

MEMO

To:
Paul Owens, District Supervisor
EGLE Warren District Office
27700 Donald Court
Warren, Michigan 48092-2793
owensp@michigan.gov

Copies:
Ms. Beth Vens, EGLE
Mr. Brandon Alger, EGLE
Mr. Todd Walton, Ford

From:
Kris Hinskey

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241

Date:
September 30, 2020

Arcadis Project No.:
30050315

Subject:
Livonia Transmission Plant
36200 Plymouth Road, Livonia, Wayne County, Michigan
EGLE Site ID No. 82002970
Offsite Interim Preemptive Mitigation Installation Monthly Update

On behalf of Ford Motor Company (Ford), Arcadis of Michigan, LLC (Arcadis) has prepared this monthly update to the interim preemptive mitigation system installation for the Livonia Transmission Plant (LTP) site (the site) as requested by Michigan Department of Environment, Great Lakes, and Energy (EGLE) via email on May 26, 2019 and on July 26, 2019. Based on the groundwater data collected in the third quarter of 2019 from the shallow groundwater monitoring wells the 100-foot buffer line was modified. On November 13, 2019, EGLE sent Ford an email indicating that due to the 100-foot buffer line moving more to the north along Capitol, three (3) additional homes were added to the interim preemptive mitigation (IPM) program.

As a result of the concerns regarding the spread of the Coronavirus Disease (COVID-19), all VI sampling appointments and mitigation system installations were temporarily suspended from March 17th and resumed on Monday June 15, 2020. when the stay at home executive order was lifted by Governor Gretchen Whitmer. As of September 30, 2020, the following progress has been made at 33 residential properties in the Alden Village subdivision:

- 33 of 33 IPM systems are designed. 30 of 33 are installed and operating. The status of the remaining 3 are described below:
 - 1 of 33 IPM systems are under construction.
 - 1 of 33 IPM systems are currently pending installation
 - 1 of 33 current property owners is unwilling to allow the IPM system to be installed at their property.

- 10 of 11 sheds where Retro-Coat™ has been proposed have had it applied to the floor. The status of the remaining shed is discussed below:
 - 1 of 11 property owners with sheds have not approved Retro-Coat™ application due to the conditions of the roof on the shed, which makes entry unsafe.

- 10 of 16 detached garages have had Retro-Coat™ applied to the floor. The status of the remaining 6 are discussed below:
 - 3 detached garages are currently pending
 - 3 detached garage owners have not approved Retro-Coat™ application.

Arcadis continues to work diligently to install and maintain the interim preemptive mitigation systems. Details are provided below for all 33 locations.

Interim Preemptive Mitigation System Currently Being Installed or Scheduled

Details are provided below regarding the status of the work at the individual properties.

- **34380 Capitol Avenue** – On September 9, 2020 construction work began on the mitigation system. Professional movers emptied the contents of the basement and the garage, with the exception of a commercial printer into storage PODs. The installation of the Cupolex flooring and the concrete pour in the basement has been completed. Arcadis is currently working to complete the installation of the depressurization system and the application of RetroCoat for the basement walls. The anticipated completion of the mitigation system is expected to be in early October 2020.

Vapor intrusion sampling was completed on July 21, 2020. The analytical data package was provided to all interested parties consistent with the access agreement on August 27, 2020. Vapor intrusion sampling was also completed on August 28, 2020. Once the analytical has been reviewed and validated, the data package will be submitted to all parties outlined in the access agreement.



Concrete pour over the Cupolex flooring



Completed concrete floor with RetroCoat™ primer on the walls

Interim Preemptive Mitigation Systems Currently Operating

- **34644 Beacon** – Arcadis began construction of the IPM system on February 13, 2020, and installation was substantially completed on March 6, 2020 with all monitoring points meeting the performance metric established by EGLE of -0.02 inches of water column (iwc).

