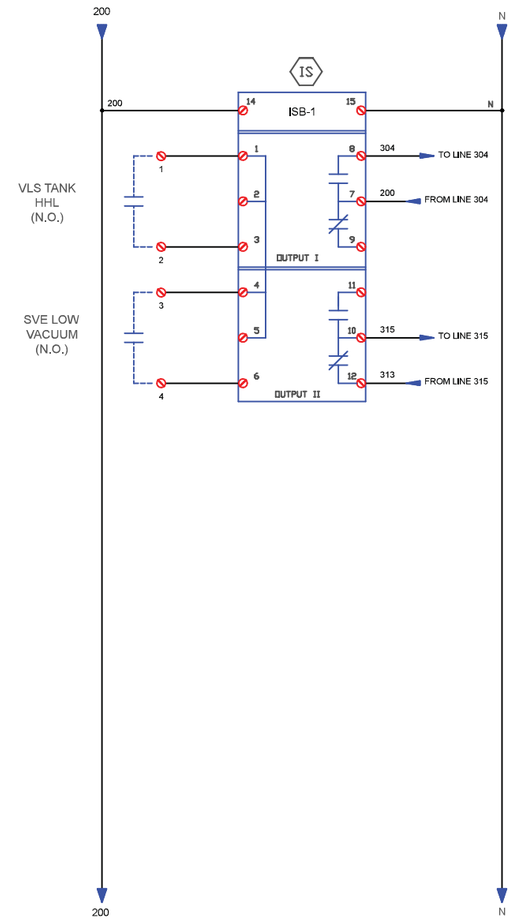
SEYMOUR ENVIRONMENTAL SERVICES, INC.

INTERIM REMEDIATION SYSTEM DESIGN
WAUN-A-CLEAN (former)
205 South Klein Street
Waunakee, Wisconsin




# CONTROL PANEL LAYOUT / LADDER DIAGRAM

FILE/PATH: D:\PROJECTS\CCP\Summit\ Remediation.cdr
DATE: 10/14/2018
PREPARED: MDF APPROVED:
SOURCE:
DeLORME TOPO USA

SEYMOUR ENVIRONMENTAL SERVICES, INC.

INTERIM REMEDIATION SYSTEM DESIGN
WAUN-A-CLEAN (former)
205 South Klein Drive
Waunakee, Wisconsin