

**From:** Borski, Jennifer - DNR  
**Sent:** Wednesday, July 7, 2021 5:11 PM  
**To:** Beggs, Tauren R - DNR; Hedman, Curtis J - DHS; Kloczko, Nathan F - DHS  
**Cc:** Schultz, Josie M - DNR  
**Subject:** VI Discussion/DHS Consult for Jagemann Plating Co Inc, BRRTS #02-36-55544  
**Attachments:** Status Update Email Attachments 062121.pdf

Tauren,

Thank you for discussing the Jagemann Plating Co Inc site with us this afternoon. We reviewed the attached site map and vapor data along with an aerial photo of the area. We understand this is an active plating business and the RP is slowly proceeding with the required investigation. A vapor mitigation system was installed in the office area in 2015 and a subsequent SSV and indoor air investigation took place in 2021, including a utility investigation. SSV in May 2021 revealed TCE at 31,700,000 ug/m3 (1,1,-DCE & vinyl chloride also above VRSL) beneath the main manufacturing floor at SSV-4 but indoor air is below industrial VALs. No additional interim or remedial actions have taken place.

Based on our review and discussion, DNR and DHS are in agreement that a vapor mitigation system is needed and that routine indoor air monitoring should take place until a mitigation system is installed that protects the occupants from sub-slab vapor. Based on [DHS's March 25, 2021 letter](#) (item #3a), an interim action is recommended to be installed within 4-8 weeks.

Next steps:

- Tauren will contact the consultant to suggest a meeting with DNR, DHS & the RP to discuss next steps.
- Curtis will notify the local County health of the situation and establish a point of contact for health issues. Tauren can coordinate with Curtis directly moving forward.
- DHS can assist with messaging regarding TCE in the workplace.

Future Actions:

- DNR will need to make clear that, per code, an interim action is needed as well as a remedial action to reduce the mass and concentration of contamination.
- **Although not discussed**, I also recommend the following:
  - Suggest the consultant review [ITRC's Vapor Intrusion Mitigation](#) doc and the new "Health" Tab on the [Vapor Intrusion for Environmental Professionals](#) website.
  - Reinforce that the DNR & DHS both strongly recommend the RP & consultant use a mitigator certified by NRPP that will follow the ANSI/AARST Standards for Radon/Soil Gas Mitigation. [NRPP-certified mitigators](#) can be identified on their website. Note that the **ANSI/AARST RMS-LB-2018 with 12/2020 REVISIONS** (*Radon (& Soil Gas) Mitigation Standards for Schools and Large Buildings*) is strongly recommended (utilized by NRPP-certified mitigators) but requirement by NRPP for compliance with the 12/2020 revisions will not go into effect until 9/1/2021. It is not currently a requirement to use NRPP-certified mitigators in Wisconsin.

Let me know if you have any questions. Please keep Josie & Curtis posted as you progress.

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**Jennifer Borski**

Vapor Intrusion Team Leader / Hydrogeologist

Remediation & Redevelopment Program / Environmental Management Division

Wisconsin Department of Natural Resources

625 E. County Road Y, STE. 700, Oshkosh, WI 54901-9731 – **Teleworking until September 2021**

**Cell Phone: (920) 360-0853**

[jennifer.borski@wisconsin.gov](mailto:jennifer.borski@wisconsin.gov)



**From:** Schultz, Josie M - DNR  
**Sent:** Thursday, June 24, 2021 6:21 AM  
**To:** Beggs, Tauren R - DNR  
**Subject:** Fwd: Vapor Results for Jagemann Plating - BRRTS #02-36-555544

Hi Tauren - See Curtis' response below.