On September 9, 2020 Arcadis completed the modifications to the crawlspace entrance that the homeowner requested. Arcadis conducted a system inspection and identified water on the barrier in the crawlspace. On September 10, 2020 Arcadis removed approximately 180 gallons of water from the crawlspace barrier. The homeowner stated the water line to the refrigerator leaked and flooded the crawl space before the repair was completed. Vacuum influence measurements were collected (U-

tube: -1.2 iwc, MP-1: -0.073 iwc, MP-2: -0.087 iwc, MP-3: -0.086 iwc, MP-4: -0.072 iwc)and exceeded the performance metric established by EGLE of -0.02 iwc. Following the water removal on September 10, 2020 Arcadis collected post mitigation IA and SS samples at the property. Once the analytical has been reviewed and validated, the data package will be submitted to all parties outlined in the access agreement.

- **12088 Brewster** – The system is currently in routine operation and maintenance. Arcadis inspected the crawlspace at this property after each rain event that produced more than 1 inch of rain in a 24-hour period (August 31, 2020, and September 9, 2020). On August 31, 2020, Arcadis identified water on the barrier and approximately one gallon of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc. On September 9, 2020, Arcadis inspected the crawlspace and did not observe any water on the barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.
- **12075 Brewster** – The system is currently in routine operation and maintenance. Arcadis inspected the crawlspace at this property after each rain event that produced more than 1 inch of rain in a 24-hour period (August 31, 2020, and September 9, 2020). On August 31, 2020, Arcadis identified water on the barrier and approximately six gallons of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc. On September 9, 2020, Arcadis identified water on the barrier and approximately ten gallons of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.
- **12089 Boston Post** – The system is currently in routine operation and maintenance.
- **34450 Beacon** – The system is currently in routine operation and maintenance. Arcadis contacted the homeowner after each rain event that produced more than 1 inch of rain in a 24-hour period (August 31, 2020, and September 9, 2020). The homeowner was not immediately available to provide access for Arcadis to check the barrier following these rain events. On September 10, 2020, the homeowner notified Arcadis that water was not present on the barrier.
- **34401 Capitol** – The system is currently in routine operation and maintenance. Arcadis inspected the crawlspace at this property after each rain event that produced more than 1 inch of rain in a 24-hour period (August 31, 2020, and September 9, 2020). On August 31, 2020, Arcadis identified water on the barrier and approximately one gallon of water was removed from the crawlspace barrier, minor repairs were made to the barrier. Arcadis collected vacuum influence readings and collected the following readings: MP-1: -0.021 iwc and MP-2: -0.017 iwc. On September 9, 2020, Arcadis identified water on the barrier and approximately two cups of water were removed from the crawlspace barrier. Arcadis collected vacuum influence readings and collected the following readings: MP-1: -0.025 iwc and MP-2: -0.015 iwc.
- **34380 Beacon** – The system is currently in routine operation and maintenance. The homeowner was not available during the first quarter 2020 heating season, so the final OM&M sampling event will occur in the fourth quarter during the heating season.
- **12091 Brewster** – The system is currently in routine operation and maintenance. During the OMM/sampling event on January 23, 2020, Arcadis asked the homeowner again about access to the garage for the application of Retro-Coat™. The property owner is reconsidering allowing access to the detached garage to have Retro-Coat™ applied later in the fall of 2020. Arcadis spoke with the

homeowner to schedule the application of Retro Coat in his garage and the homeowner indicated they are working with their brother to remove the car that their brother is storing in his garage. The garage is not inhabited or occupied at this time and is primarily used to store a motorcycle and vehicle. In addition, three rounds of vapor intrusion sampling have been completed to date, and there have been no exceedances of the seven constituents of concern (COCs) for indoor air or sub-slab soil gas in the garage or home.

