

From: Nicole L. LaPlant <nlaplant@releeinc.com>
Sent: Wednesday, December 2, 2020 11:34 AM
To: Beggs, Tauren R - DNR
Subject: FW: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544
Attachments: 1162013_BASE_2019-01-03-B.4.a.pdf

Hi Tauren –

Hope you are well! I met with Mike Jagemann before the Thanksgiving holiday, and it was a good meeting. REL is preparing a contract amendment for proposed work for Jageman Plating's approval. REL will then prepare and submit a workplan for your review.

We had a question come up during the meeting, that we were hoping you could answer/clarify for us. It goes back to Jennifer' comment in her December 2019 email regarding vapor work. Her email is at the very bottom of the chain, and I highlighted it in yellow at the bottom of the email chain and pasted it here:

- Enhance the off-site SSV/IA vapor investigation based on interior utility laterals, interior layout & building use.

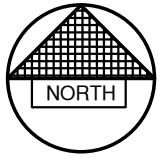
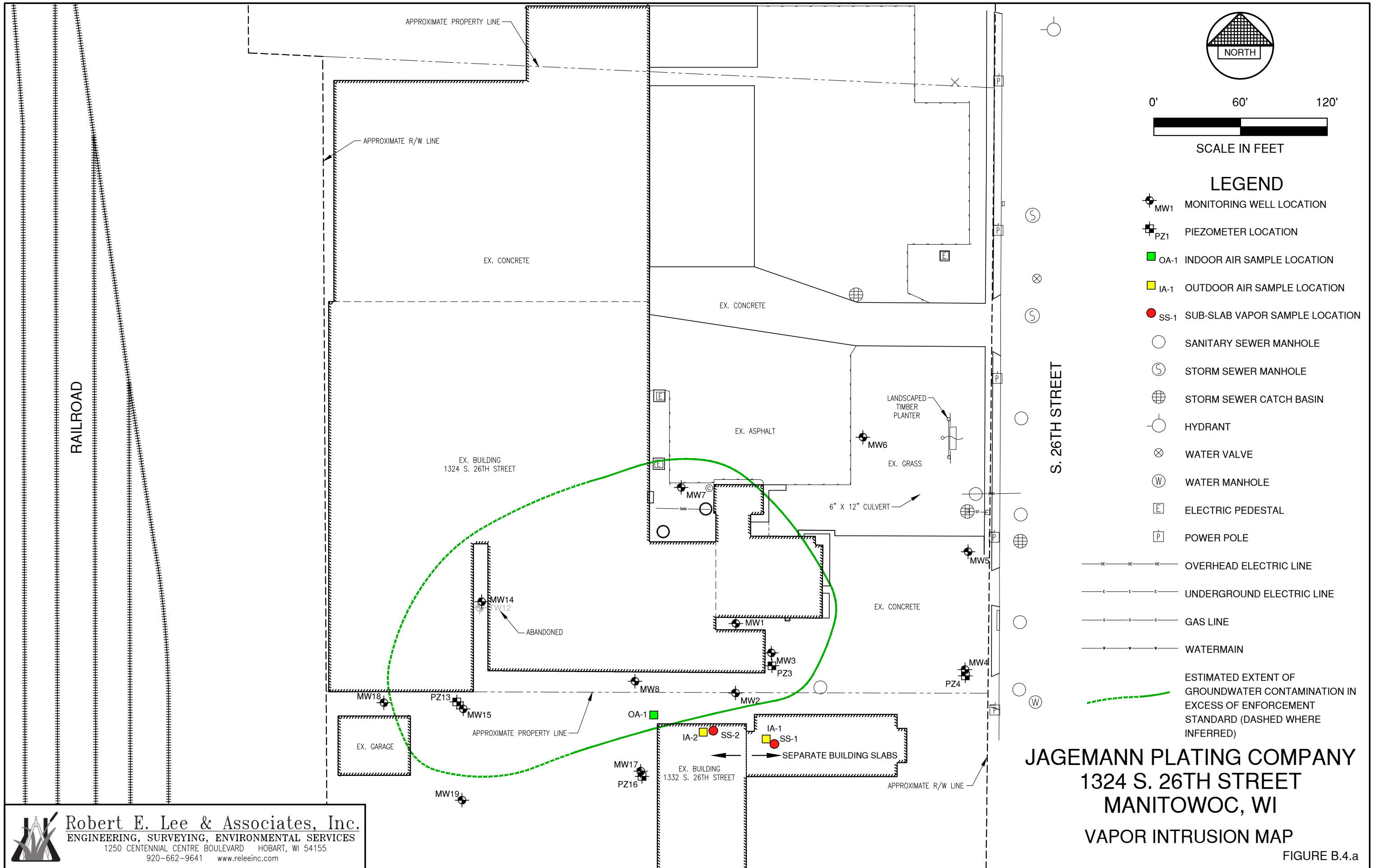
Mike and I were thinking this statement refers to the work we did in the adjacent building to the south at 1332 S. 26th Street. I attached a map for your reference. Can you confirm that is what she is suggesting by this statement? (she specifically references "interior layout & building use". (We noted during our discussion that both rounds of testing we did for vapor and indoor air had no detects above VAL/VRSL standards.)