Josie M. Schultz  
Hydrogeologist - NER R&R  
Wisconsin Dept. of Natural Resources  
Phone: 920-662-5424  
Cell: 920-366-5685  
[Josie.Schultz@Wisconsin.gov](mailto:Josie.Schultz@Wisconsin.gov)

Begin forwarded message:

**From:** "Hedman, Curtis J - DHS" <[Curtis.Hedman@dhs.wisconsin.gov](mailto:Curtis.Hedman@dhs.wisconsin.gov)>  
**Date:** June 23, 2021 at 12:47:40 PM CDT  
**To:** "Schultz, Josie M - DNR" <[josie.schultz@wisconsin.gov](mailto:josie.schultz@wisconsin.gov)>  
**Cc:** "Borski, Jennifer - DNR" <[Jennifer.Borski@wisconsin.gov](mailto:Jennifer.Borski@wisconsin.gov)>  
**Subject:** RE: Vapor Results for Jagemann Plating - BRRTS #02-36-555544

Hi Josie,

Thanks very much for sharing the results. There are no immediate concerns for the workers, as the small and large commercial VALs are set to be protective of the general population including sensitive populations. My hope is that indoor air will continue to be monitored periodically where detected and above areas with VRSL exceedance. Is the company moving toward installation of a SSDS?

Curtis

Curtis Hedman, Ph.D.  
Toxicologist  
Bureau of Environmental and Occupational Health  
Division of Public Health, Wisconsin Department of Health Services  
1 W Wilson St, Rm 150  
Madison, WI 53701

Phone: 608-266-6677  
FAX: 608-267-4853  
Cell: 608-287-4152

*NOTICE: This E-mail and any attachments may contain confidential information. Use and further disclosure of the information by the recipient must be consistent with applicable laws, regulations and agreements. If you received this E-mail in error, please notify the sender; delete the E-mail; and do not use, disclose or store the information it contains.*

---

**From:** Schultz, Josie M - DNR <[josie.schultz@wisconsin.gov](mailto:josie.schultz@wisconsin.gov)>  
**Sent:** Wednesday, June 23, 2021 11:26 AM  
**To:** Hedman, Curtis J - DHS <[Curtis.Hedman@dhs.wisconsin.gov](mailto:Curtis.Hedman@dhs.wisconsin.gov)>  
**Cc:** Borski, Jennifer - DNR <[Jennifer.Borski@wisconsin.gov](mailto:Jennifer.Borski@wisconsin.gov)>  
**Subject:** FW: Vapor Results for Jagemann Plating - BRRTS #02-36-555544

Hi Curtis,

Jennifer Borski is on vacation until July 6<sup>th</sup>, and I wanted to forward these vapor results to you before that time. There are very high TCE concentrations beneath the slab of this industrial plating facility. There are also indoor air concentrations for TCE above residential, but below small commercial. Please take a look at the results, and let me know if there is any additional information you need, or if you have any concerns for the workers at this plating facility.

Thanks,  
Josie

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**Josie M. Schultz**

Hydrogeologist – Northeast Region Remediation and Redevelopment Team  
Wisconsin Department of Natural Resources  
2984 Shawano Avenue, Green Bay, WI 54313-6727  
Cell: 920-366-5685  
[Josie.Schultz@Wisconsin.gov](mailto:Josie.Schultz@Wisconsin.gov)

---

**From:** Beggs, Tauren R - DNR <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)>  
**Sent:** Wednesday, June 23, 2021 11:08 AM  
**To:** Schultz, Josie M - DNR <[josie.schultz@wisconsin.gov](mailto:josie.schultz@wisconsin.gov)>; Borski, Jennifer - DNR <[Jennifer.Borski@wisconsin.gov](mailto:Jennifer.Borski@wisconsin.gov)>; Walden, James E -DNR <[jamese.walden@wisconsin.gov](mailto:jamese.walden@wisconsin.gov)>  
**Subject:** FW: Vapor Results for Jagemann Plating - BRRTS #02-36-555544

Good morning,

Sub-slab vapor, indoor air, and in-pipe sanitary sewer sampling has been completed at this industrial plating site. Please see the attached PDF for figures and tables and the email from the consultant below. I will summarize the various sampling that was completed:

Indoor air sampling in office areas where the vapor mitigation system is operating  
Three indoor air samples (IA-4 to IA-6) were collected by Robert E Lee & Associates (REL) in the eastern office area to determine if the vapor mitigation system that was previously installed was effective since indoor air sampling was not previously

completed after the vapor mitigation system was installed. IA-4 had a J flagged detect, but it was below all VALs. The other two samples IA-5 and IA-6 had no detections. REL is also currently looking to coordinate with a new contractor to conduct an inspection of the vapor mitigation system.