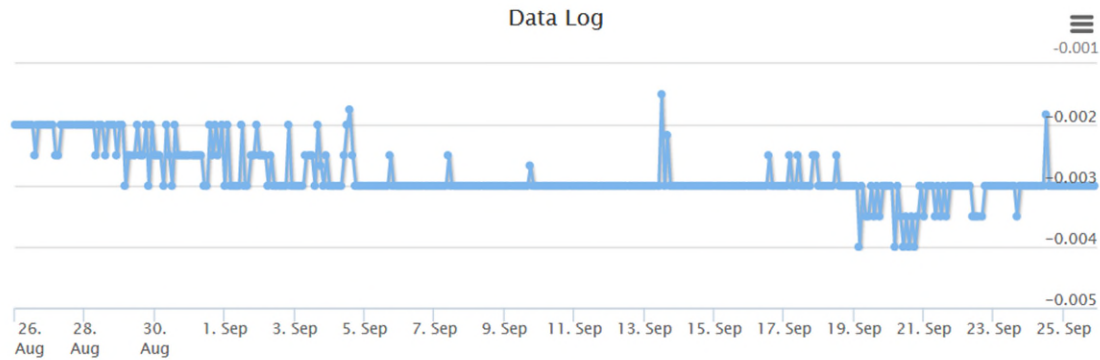
- **34424 Beacon** – The system is currently in routine operation and maintenance.
- **34920 Beacon** – The system is currently in routine operation and maintenance.
- **34950 Beacon** – The system is currently in routine operation and maintenance.
- **12017 Brewster** – The system is currently in routine operation and maintenance.
- **34600 Beacon** – The system is currently in routine operation and maintenance.
- **12131 Boston Post** –The system is currently in routine operation and maintenance. The installation of concrete over the existing Cupolex® was completed per the homeowner's request on September 22, 2020. Arcadis installed Vapor Pins in the new concrete poured and collected vacuum influence readings at all the monitoring points to monitor vacuum influence. Vacuum reading on 9/24/2020; U-tube: -2.6, MP-1: -0.013 iwc, MP-2: -0.021 iwc, MP-3: -0.031 iwc, MP-4: -0.004 iwc (vacuum transmitter), SSMP-1: -0.194 iwc, SSMP-2: -0.034 iwc, SSMP-3: -0.033 iwc, SSMP-4: -0.035 iwc, SSMP-5: -0.011 iwc (MP-5 was replaced with vapor pin and is now an SSMP), SSMP-6: -0.011 iwc (MP-6 was replaced with vapor pin and is now an SSMP). Vacuum is being achieved at all monitoring points and the vacuum transmitter continues to monitor at MP-4, which is the monitoring point with the least vacuum influence. An update of the data logged by the vacuum transmitter connected to MP-4 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.



Cupolex flooring and sump prior to concrete pour

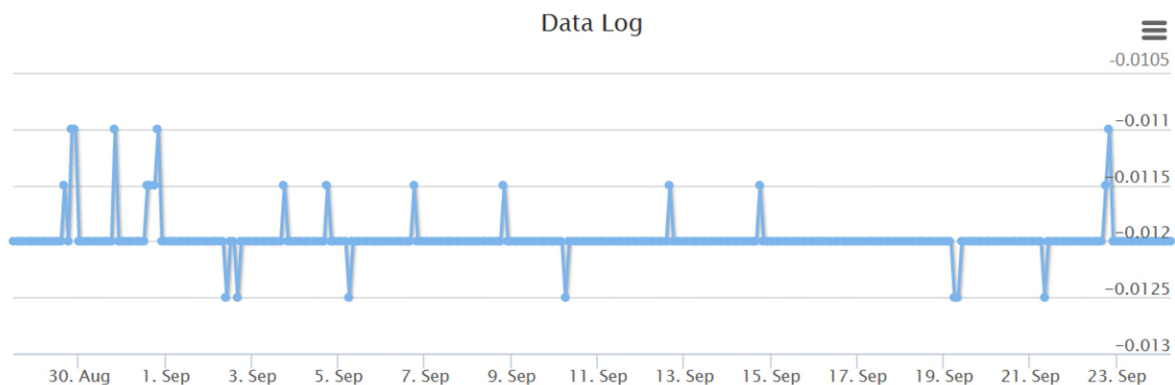


Newly poured concrete floor



- 12101 Brewster** – The system is currently in routine operation and maintenance. The homeowner contacted Arcadis and indicated water was present on the barrier in early September. On September 9, 2020, Arcadis identified water on the barrier and approximately seven gallons of water was removed from the crawlspace barrier on September 10, 2020. Vacuum influence measurements were collected after the water removal event and exceeded the performance metric established by EGLE of -0.02 iwc.
- 12067 Boston Post** – The system is currently in routine operation and maintenance. Arcadis inspected the crawlspace at this property after each rain event that produced more than 1 inch of rain in a 24-hour period (August 31, 2020, and September 9, 2020). On August 31, 2020, Arcadis identified water on the barrier and approximately 215 gallons of water was removed from the crawlspace barrier, minor repairs were made to the barrier to address the water breakthrough. Vacuum influence measurements were collected after the rain event and vacuum is being maintained in excess of the location that is being monitored by the vacuum transmitter. On September 9, 2020, Arcadis identified water on the barrier and approximately ten gallons of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.

