



June 29, 2017

Mr. David G. Volkert, Hydrogeologist  
Wisconsin Department of Natural Resources  
Bureau for Remediation & Redevelopment  
Waukesha Service Center  
141 NW Barstow Street  
Waukesha, Wisconsin 53188

**Re: Soil Vapor Extraction Remedial System Construction Report  
OHM - Oconomowoc  
36929 Plank Road  
Oconomowoc, Wisconsin  
FID # 268087380; BRRTS # 02-68-551911**

Dear Mr. Volkert:

Environmental Forensic Investigations, Inc. (EnviroForensics) is providing this construction summary regarding a soil vapor extraction (SVE) system now operating at the One Hour Martinizing (OHM) facility formerly located at 36929 Plank Road in Oconomowoc, Wisconsin (Site). This report satisfies the requirements of remedial system construction documentation required in NR 724.15 and general operation and maintenance plans required in NR 724.13.

### **System Description**

The SVE system installation was completed in April of 2017, and has been operating since that time according to design. The SVE system consists of:

- Two (2) 4-inch diameter polyvinyl chloride extraction wells screened from 5-10 feet below ground surface (bgs) and 15-25 feet bgs, respectively. The extraction wells were installed in the asphalt parking lot near the Pick N Save building. They are connected to a single 4-inch diameter high-density polyethylene conveyance line that extends from the wells to the equipment enclosure located in the southeast corner of the grassy area to the west of the Pick N Save building. The conveyance line was installed using directional boring methods. These component locations can be seen on attached **Figure 1**.
- Trailer-mounted components and controls are designed to apply a vacuum to the extraction wells. The primary components are a positive displacement blower powered by a 3-phase, 60Hz electric motor, an air-water separator tank with relief valve, liquid transfer pump with filter and treatment vessels (if needed), and control panel. The trailer is insulated to reduce noise and an in-line silencer is utilized within the exhaust stream, so very little noise will be heard.



- The trailer is concealed behind a chain-link fence extending eight feet in height and having privacy slats. The door to the trailer is key locked, and a key lock has also been provided to secure the entry gate to the chain-link fence. In addition, there is a locked power shut off box outside of the fenced in area that can be accessed by the Fire Department in case of a fire emergency.
- Telemetry was installed for system monitoring of negative vacuum pressure in inches of mercury. The telemetry will notify us of system shut down under low negative pressure conditions.

A schematic of the trailer systems and an SVE process diagram are attached. Three-phase power to operate the system is provided by Oconomowoc Utilities, and comes from a dedicated underground electrical line installed along the southern property boundary with associated transformer. The electrical conveyance line details are shown on the attached Oconomowoc Utilities drawing.

### **Operational Procedures**

Recovered vapors and condensate first go through the air-water separator tank. After the water and vapor have been separated, the SVE exhaust is discharged to the atmosphere. Water can be pumped from the separator tank through a bag filter and carbon treatment vessels, if needed for pretreatment. Currently, the separator tank must be emptied periodically and the water will be removed for off-Site disposal.

The SVE system is designed and intended to operate continuously. However, interruptions may occur due to power outages, equipment failure, or scheduled maintenance. Routine and periodic maintenance of the SVE system will be required. Site visits for vapor effluent testing and system operational performance were performed once per day for the first three days, once per week for the next three weeks, and then once per month to satisfy Wisconsin Department of Natural Resources (WDNR) requirements for air emissions monitoring.

After this initial monitoring, monthly system inspections and effluent sampling will be performed until remedial operations are complete. Semi-annual remediation progress reports will be submitted to WDNR, as required, using the Remediation Site Operation, Maintenance, Monitoring & Optimization Report (WDNR Form 4400-194). The reports will include information on the operational configuration during the reporting period, figures, tables, and graphs showing rate of mass removal and cumulative mass removal.

We will have remote phone telemetry to notify us in the event of issues which automatically shut down the system such as high vacuum pressure and high water levels in the air-water separator tank.

