

SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN

Notice: Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. 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.). Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided.

Site Information			
BRRTS No.	VPLE No.		
03-30-004964			
Parcel ID No.			
01-122-01-204-001			
FID No.	WTM Coordinates		
	X	Y	
230156410	696495.9	236494.3	
BRRTS Activity (Site) Name	WTM Coordinates Represent:		
Suggar Property	<input type="checkbox"/> Source Area <input checked="" type="checkbox"/> Parcel Center		
Site Address	City	State	ZIP Code
3301 - 60th Street	Kenosha	WI	53144
Acres Ready For Use	0.5		

Responsible Party (RP) Name			
Jose Ochoa Martinez			
Company Name			
A1 Auto Repair			
Mailing Address	City	State	ZIP Code
3301 - 60th Street	Kenosha	WI	53144
Phone Number	Email		
(262) 344-9754	shelbya1@hotmail.com		
<input checked="" type="checkbox"/> Check here if the RP is the owner of the source property.			

Environmental Consultant Name			
Sean Cranley			
Consulting Firm			
Midwest Environmental Consulting			
Mailing Address	City	State	ZIP Code
N6395 East Paradise Road	Burlington	WI	53105
Phone Number	Email		
(262) 237-4351	mwenvirocon@gmail.com		

Fees and Mailing of Closure Request

- Send a copy of page one** of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR Regional EPA (Environmental Program Associate) at <http://dnr.wi.gov/topic/Brownfields/Contact.html#tabx3>. Check all fees that apply:

<input checked="" type="checkbox"/> \$1,050 Closure Fee	<input checked="" type="checkbox"/> \$300 Database Fee for Soil
<input checked="" type="checkbox"/> \$350 Database Fee for Groundwater or Monitoring Wells (Not Abandoned)	Total Amount of Payment \$ <u>\$1,700.00</u>
	<input type="checkbox"/> Resubmittal, Fees Previously Paid
- Send one paper copy and one e-copy on compact disk of the entire closure package** to the Regional Project Manager assigned to your site. Submit as *unbound, separate documents* in the order and with the titles prescribed by this form. For electronic document submittal requirements, see <http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf>.

Site Summary

If any portion of the Site Summary Section is not relevant to the case closure request, you must fully explain the reasons why in the relevant section of the form. All information submitted shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected.

1. General Site Information and Site History

- A. Site Location: Describe the physical location of the site, both generally and specific to its immediate surroundings.

The site is located at 3301 - 60th Street in Kenosha, Kenosha County, WI. The property is part of the NE 1/4, NW 1/4, Sec. 1, T 1N R 22E. The site is bounded by 60th Street to the north, 33rd Avenue to the east, an alley to the south and a business/apartment building to the west.

The property is 0.14 acres in size and is occupied by a single story, slab-on-grade concrete block building. A second-floor apartment on the south end, which includes a small basement in the southwestern corner. The building is approximately 4,200 square feet and houses an automobile service shop, a small office area and the apartment with an attached garage on the south end. Until the area to the north of the building was repaved with concrete in 2019, the apparent location of a former fuel dispenser island was visible as an oval concrete patch approximately 15 feet northeast of the office. The area surrounding the former dispenser island is a small paved lot used to park cars prior to servicing. A concrete patch is present in the sidewalk adjacent to the east side of the building where a used oil tank was removed in 2010. The site surface consists of concrete.

The surrounding land use is a mix of commercial as well as single and multi-family residential use. Topography in the area is generally flat, sloping gently toward Lake Michigan. According to the Kenosha County Land Information website, the property is zoned for commercial use.

- B. Prior and current site usage: Specifically describe the current and historic occupancy and types of use.

The building was constructed in 1912, based on the Kenosha County online property detail. A title search revealed that the site was leased to the Standard Oil Co. from 1946 to 1951.

Sanborn Fire Insurance Maps were reviewed as part of a Phase I Environmental Site Assessment (ESA). The 1918 map shows that the site and much of the surrounding area as undeveloped. The 1950 map depicts the subject property with the filling station building identified on the northern portion of the property. The portion of the current building that is a residence is present as a separate building on the southern end of the property. The 1969 map identifies the property as a filling station and shows the building as it currently exists with the auto shop portion constructed between the previously existing filling station building (north) and the apartment building (south).