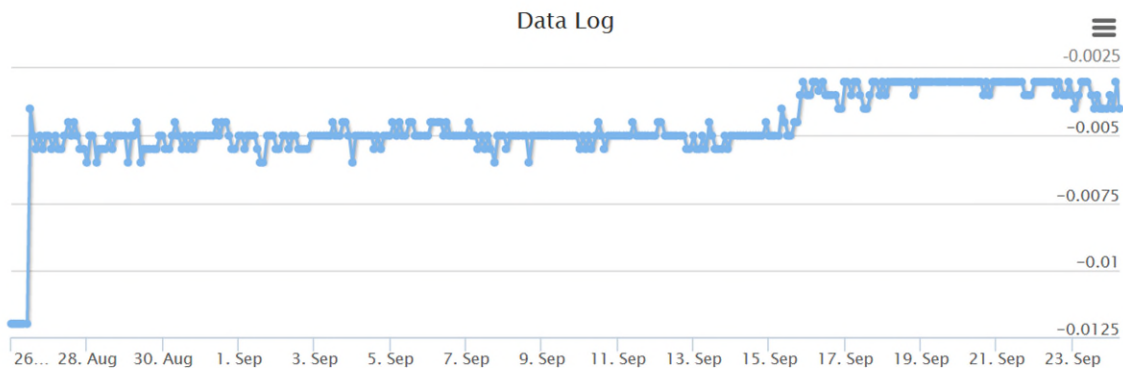
An update of the data logged by the vacuum transmitter connected to MP-1 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.



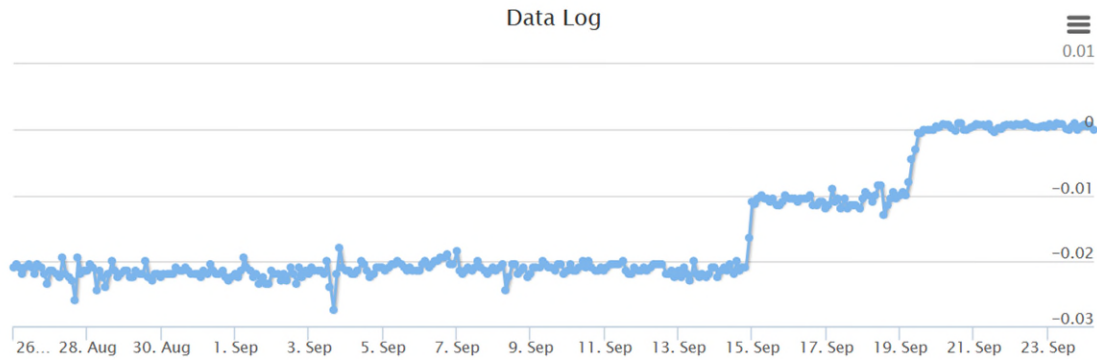
- 34550 Beacon** – The system is currently in routine operation and maintenance.
- 34940 Beacon** – The system is currently in routine operation and maintenance.

- 12141 Boston Post** – The system is currently in routine operation and maintenance. On August 26, 2020, Arcadis installed a monitoring point (SSMP-2) in the slab on grade living space. Following the installation, vacuum influence measurements (U-tube: -2.0 iwc, MP-1: -0.015 iwc, MP-2: -0.023 iwc, MP-3: -0.011 iwc, MP-4: -0.005 iwc (vacuum transmitter), SSMP-1: -0.008 iwc, SSMP-2: -0.023 iwc (recently installed SSMP in August) are being maintained in excess of the location that is being monitored by the vacuum transmitter. On September 15, 2020, Arcadis collected vacuum readings (U-tube: -1.9 iwc, MP-1: -0.017 iwc, MP-2: -0.026 iwc, MP-3: -0.012 iwc, MP-4: -0.004 iwc (vacuum transmitter), SSMP-1: -0.007 iwc, SSMP-2: -0.019 iwc (recently installed SSMP in August) and IA and SS samples. The analytical data package will be provided to all interested parties consistent with the access agreement after receipt and validation.