Standard operation and maintenance activities will include the following:

- Address system shutdowns or operational issues;
- Record operational parameters and vapor concentrations to evaluate efficiency:
  - Effluent VOC vapor concentration by sample collection in vacuum canisters;
  - Total system run time;
  - System vacuum;
  - Vacuum at each wellhead;
  - Vacuum at monitoring points;

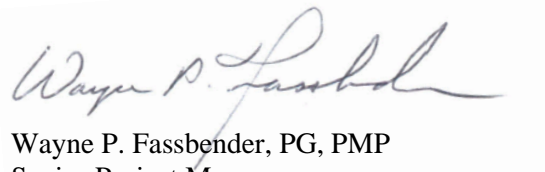
- Flow rate measured via in-line pitot tube; and
- Exhaust temperature.
- Inspect, maintain, and/or repair the following components as needed and recommended by the manufacturers:
  - Blower belts and pulleys;
  - Blower inlet filter;
  - Blower motor bearings and oil level;
  - System enclosure exhaust fan;
  - Air-water separator tank and float switches;
  - Vacuum bypass valve;
  - Air-water separator dilution valve; and
  - Exhaust silencer.

### **Termination**

It is anticipated that the SVE system will operate for approximately 2 years in order to meet remediation objectives. However, if samples of effluent indicate that the system is producing diminished concentrations of chlorinated volatile organic compounds, then the system may be operated intermittently for a time to determine if the physical limits of recovery have been reached. At that point, vapor samples from monitoring points and soil samples from the source area of impacts will be collected to determine remaining residual concentrations.

If you have any questions or require additional information, please don't hesitate to contact me at 414-982-3988.