Appreciate your help. (Also, FYI--I think I may have to connect you with the vapor system contractor in regards to the recent comments on the OM&M plan, they have many questions on the last comments. I've been trying to work through it with them.)

Best Regard, Nicole



Nicole L. LaPlant - Robert E. Lee & Associates, Inc.
920-662-9641 nlaplant@releeinc.com














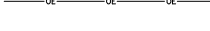
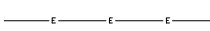


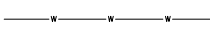


0' 60' 120'



SCALE IN FEET

LEGEND

-  MW1 MONITORING WELL LOCATION
-  PZ1 PIEZOMETER LOCATION
-  OA-1 INDOOR AIR SAMPLE LOCATION
-  IA-1 OUTDOOR AIR SAMPLE LOCATION
-  SS-1 SUB-SLAB VAPOR SAMPLE LOCATION
-  SANITARY SEWER MANHOLE
-  STORM SEWER MANHOLE
-  STORM SEWER CATCH BASIN
-  HYDRANT
-  WATER VALVE
-  WATER MANHOLE
-  ELECTRIC PEDESTAL
-  POWER POLE
-  OVERHEAD ELECTRIC LINE
-  UNDERGROUND ELECTRIC LINE
-  GAS LINE
-  WATERMAIN
-  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
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 920-662-9641 www.releeinc.com

From: Nicole L. LaPlant <nlaplant@releeinc.com>
Sent: Friday, October 16, 2020 1:52 PM
To: Beggs, Tauren R - DNR
Cc: A-1 Vacuum & Radon (a1vacuumradon@aol.com);
mjagemann@jagemannplating.com
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc,
BRRTS # 02-36-555544

Hi Tauren –

Thank you! We appreciate it. We will take look at them and I will let you know if there are questions.

Have a good weekend,
Nicole



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920-662-9641 nlaplant@releeinc.com

From: Beggs, Tauren R - DNR [<mailto:Tauren.Beggs@wisconsin.gov>]
Sent: Friday, October 16, 2020 12:24 PM
To: Nicole L. LaPlant
Cc: A-1 Vacuum & Radon (a1vacuumradon@aol.com); mjagemann@jagemannplating.com
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544

Hi Nicole,

Jim Walden, vapor intrusion DNR staff in Madison, provided the attached plans for a couple good examples of OM&M plans. Jennifer Borski also wanted me to note that RR-981 (Link: <https://dnr.wi.gov/files/PDF/pubs/rr/RR981.pdf>) has been around since 2014 but RR-800 (Section 10.2, Appendix E & Appendix G; Link: <https://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf>) has only been around since Jan 2018. Since the fairly recent rollout of RR-800, DNR has not received too many OM&M Plans, but has been updating vapor intrusion guidance over the years to try to provide more detailed information for documentation.

If you have any other questions, please let me know.

Regards,

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Tauren R. Beggs

Phone: (920) 510-3472

Tauren.Beggs@wisconsin.gov (preferred contact method during work at home)

From: Beggs, Tauren R - DNR
Sent: Friday, October 16, 2020 9:21 AM
To: Nicole L. LaPlant <nlaplant@releeinc.com>
Cc: A-1 Vacuum & Radon (a1vacuumradon@aol.com) <a1vacuumradon@aol.com>;
mjagemann@jagemannplating.com
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-55544

Hi Nicole,

I have forwarded this on to Jennifer Borski and Josie Schultz and will let you know when I hear from them.

Regards,

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Tauren R. Beggs

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From: Nicole L. LaPlant <nlaplant@releeinc.com>
Sent: Tuesday, October 13, 2020 12:41 PM
To: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>
Cc: A-1 Vacuum & Radon (a1vacuumradon@aol.com) <a1vacuumradon@aol.com>;
mjagemann@jagemannplating.com
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-55544

Hi Tauren –

We been in communication with A1 Vacuum & Radon (A1) and, I think they will need to return to Jagemann Plating for another site visit for some of the system component locations, mapping requests, etc. We are waiting for a couple of dates when that can be scheduled within the next couple of weeks. I will let you know once it is confirmed.