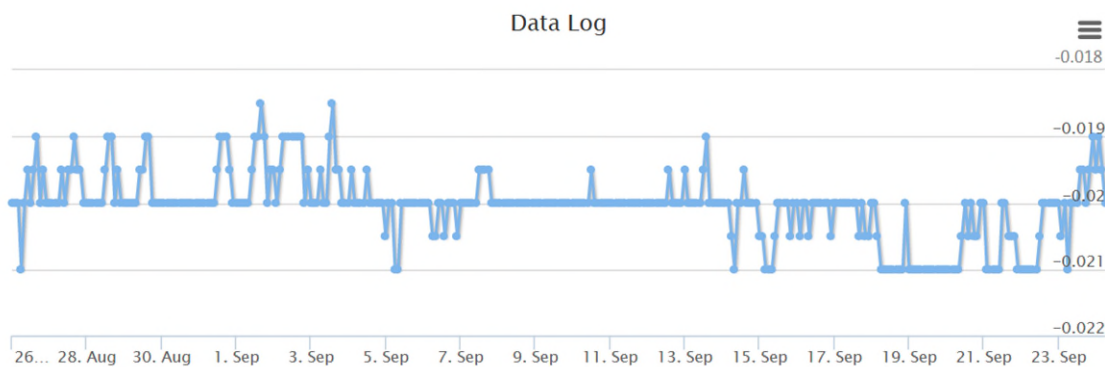
An update of the data logged by the vacuum transmitter connected to MP-4 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.



- 12066 Boston Post** – The system is currently in routine operation and maintenance. Arcadis inspected the crawlspace at this property after each rain event that produced more than 1 inch of rain in a 24-hour period (August 31, 2020, and September 9, 2020). On August 31, 2020, Arcadis identified water on the barrier and approximately nine gallons of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc. On September 9, 2020, Arcadis identified water on the barrier and approximately one quarter of a gallons of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and exceeded the performance metric established by EGLE of -0.02 iwc.
- 12036 Brewster** – The system is currently in routine operation and maintenance. On September 11, 2020 Arcadis conducted a system check, collected vacuum influence readings (U-tube: -3.6 iwc, SSMP-1: -0.031 iwc, SSMP-2: -0.015 iwc, SSMP-3: -0.026 iwc, SSMP-4: -0.047 iwc, SSMP-5: -0.150 iwc), and calibrated the vacuum transmitter. Vacuum influence measurements are being maintained in excess of the location that is being monitored by the vacuum transmitter. On September 20, 2020, Arcadis received an alarm notification from the vacuum transmitter. The alarm was due to the transmitter not returning to normal conditions in the appropriate response time. Arcadis has scheduled a system check with the homeowner in early October. An update of the data logged by the vacuum transmitter connected to SSMP-2 is presented below demonstrating that vacuum is being maintained and that the system continues to operate effectively prior to the September 20, 2020 alarm.