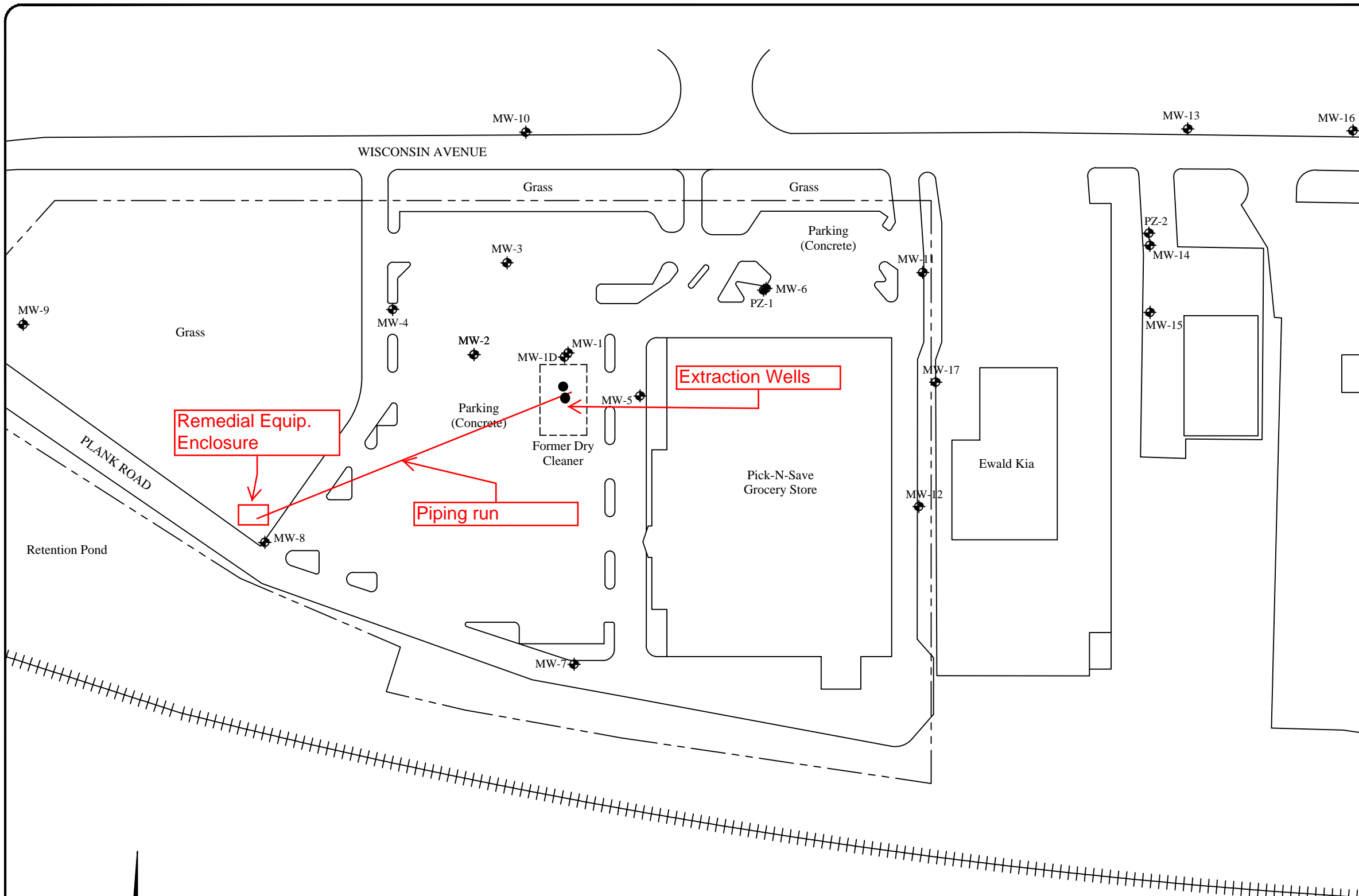
Sincerely yours,

A handwritten signature in black ink, reading "Wayne P. Fassbender".

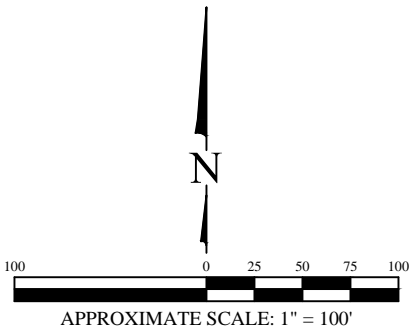
Wayne P. Fassbender, PG, PMP  
Senior Project Manager

Attachments:

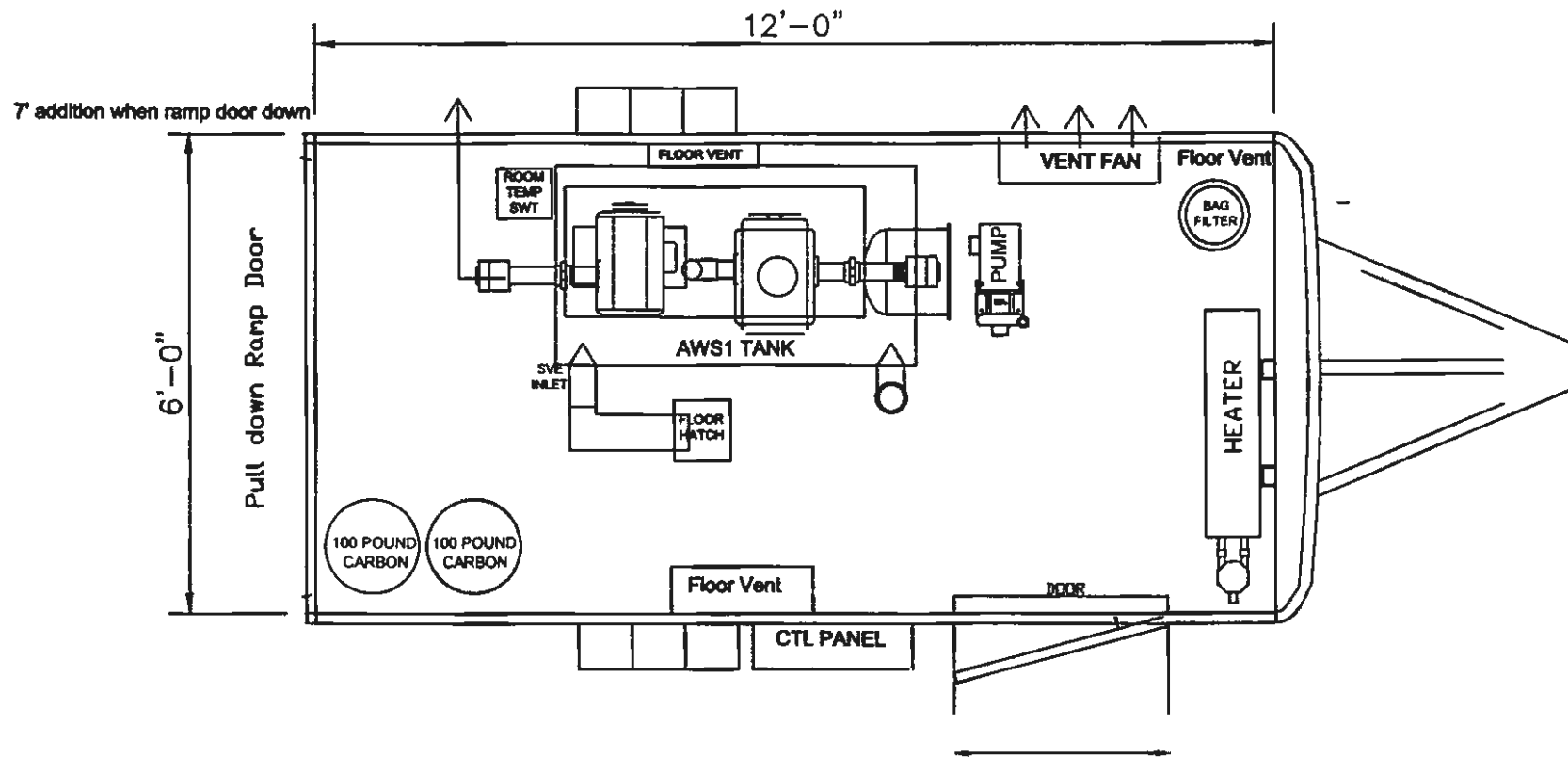
Figure 1 -- Remediation System Layout  
Trailer Schematic  
SVE System Process Diagram  
City of Oconomowoc drawing showing electrical supply  
Certification Statement