#### Sub-slab sampling of existing vapor ports

Existing vapor ports (SSV-1 to SSV-3) were sampled again. Sub-slab concentrations for SSV-1 and SSV-3 decreased and were not above VRSLs. SSV-2 continues to be above VRSLs.

#### New sub-slab vapor and indoor air sampling within manufacturing area

Two new vapor ports (SSV-4 and SSV-5) were sampled twice, in March and May 2021. **SSV-4 was elevated and SSV-5 was extremely elevated. Paired indoor air samples (IA-7 and IA-8) were collected in May 2021 and both samples were below the industrial VAL. IA-8 was above the residential VAL though. It does not currently appear that the extremely high concentrations of TCE are translating to elevated indoor air concentrations. This may be due to the facility's ventilation system. DNR should provide these results to DHS so they are aware. Is anything else needed at this time?**

#### In-pipe sampling

Vapor sampling was completed in the sanitary sewer at the manhole directly adjacent to the site and the up and down gradient directions. There were low level detections in the manhole directly adjacent to the site, but they were below the sewer gas screening level. The up and down gradient samples had no detections.

Regards,

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**Tauren R. Beggs**

Phone: (920) 510-3472

[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov) (preferred contact method during work at home)

---

**From:** Nicole L. LaPlant <[nlaplant@releeinc.com](mailto:nlaplant@releeinc.com)>

**Sent:** Monday, June 21, 2021 4:24 PM

**To:** Beggs, Tauren R - DNR <[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov)>

**Subject:** RE: Jagemann Plating - BRRTS #02-36-555544

Hi Tauren –

Just wanted to provide you a brief update prior to submitting the next written update report.

We completed the proposed indoor air and vapor sampling on March 27, 2022. The three (3) indoor air samples collected from the office area and basement at previously sampled locations had no detections of CVOCs above the VAL, thus it appears the vapor mitigation system is effective. We also collected sub-slab vapor samples from the three

(3) existing vapor pins that were already in place at the locations of SSV-1, SSV-2, and SSV-3. An overall reduction of CVOC concentrations was observed in SSV-1, SSV-2, and SSV-3. Specifically, no VRSL exceedances of CVOCs were recorded at SSV-1 and SSV-3, while CVOCs remain in excess of the VRSL at SSV-2. The two newly installed vapor pins at locations SSV-4 and SSV-5 within the southern manufacturing area within the boundaries of the groundwater contaminant plume showed elevated concentrations of CVOCs in excess of the VRSLs at both locations. Attached is an update vapor analytical table and maps for your reference.

Due to the elevated concentrations of CVOCs detected at the new locations of SSV-4 and SSV-5, REL began coordinating resampling of vapor at those locations paired with indoor air sampling, and sanitary sewer vapor sampling. REL returned to the Site on May 19, 2021 to collect another sample from both of those locations to confirm the initial results and to collect paired indoor air samples (IA-7 and IA-8) from those locations, as well, to determine if the vapor at those locations were impacting the indoor air quality. The May 2021 results indicated that CVOCs were present in excess of the VRSLs at both SSV-4 and SSV-5 again. However, CVOCs were not detected in excess of the VAL in the paired indoor air samples on that day. On this same day we also conducted the in-pipe sanitary sewer investigation to evaluate potential vapor migration through the utility. We collected vapor samples for three sanitary manholes ( 1 upgradient manhole MH8-130, the source manhole MH8-78 connected to the sewer line located on the south side of the building, and 1 downgradient manhole MH8-77). REL followed the procedures for in-pipe sanitary sewer sampling that are present on the WDNR website. No CVOCs were detected in the upgradient and down gradient manholes, and very low levels of CVOCs; which are less than the calculated Industrial and Residential Sanitary Sewer Gas Screening Levels (SSGSLs) presented in new WDNR guidance document RR-649 dated June 2021.