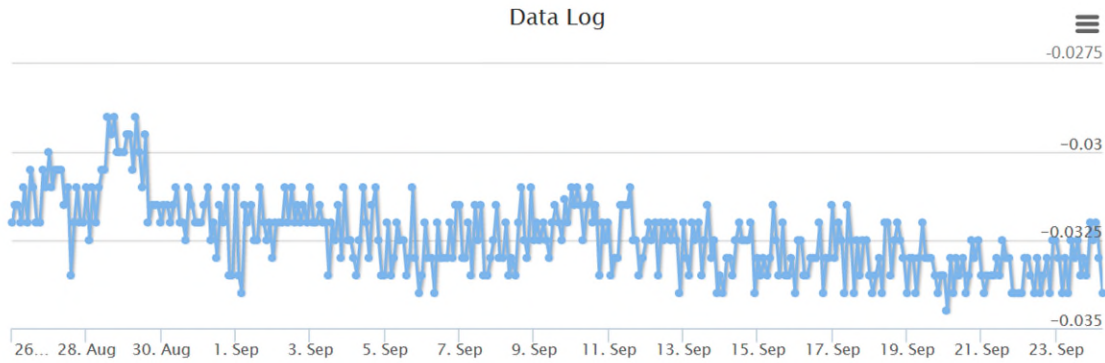


- 34990 Beacon** – The system is currently in routine operation and maintenance. The final routine OM&M sampling event scheduled for March 30, 2020 was delayed as a result of the stay at home order. The sampling event will be completed during the fourth quarter of 2020 so that it can be completed during the heating season. An update of the data logged by the vacuum transmitter connected to MP-7 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.

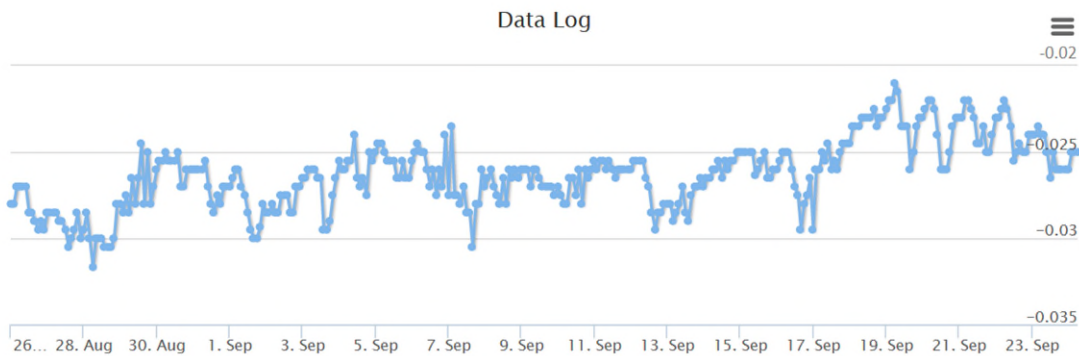


The property owner has denied the application of Retro-Coat™ in the detached garage since the floor has an existing epoxy coating and imbedded tubing for radiant heat. Arcadis provided an alternate mitigation system design for the garage to the homeowner for approval on March 19, 2020. In addition, there have been four rounds of indoor air sampling that has been conducted in the garage, and to date there has been no detections or exceedances of the seven constituents of concern. Arcadis is evaluating options in conjunction with the homeowner for garage mitigation.

- 34591 Beacon** – The system is currently in routine operation and maintenance. An update of the data logged by the vacuum transmitter connected to SSMP-1 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively. Arcadis inspected the crawlspace at this property after each rain event that produced more than 1 inch of rain in a 24-hour period (August 31, 2020, and September 9, 2020). On August 31, 2020, Arcadis identified water on the barrier and approximately seventy gallons of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and vacuum was being maintained in excess of the location that is being monitored by the vacuum transmitter. On September 9, 2020, Arcadis identified water on the barrier and approximately four gallons of water was removed from the crawlspace barrier. Vacuum influence measurements were collected after the rain event and vacuum was being maintained in excess of the location that is being monitored by the vacuum transmitter.

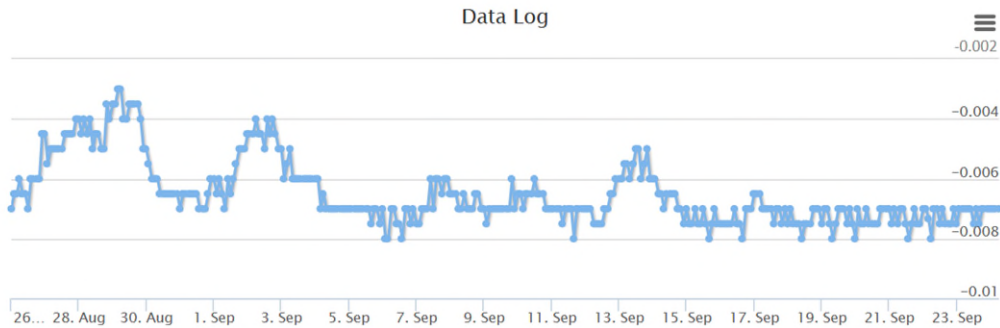


- **34367 Capitol** – The system is currently in routine operation and maintenance.
- **34480 Capitol** – The system is currently in routine operation and maintenance. An update of the data logged by the vacuum transmitter connected to SSMP-2 is presented below demonstrating that vacuum is continuously being maintained and that the system continues to operate effectively.