- Legend**
- Property boundary
  - MW-1 Monitoring well sample location



<b>MONITORING WELL LOCATION MAP</b>															
Martinizing Dry Cleaning 36929 Plank Road Oconomowoc, WI															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td>5/1/15</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>EB</td></tr> <tr><td>Checked:</td><td>KH</td></tr> <tr><td>DWG file:</td><td>6143-0135</td></tr> </table>	Date:	5/1/15	Designed:	EB	Drawn:	EB	Checked:	KH	DWG file:	6143-0135	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;"><b>ENVIRO</b> <i>forensics</i></td> <td style="text-align: center;">Figure 1</td> </tr> <tr> <td style="font-size: small;">           ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.            602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204            EnviroForensics.com         </td> <td style="text-align: center;">Project 6143</td> </tr> </table>	<b>ENVIRO</b> <i>forensics</i>	Figure 1	ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC. 602 N. Capitol Ave., Ste. 210 • Indianapolis, IN 46204 EnviroForensics.com	Project 6143
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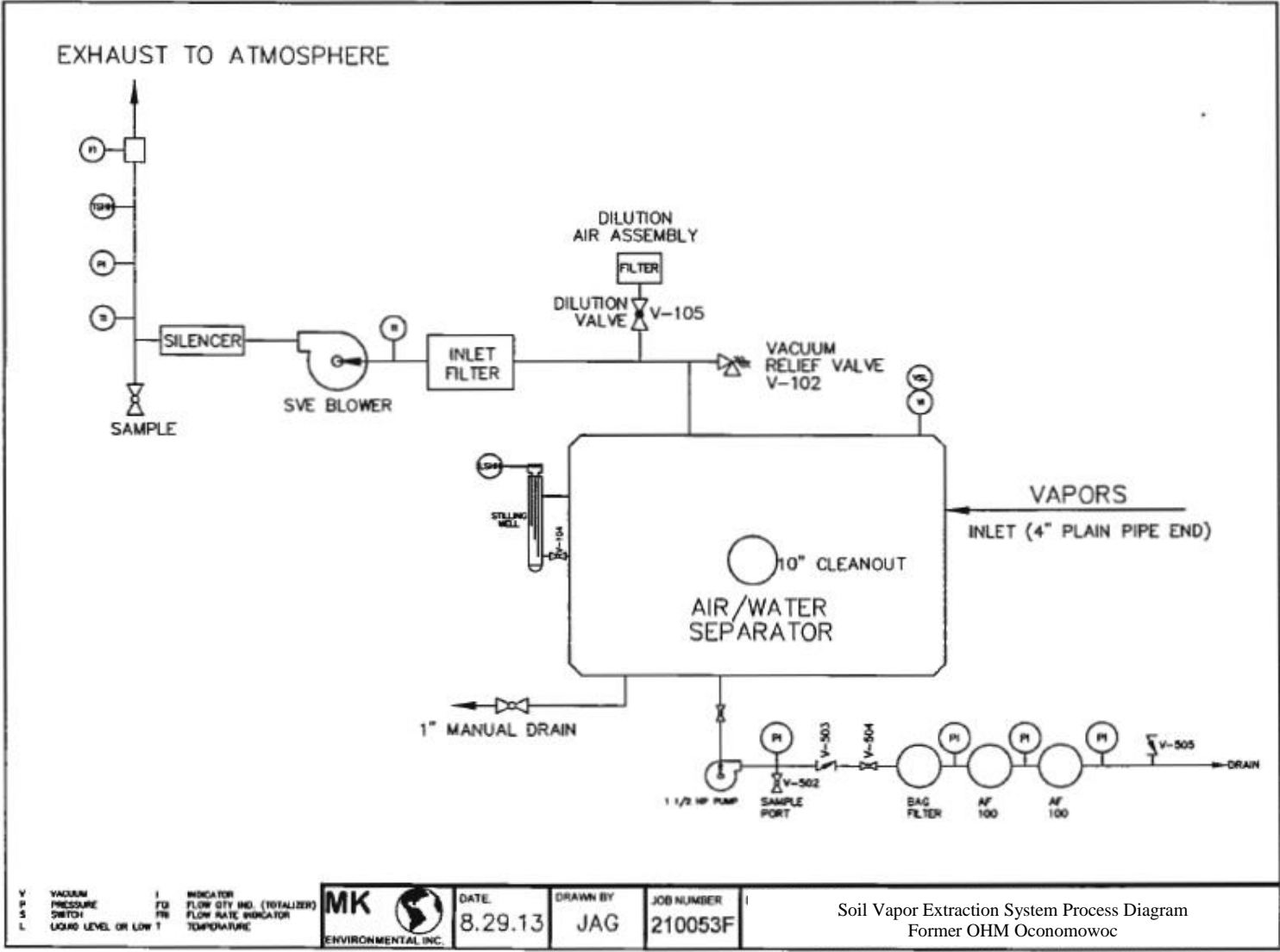
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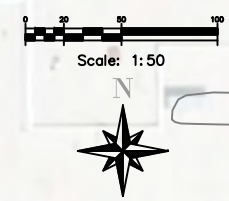
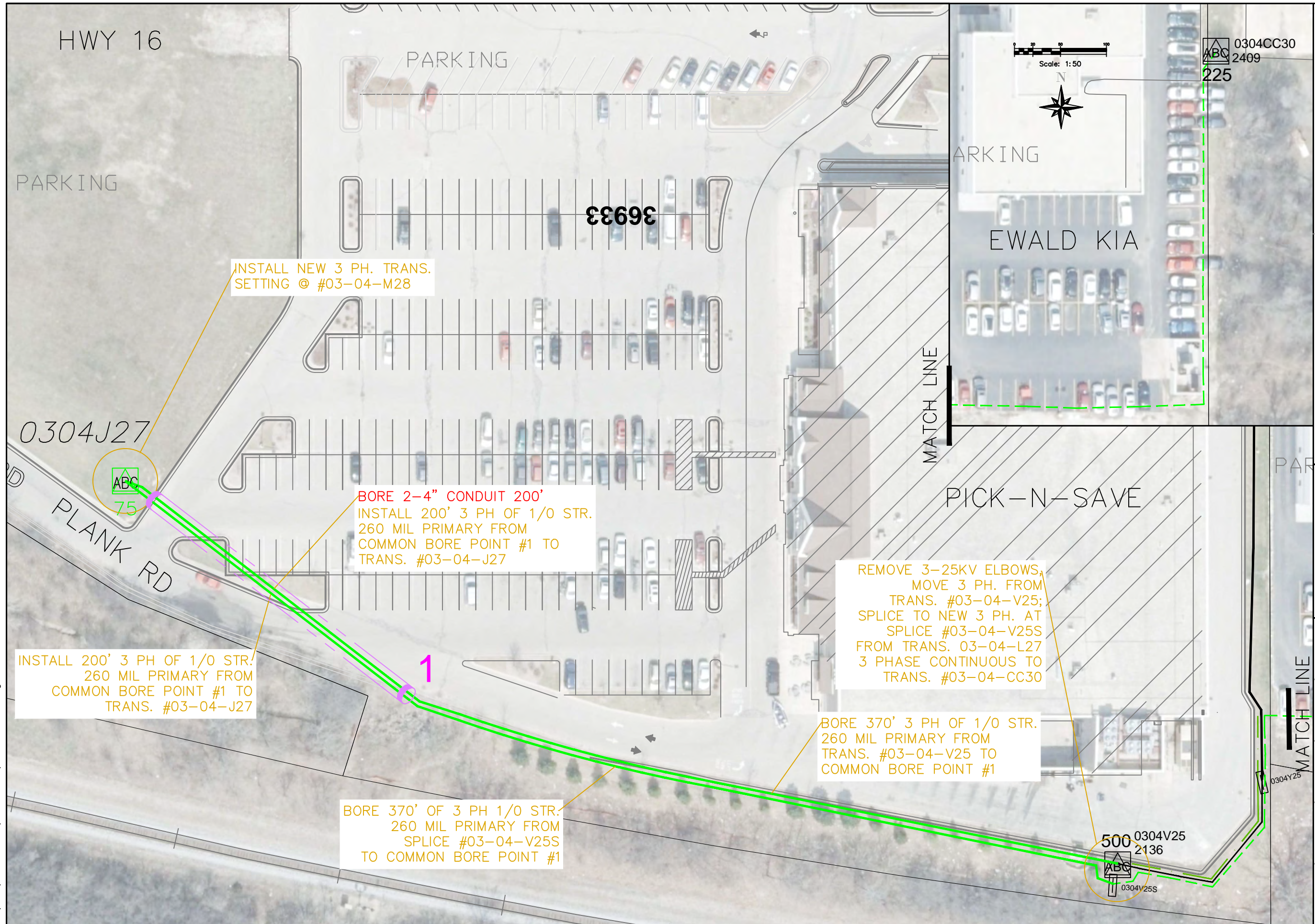
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210053G

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COLONIAL CLEANERS



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808 S. Worthington Street  
Oconomowoc, WI 53066  
(262) 569-2196

**PICK-N-SAVE**  
REMEDIAL EQUIP. ENCLOSURE

Project Location:  
36929 PLANK ROAD,  
OCONOMOWOC

Revisions				
1	2	3	4	5

Project No.  
316352

Date:  
10/19/2016

Drafted & Designed By:  
JEHd/LJC

Checked By:  
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Sheet No.  
1

**CERTIFICATIONS**

I, Andrew Horwath, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

*Andrew D. Horwath*

Manager, Technical Group, PE #E-43831-6

Signature, title and P.E. number



P.E. stamp

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

*Wayne P. Fassbender* Sr. Project Manager  
Signature and title

Date 6/28/17