We plan to complete groundwater sampling from select monitoring wells. The wells that have been selected for sampling this event are MW-1, MW-2, MW-3, MW-8, MW-14, and MW-15 for VOC analysis (which are all CVOC impacted monitoring wells).

Feel free to give me a call to discuss upon review. Upon receipt of the groundwater sampling results, REL will prepare a written report with a fee for a technical assistance request as the next step. The report will document further historical operations in the southern manufacturing area (REL is working on gathering this information at this time). Also, we are working to coordinate the annual inspection of the Vapor mitigation system; however, we have not received a response from the most recent contractor to complete the inspection. We are looking for another potential contractor to complete the annual inspection.

Feel free to give me a call to discuss upon review.

Thank you, Nicole

**TABLE A.4  
VAPOR ANALYTICAL TABLE  
JAGEMANN PLATING COMPANY, 1324 SOUTH 26TH STREET, MANITOWOC, WI**

Sample ID	Sample Location	Sample Type	Date Collected	Relevant VOCs (µg/m <sup>3</sup> )				
				1,1-DCE	Cis-1,2 DCE	Trans-1,2 DCE	TCE	Vinyl Chloride
Large Commercial/Industrial Sub-Slab Vapor Risk Screening Level (VRSL) -- µg/m <sup>3</sup>				88,000	---	---	880	2,800
Industrial Land Use - Sanitary Sewer Gas Screening Level (SSGSL) -- µg/m <sup>3</sup>				29,333	---	---	293	933
Residential Land Use - Sanitary Sewer Gas Screening Level (SSGSL) -- µg/m <sup>3</sup>				7,000	---	---	70	57
Large Commercial/Industrial Indoor Air Vapor Action Level (VAL) -- µg/m <sup>3</sup>				880	---	---	8.8	28
SSV-1	Former Waste Water Treatment Plant Room	Sub-slab vapor	2/9/2014	26.9	540	57.5	<b>1,530</b>	86.7
			3/27/2021	9.9 J	1,100	68.3	461	7.2 J
IA-1		Indoor air	2/9/2014	ND	ND	ND	0.89	0.39
SSV-2	East Side Chromium Dip Line Area	Sub-slab vapor	2/9/2014	ND	1,050	67.8	<b>6,080</b>	17.8
			3/27/2021	14.9 J	965	39.3	<b>2,920</b>	4.6 J
IA-2		Indoor air	2/9/2014	ND	ND	ND	1.7	ND
SSV-3	West Side Chromium Dip Line and Pickling Line Area	Sub-slab vapor	2/9/2014	ND	25.3	ND	57.7	21.1
			3/27/2021	<0.19	8.6	<0.24	8.4	<0.12
IA-3		Indoor air	2/9/2014	ND	ND	ND	ND	ND
SSV-4	Central portion of South Manufacturing Area	Sub-slab vapor	3/27/2021	23,900	3,210,000	65,400	<b>15,300,000</b>	<b>8,880</b>
			5/19/2021	<b>94,100</b>	6,330,000	162,000	<b>31,700,000</b>	<b>117,000</b>
IA -6/8		Indoor air	5/19/2021	<0.21	0.56 J	<0.26	3.5	<0.13
SSV-5	West portion of South Manufacturing Area	Sub-slab vapor	3/27/2021	478	1,290	344	<b>9,870</b>	1,070
			5/19/2021	522	1,060	294	<b>5,850</b>	1,450
IA-7		Indoor air	5/19/2021	<0.22	0.35 J	<0.27	0.46 J	0.43
IA-4	First Floor Office Area	Indoor air	2/9/2014	ND	5.2	ND	<b>9.2</b>	ND
			3/27/2021	<0.22	<0.22	<0.26	0.56 J	<0.13
IA-5	Basement Storage Area Adjacent to Mechanical Room	Indoor air	2/9/2014	ND	9.0	ND	<b>14.4</b>	ND
			3/27/2021	<0.19	<0.21	<0.25	<0.32	<0.13
IA-6	Basement Office Area	Indoor air	2/9/2014	ND	8.3	ND	<b>13.9</b>	ND
			3/27/2021	<0.19	<0.21	<0.25	<0.32	<0.13
OA-1	Southwest of Chromium Dip Line Building (upwind)	Outdoor air	2/9/2014	ND	ND	ND	ND	ND
MH8-130	Upgradient Sanitary Sewer Manhole (S.26th Street)	Vapor within Utility Main	5/19/2021	<0.19	<0.27	<0.23	<0.27	<0.12
MH8-78	Jagemann Plating Sanitary Sewer Discharge Manhole (S. 26th Street)	Vapor within Utility Main	5/19/2021	0.53 J	5.7	<0.23	4.5	4.3
MH8-77	Downgradient Sanitary Sewer Manhole (S. 26th Street)	Vapor within Utility Main	5/19/2021	<0.20	<0.28	<0.24	<0.28	<0.12