- **12070 Boston Post** – The system is currently in routine operation and maintenance.
- **34682 Beacon** – The system is currently in routine operation and maintenance. On June 29, 2020 Arcadis completed an OM&M inspection. Arcadis attempted to collect vacuum readings at all SSMPs and MPs, however two SSMPs were obstructed by household objects covering the homeowner would not grant Arcadis access to SSMP-1 or SSMP-4. Four rounds of indoor air (IA) and sub-slab (SS) data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre and post mitigation sampling events.

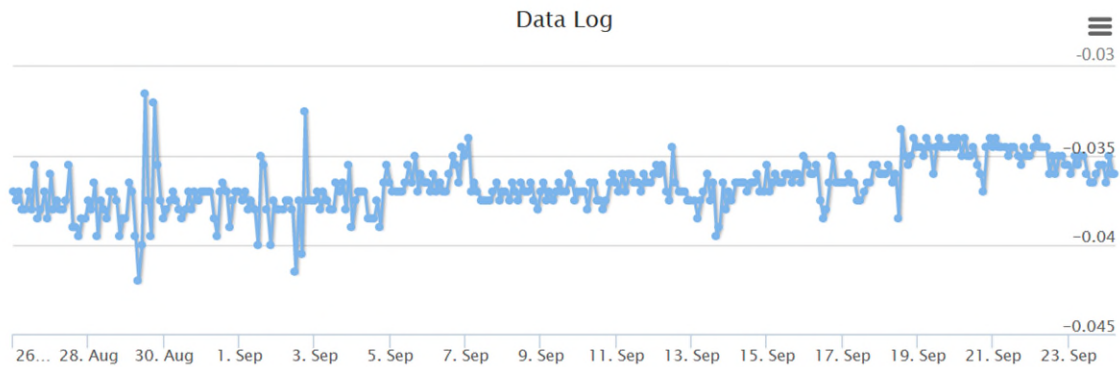
An update of the data logged by the vacuum transmitter connected to sub-membrane monitoring point MP-5 is presented below indicating that vacuum is being continuously maintained.



- 34450 Capitol Avenue** – An interim air purifier unit was deployed on November 20, 2019. On February 20, 2020, May 20, 2020, and August 19, 2020 Arcadis changed out the air purifier in the home. Installation of the mitigation system began on March 3, 2020. The installation of the sub-membrane depressurization (SMD) system in the crawlspace resumed on June 15, 2020 following the lifting of the executive order. The installation of the SMD system in the crawlspace was completed on July 23, 2020 and is currently operational. Vacuum influence readings were collected at all SMD monitoring points and readings at all monitoring points exceed the performance metric established by EGLE of -0.02; MP-1: -0.162 iwc, MP-2: -0.205 iwc, MP-3 -0.211 iwc, MP-4: -0.122 iwc, MP-5: -0.454 iwc. Arcadis is currently preparing to review the path forward with EGLE. Three rounds of IA and SS data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre-mitigation sampling events.
- 34424 Capitol Avenue** – An interim air purifier unit was deployed on November 21, 2019 and a replacement unit was deployed on February 2, 2020, May 20, 2020, and August 28, 2020. Arcadis began construction of the IPM system on January 7, 2020, and installation was substantially complete on February 13, 2020. Work continued at the property through February 19, 2020 to complete the installation of the new crawlspace access door. Three rounds of pre mitigation IA and SS data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre-mitigation sampling events. The final routine OM&M sampling event was completed on June 29, 2020 along with the first routine semi-annual OM&M monitoring event. All SMD monitoring points met the performance metric established by EGLE of -0.02 iwc. The sub-slab monitoring point located in the slab on grade area has not achieved the performance metric. The SSMP has a reading of 0.000 iwc. Arcadis is currently preparing to review the path forward with EGLE. The analytical data package was provided to all interested parties consistent with the access agreement on August 28, 2020.
- 12100 Boston Post** – The property owner declined an interim air purifier unit. An interim preemptive mitigation system was installed as designed and has been in operation since March 25, 2019. The routine OM&M sampling event for the first quarter of 2020 was completed on February 10, 2020 along with the routine semi-annual OM&M monitoring event. The vacuum transmitter installed at sub-slab monitoring point SSMP-4 continues to confirm vacuum influence, and the other two sub-membrane monitoring points and two sub-slab monitoring points installed at this property were all measured at stronger vacuum influence. However sub-slab monitoring point SSMP-2 was measured at -0.001 iwc. Four rounds of IA and SS data have been completed. The initial sampling event included an indoor air sample from the crawl space. No detections of vinyl chloride were reported in any of the samples during pre and post mitigation sampling events. Arcadis is currently preparing to review the path forward with EGLE. Additionally, during the OM&M visit, the homeowner again denied access to the shed, indicating that the roof is falling in. The homeowner stated that the shed may be accessible later