When I spoke with A1, they shared with me that they have not received this level of feedback on other OM&M plans they have submitted to WDNR for other sites. My understanding was that they believed what they submitted now has been acceptable in the past. Can you point us (REL/A1- Vacuum, and Jagemann Plating) in the direction of a few sites on BRRTS who have an acceptable OM&M plan submitted that we may review? This will be of much help, so we are not going back and forth. It would be greatly appreciated and helpful.

Thank you, Nicole



Nicole L. LaPlant - Robert E. Lee & Associates, Inc.
920-662-9641 nlaplant@releeinc.com

From: Beggs, Tauren R - DNR [<mailto:Tauren.Beggs@wisconsin.gov>]
Sent: Tuesday, September 08, 2020 9:36 AM
To: Nicole L. LaPlant
Subject: FW: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544

Hi Nicole,

I am forwarding you the email for the review of and additional information that should be provided for the OM&M plan. Please let me know if you have any questions as you go through this.

Regards,

We are committed to service excellence.

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Tauren R. Beggs

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From: Borski, Jennifer - DNR <Jennifer.Borski@wisconsin.gov>
Sent: Wednesday, September 2, 2020 10:53 AM
To: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>; Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544

Tauren and Josie,

Thank you for discussing the July 15, 2020 OM&M Plan prepared by A1 Vacuum & Radon (the "Plan") submitted for this site with me this morning. After our discussion, I had the opportunity to review the Plan in detail. Please note that in addition to the required contents of an OM&M Plan detailed in Section 10 of RR-800, DNR has a separate template/guidance on maintenance plans for mitigation systems, [RR-981](#), which is available in two places:

- on the [Vapor Intrusion for Environmental Professionals](#) website under the "Guidance" tab (more appropriate for open cases where VMS installed and closure is not near), and
- on the general [Resources for Environmental Professionals](#) under the "Case Closure" tab.

The following minimum information needs to be added to the Plan for finalization and compliance with Wis. Admin. Code s. NR 724:

- It's clear this was written by a radon professional, not the environmental consultant familiar with the NR 700 Rule Series. Wis. Admin. Code s. NR 712.07 requires submittals prepared to satisfy code requirements be prepared by or under the supervision of a P.E., P.H. or soil scientist, as applicable and vapor mitigation OM&M Plans are not exempt under s. NR 712.11. The consultant should use the information prepared in the Plan by the radon professional to create a site-specific OM&M Plan per our Code and RR-981. The consultant may also consider removing reference to EPA levels (because we apply WI VALs/VRSLs) or mention of radon. This is not required though. The updated OM&M Plan created by the consultant and submitted as a stand-alone document (as

opposed to part of a Construction Documentation report or Closure Request) *I believe* needs to include proper certification.

- Add a location map with drop point, fan & exhaust piping locations with respect to the interior building layout and footprint.
- Include under *System Components* that the mitigation system installed in 2015 includes a single drop point and single fan (as opposed to multiple).
- Clarify under *System Components* that the photos in the attached inspection log are site-specific.
- Include in text under *System Components* the initial manometer reading (0.5 inches of water column (“in. WC” or just “WC”)) and acceptable range for the selected fan (0.2 to 1.0 in. WC) that is currently included on the inspection log form. This will assure that if future versions of the inspection log are used, that this site-specific information is not lost.
- Include that system components found to be ineffective or malfunction need to be replaced immediately by a mitigation professional and the system recommissioned, documented and stored on-site with the inspection information. Any *changes* need to be communicated with DNR (ideally in advance).
- Add a section on "System Maintenance".
- Include in text that monthly manometer readings and annual inspection required (specify what time of year for annual inspection) and inspection reports required to be maintained on site. Add if you want annual submittal of inspection log.
- Enhance contacts with phone and email for RP, consultant and DNR PM. It’s fine to continue to include the contact for the radon professional that installed the system.
- Update date of plan (and author, as appropriate).

In regard to Josie’s recommendations below, a couple items to note:

- The location of vapor sample ports within the building are not required by Code to be included in the OM&M Plan or to be inspected or abandoned. Integrity of vapor ports will need to be verified during future sampling, if appropriate, by leak testing (sample train shut-in test and sample probe with helium shroud or water dam). See [RR-986](#) for sub-slab sampling procedures.
- Operational alarms were not required of radon mitigators by ANSI/AARST until 2017 (SGM-SF-2017); however, it is a very good idea to add an audible alarm and DNR encourages them, especially when TCE is a contaminant of concern. DNR has no authority to require system alarms at this time.