**Key:**

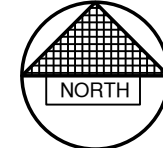
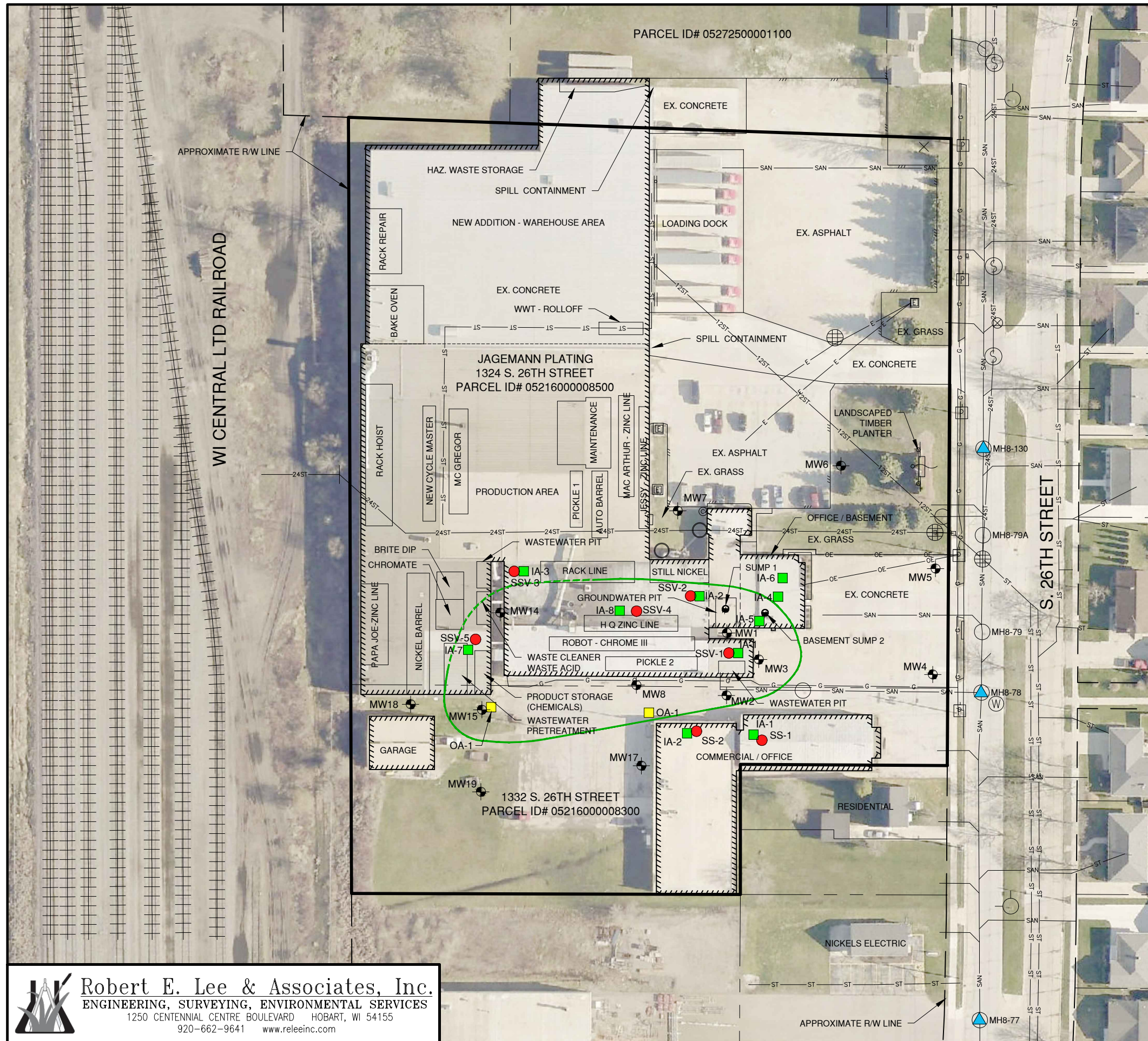
--- = No screening level established  
 ND = Not detected above laboratory detection limits  
 µg/m<sup>3</sup> = Micrograms per cubic meter  
 1,1-DCE = 1,1-Dichloroethene  
 TCE = Trichloroethene  
 Cis-1,2 DCE = Cis-1,2 Dichloroethene  
 Trans-1,2 DCE = Trans-1,2 Dichloroethene