this year if the roof is repaired by the homeowner. Arcadis will again request access to the shed during each routine semi-annual OM&M event until access has been granted.

An update of the data logged by the vacuum transmitter connected to sub-slab monitoring point SSMP-4 is presented below demonstrating that vacuum is continuously being maintained at SSMP-4.



Interim Preemptive Mitigation Systems – Extension Requested

- 12124 Boston Post** – The property owner declined an interim air purifier unit. Work required prior to beginning IPM construction was initiated during January and continued during February 2020 and included installation of a new exterior crawlspace access, installation of a locking door at the existing interior crawlspace access, and asbestos abatement. On May 27, 2020 Arcadis and their architects inspected the crawlspace to evaluate the safety of installing the IPM in the crawlspace. A structural repair design report was completed and provided to Arcadis on June 26, 2020. Arcadis requested additional structural design drawings from the architect which have been completed and are currently under review. The design drawings will be incorporated into a building permit and discussed with the City of Livonia. The installation of the IPM system is pending concurrence from the City of Livonia on structural repairs needed to enable construction of the IPM system.
- 12121 Boston Post** –The property owner was presented with an air purifier on March 21, 2019 as part of the initial preemptive mitigation approach. The air purifier remained on the front porch until March 24, 2019, when an Arcadis employee retrieved the unit. The air purifier was retrieved from the location, so damage did not occur to the unit from being outside and exposed to the weather. The draft design for the preemptive mitigation system was provided on March 29, 2019. On April 16, 2019, the property owners sent an email indicating that Ford nor Arcadis had access to the property any longer. A complaint was filed on July 10, 2019 in the Michigan state court to gain access to this home to complete the installation of the interim preemptive mitigation system.

The suit seeking access to the property at 12121 Boston Post was removed by those property owners to federal court. Ford moved to remand that lawsuit to state court and it was remanded on January 7, 2020. Ford will continue to pursue access through that proceeding in state court. The property owners at 12121 Boston Post are the only remaining property owners currently refusing to allow the mitigation systems to be installed at their properties.

In the July 26, 2019 letter EGLE requested an update for the property located at 12034 Brewster. On April 19, 2019, Arcadis provided EGLE documentation based on groundwater data that had been collected from a newly installed shallow monitoring well MW-192S. Monitoring well MW-192S analytical results showed no presence of vinyl chloride or any other constituent of concern. Based upon that data the 100-foot buffer was moved to the north. Subsequently, 12034 Brewster no longer resided in the 100-foot buffer; therefore, the

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installation of the interim preemptive mitigation system was put on hold. Although the interim preemptive mitigation system installation was put on hold vapor intrusion sampling continues.

Arcadis continues to work diligently to complete the mitigation activities at 34380 Capitol. Arcadis will continue to coordinate and complete OM&M activities as necessary to evaluate the performance of the operating preemptive mitigation systems.