Thank you again for sharing this OM&M Plan with me and requesting input. Let me know if you have any questions or want to discuss further.

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Jennifer Borski

Phone: (920) 424-7887 – **Not in office during pandemic. RR Program land lines will be disconnected in October 2020.**

Cell Phone: (920) 360-0853 – Use this number

jennifer.borski@wisconsin.gov



From: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>
Sent: Monday, August 31, 2020 2:55 PM
To: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>
Cc: Borski, Jennifer - DNR <Jennifer.Borski@wisconsin.gov>
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544

Hi Tauren,

Per [RR-800](#), documentation of performance verification and baseline conditions, as part of system commissioning, should be submitted in a construction documentation report (Wis. Admin. Code § NR 724.15) and/or be included within the long-term operation and maintenance plan for the system.

Appendix E of RR-800 includes long-term OM&M guidelines (page 88 for sub-slab depressurization), and Appendix G has an example inspection log (page 97). Comparing the OM&M plan submitted to information in these sections, I have the following comments:

- If vapor pin(s) are still present, they should be included on the inspection log as well.
- Although a site-specific inspection log, there is no mention in the written portion of inspecting the system, or how often it should be inspected (e.g. annually).
- Baseline conditions should be recorded in the OM&M plan to compare to during annual inspections.
- Operational alarm is recommended, and testing of an alarm should be included in long-term OM&M

I also have a few questions regarding what we can technically ask for in an OM&M plan, along with requirements for commissioning. Since RR-800 specifically states that these guidelines are only recommendations and there is flexibility in the parameters and criteria used in a site-specific OM&M plan, I'm not sure what's required to be submitted for this site specifically.

I'll find a time for us to discuss with Jenna, and send out a skype invite.

Thanks,
Josie

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Josie M. Schultz

Hydrogeologist – Northeast Region Remediation and Redevelopment Team
Wisconsin Department of Natural Resources

2984 Shawano Avenue, Green Bay, WI 54313-6727

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Josie.Schultz@Wisconsin.gov



From: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>
Sent: Monday, August 24, 2020 10:32 AM
To: Borski, Jennifer - DNR <Jennifer.Borski@wisconsin.gov>; Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544

Good morning,

I received the vapor mitigation system Operation, Monitoring, and Maintenance Plan for this site. It is in BRRTS as a AC 43 with the date of July 29, 2020. In our previous discussion, we wanted the RP to ensure the system installed in 2015 was still operating and to document system design and provide a OMM plan. A-1 Radon & Vacuum was hired to inspect the system and provide the OMM plan. They did photo document and provide the vapor inspection log with the plan. The photo documentation also includes the manometer reading. Two things I'm wondering about:

- I'm not too familiar on these OMM plans, so was hoping you could peer review it and let me know if it is sufficient.
- Do they need to provide an actual summary of their inspection they did because the OMM plan doesn't address the inspection that was conducted for the system.

The next step for this site is for Robert E Lee to submit a work plan for sub-slab vapor sampling & indoor air sampling in the building, and sampling along and/or in utilities for the vapor pathway (FYI - They also need to assess PFAS in groundwater to determine if it is at the site, which will also be in this work plan, but is outside of the vapor scoping we are talking about).

Regards,

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Tauren R. Beggs

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From: Borski, Jennifer - DNR <Jennifer.Borski@wisconsin.gov>
Sent: Tuesday, December 3, 2019 2:48 PM
To: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>
Cc: Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>
Subject: RE: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544

Tauren,

Thanks for taking the time to discuss this site today with me and Josie. I understand you are working with the responsible party to perform additional soil and groundwater investigation to define the degree and extent of metals and VOCs. Additional vapor investigation is also needed at this site, including verification the mitigation system installed within the basement area in 2015 is protective for the office workers. We specifically discussed the following actions:

- Photo document the vapor mitigation system and current manometer reading to compare against initial reading;
- Verify historical documentation of the system design is adequate for future operation & maintenance or provide supplemental documentation;
- Develop a long-term operation, maintenance & monitoring plan for the system;
- Sample indoor air within the basement and office areas (non-manufacturing area) (IA-4, IA-5 & IA-6 + additional locations) to verify the mitigation system is protective;
- Resample SSV-1 and SSV-2 to determine if the mitigation system is effectively reducing sub-slab vapor concentrations beyond the office area;
- Perform additional sub-slab vapor sampling within the southern manufacturing area on-site (not the new addition), including around B-12/MW-14 and along preferential pathways; and
- Enhance the off-site SSV/IA vapor investigation based on interior utility laterals, interior layout & building use.

Additional investigation or interim actions (mitigation) may be needed based on findings.