**138** = Vapor Risk Screening Level (VRSL) exceeded

**14.5** = Vapor Action Level (VAL) exceeded

**Notes:**

- 1.) Sub-slab samples collected using Vapor Pin.
- 2.) The Sanitary Sewer Gas Screening Level (SSGSL) was calculated by dividing the buildings served by the sanitary sewer by an attenuation factor of 0.03 in accordance with WDNR guidance document RR-649.



**LEGEND**

- MW1 MONITORING WELL LOCATION
- PZ1 PIEZOMETER LOCATION
- IA-1 INDOOR AIR SAMPLE LOCATION
- OA-1 OUTDOOR AIR SAMPLE LOCATION
- SSV-1 SUB-SLAB VAPOR SAMPLE LOCATION
- MH8-78 IN-PIPE SANITARY SEWER VAPOR SAMPLE
- SUMP
- EX. SANITARY MANHOLE
- EX. STORM SEWER MANHOLE
- EX. STORM SEWER CATCH BASIN
- EX. FIRE HYDRANT
- EX. WATER VALVE
- EX. WATER MANHOLE
- EX. ELECTRIC PEDESTAL
- EX. POWER POLE
- EX. STORM SEWER
- EX. SANITARY SEWER
- EX. WATERMAIN
- EX. GAS LINE
- EX. ELECTRIC LINE
- EX. TELEPHONE LINE
- EX. FIBER OPTICS LINE
- PROPERTY LINE
- RIGHT OF WAY LINE
- SITE BOUNDARY LINE
- ESTIMATED EXTENT OF GROUNDWATER CONTAMINATION IN EXCESS OF ENFORCEMENT STANDARD (DASHED WHERE INFERRED)