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Jennifer Borski

Vapor Intrusion Team Leader / Hydrogeologist
Remediation & Redevelopment Program / Environmental Management Division
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dnr.wi.gov



From: Beggs, Tauren R - DNR <Tauren.Beggs@wisconsin.gov>

Sent: Tuesday, August 20, 2019 8:45 AM

To: Borski, Jennifer - DNR <Jennifer.Borski@wisconsin.gov>

Cc: Walden, James E -DNR <jamese.walden@wisconsin.gov>; Schultz, Josie M - DNR <josie.schultz@wisconsin.gov>

Subject: Please Review for Vapor/Air Investigation: Jagemann Plating Co Inc, BRRTS # 02-36-555544

Hi Jennifer,

Per our phone discussion last week, I have finally had time to compile the soil, groundwater, and vapor/air data collected at the above referenced site in order to review the vapor pathway. I will provide a bit of background and what has been done for vapor/air so far.

Link to Summary of Data:

\\central\efiles\Staging\NER\Manitowoc_36\0236555544_JAGEMANN_PLATING_CO_IN_C\PM_WORKING_DOC\20190820_SI_Summary.pdf

Background:

There was water seeping into a pit (referred to as groundwater pit on figure) in the boiler room due to improper drainage of rainwater from the roof of the building. About a month after the rain water was diverted, water was still seeping into the pit. A camera was used to check the underground piping and it was found that a pipe (clay drain tile) running from a plating area to the wastewater treatment system was cracked. The pipe carried rinse water overflow from one of the plating areas. The pipe was laid out on a bed of clay and was installed at the time the building was constructed (The plating facility has been operating here since approximately 1945). It was believed that the rinse water from the plating tanks was leaking out of the drain tile and flowing in the clay bed until it hit the sand/soil below the boiler room floor. Water was pumped out of the pit into the floor drain leading to the wastewater treatment system. Water was sampled from the groundwater pit and results had highly elevated metals. A case was opened in 2010. Investigation of soil and groundwater in this area also found chlorinated volatile organic compounds (CVOCs). It was later indicated that chlorinated solvents were no longer used at the site circa 1980; a detergent has been used since.

Vapor Investigation:

February 9, 2014:

- Three paired discreet sub-slab and indoor air samples collected within the east and west side production areas and the former waste water treatment plant room. Outdoor air sample also collected. Sub-slab on the east side production area and former waste water treatment plant room exceeded the industrial VRSL for TCE; paired indoor air samples were below the VAL. Vapor ports were left in-place.
- Indoor air collected in basement and first floor of east side office area and basement storage area adjacent to the mechanical room. Sub-slab could not be collected due to high groundwater table. All indoor air samples were above the VAL.

October 21, 2015:

- Sub-slab depressurization system installed to mitigate vapors in the east basement of the administrative offices area of the building by Radon Abatement. Sealing of floor penetrations and cracks and sealing of the sump crock was completed. Communication testing completed pre- and post-installation.

April 27, 2017:

- Proposed sampling off-site to the south
- Proposed indoor air sampling to show system on-site in the office area was operating effectively.

August 21, 2018:

- Paired sub-slab and indoor air sampling off-site to the south. Building had one addition so one location was installed in the original building and one location installed in the addition towards the north side of the building. Outdoor air sample also collected. Either no detections or detections below VRSLs and VALs.

January 24, 2019:

- Second round of sub-slab sampling. Either no detections or detections below VRSLs.

I need to find out if the consultant ever sampled the indoor air where the vapor mitigation system was installed. I don't have documentation of that even though they proposed it back in 2017.

Other issues that may be of concern for vapor for this site:

- Not enough vapor sample points under the existing on-site buildings.
- Possible migration of vapors through backfill of gas line on south side of the property.
 - October 10, 2014 report from consultant states large sanitary sewer line is located along the south side of the building which discharges the treated waste water from the on-site WWTP to the City sanitary sewer. B-10, B-7, PZ-4, and MW-4 installed along various points of this utility. Soil from these borings did not have any detections of VOCs. GW contamination was found in MW-8 and MW-2 adjacent to the building, which is significantly lower than concentrations identified in MW-1. Doesn't appear utilities are acting as a preferential pathway.
- Unclear where private utilities or other potential migration pathways are under the building.
- Soil and groundwater investigation in the building is not complete. Consultant keeps stating it is not feasible to sample within building around B-12/TW-12/MW-14 area.

If you have any questions, please let me know. I appreciate you taking a look at this.

Regards,

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

Tauren R. Beggs

Hydrogeologist & Northeast Region Land Recycling Expert

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