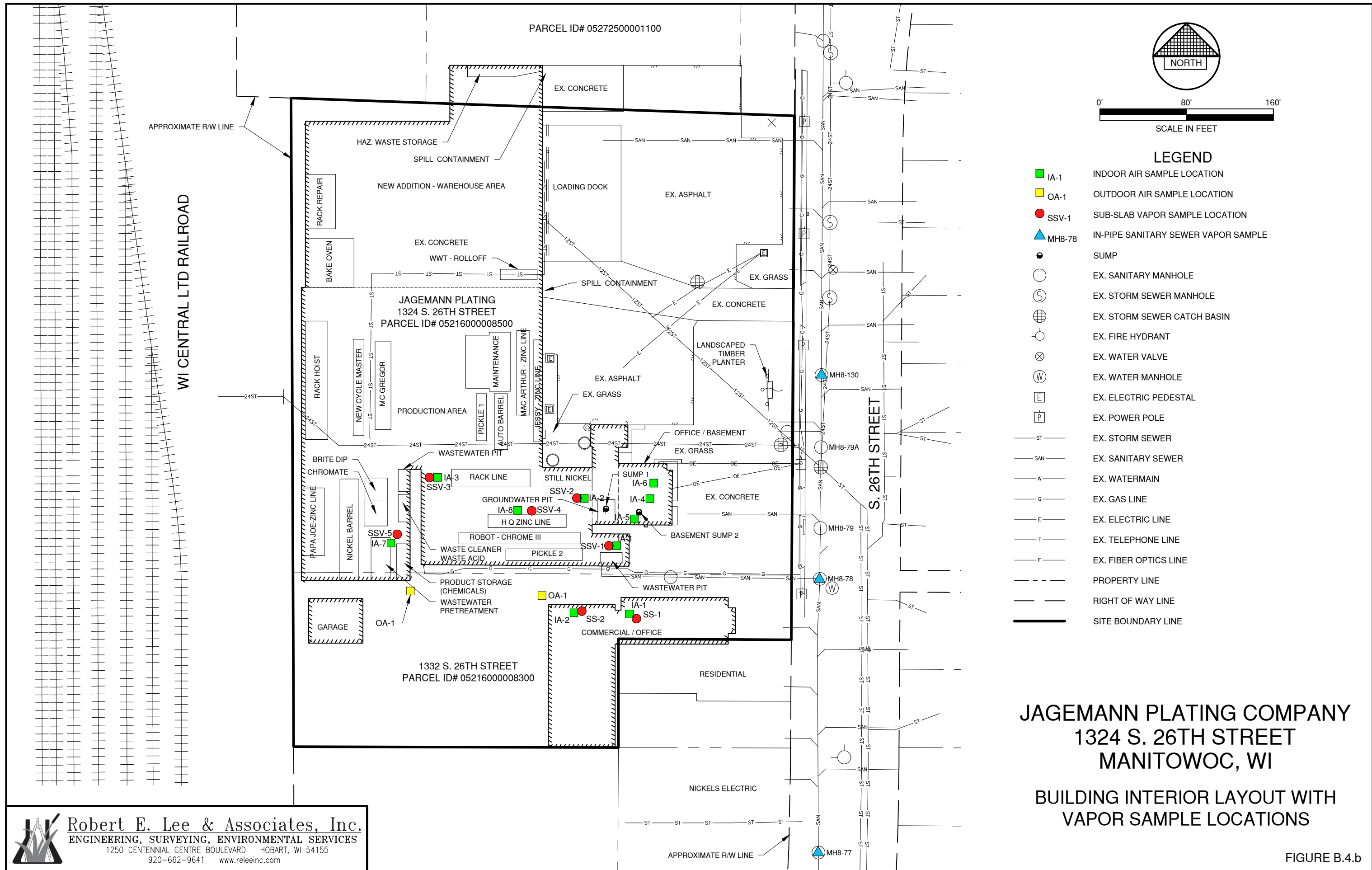
**JAGEMANN PLATING COMPANY**  
**1324 S. 26TH STREET**  
**MANITOWOC, WI**

**VAPOR INTRUSION MAP**

FIGURE B.4.a

**Robert E. Lee & Associates, Inc.**  
 ENGINEERING, SURVEYING, ENVIRONMENTAL SERVICES  
 1250 CENTENNIAL CENTRE BOULEVARD HOBART, WI 54155  
 920-662-9641 www.releeinc.com





**JAGEMANN PLATING COMPANY**  
**1324 S. 26TH STREET**  
**MANITOWOC, WI**

**BUILDING INTERIOR LAYOUT WITH**  
**VAPOR SAMPLE LOCATIONS**

FIGURE B.4.b

**Robert E. Lee & Associates, Inc.**  
 ENGINEERING, SURVEYING, ENVIRONMENTAL SERVICES  
 1250 CENTENNIAL CENTRE BOULEVARD HOBART, WI 54155  
 920-662-9641 www.releeinc.com