Three 500-gallon gasoline underground storage tanks (USTs), located to the north side of the on-site building were closed in place in 1980 by filling them with concrete. A 275-gallon UST was located beneath the sidewalk on the east side of the site which had been used by the former property owner for the storage of used oil.

- C. Current zoning (e.g., industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).

According to the Kenosha County Land Information website, the property is zoned for commercial use. The surrounding land use in a mix of residential and small commercial properties.

- D. Describe how and when site contamination was discovered.

In April 1995 a Phase I and Limited Phase II ESA was conducted for a property located at 3305 - 60th St by Key Environmental Services. This property is located immediately adjacent to the west side of the subject site. The Phase I ESA identified the three 500-gallon gasoline USTs located on the north end of the on-site building and closed in place by filling them with concrete. The subject site has since been operated as an automobile service and repair business, no longer dispensing motor vehicle fuel.

The Limited Phase II ESA included the advancement of two soil borings near the property line with the Suggar Property site. Gasoline Range Organics (GRO) results for the two soil samples collected indicated the presence of low-level soil contamination, which was reported to the Wisconsin Department of Natural Resources (WDNR). As a result, on June 15, 1995 the WDNR issued a letter to Mr. Albert Suggar, then owner of the site, notifying him of the contamination potentially associated with the closed USTs and of his responsibility to conduct an environmental site investigation.

In June 2006, Mr. Suggar had a Phase I ESA performed for the subject site by Gabriel Environmental Services. In addition to the three USTs closed in place, the Phase I ESA identified the 275-gallon used oil UST located on the east side of the building. According to Mr. Suggar he had the tank emptied in 2002, but that he left used oil in the tank when he vacated the building in 2004.

In November 2010 the used oil UST was removed from the site by ChemReport, Inc. (CRI). Inspection of the tank revealed several corrosion holes approximately 1/8 the 1/4 inch in diameter. Upon cutting open the tank approximately 100 gallons of sludge was observed to be present. The tank excavation was approximately 5.5 feet wide (east-west), 8 feet long (north-south) and 4 feet deep and revealed apparent signs of petroleum contamination including petroleum odor and stained soils. The soil observed in the excavation was brown clay.

CRI conducted the Tank System Site Assessment by collecting one soil sample (SS-1) from obviously contaminated soil at the base of the excavation for laboratory analysis for diesel range organics (DRO), GRO, petroleum volatile organic compounds (PVOCs) plus naphthalene. Laboratory results confirmed the presence of petroleum soil contamination.

Soil sample SS-1 exhibited several PVOCs at concentrations exceeding their respective RCLs for the protection of groundwater. Naphthalene exceeded the Chapter NR 746 Wisconsin Administrative Code (WAC) indicator of residual (free-phase) petroleum in soil pores that was in place at the time. Naphthalene also exceeded the current non-industrial direct contact RCL.

- E. Describe the type(s) and source(s) or suspected source(s) of contamination.
Two sources of petroleum contamination exist. A gasoline release occurred from the gasoline UST system at the site, which was closed in place. A release of used oil occurred from the 275-gallon used oil tank at the site, which was removed.
- F. Other relevant site description information (or enter Not Applicable).
Not applicable
- G. List BRRTS activity/site name and number for BRRTS activities at this source property, including closed cases.
03-30-004964/Suggar Property, 03-30-556490/Suggar Property
- H. List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to (abutting) this source property.
Not applicable

2. General Site Conditions

A. Soil/Geology

- i. Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types.
Geology at and in the vicinity of the site generally consisted of 0 to 5 feet of fill material consisting of sand and clay overlying native clay. Layers of sand and silt with some interbedded clay were typically encountered at 4 to 8 feet below land surface and extended to 16 feet the termination depth of most of the soil borings.

Local topography (within one mile of the site) exhibits low to moderate relief from 620 to 650 feet above mean sea level and generally slopes to the east toward Lake Michigan.

Locally, unconsolidated deposits range in thickness between 50 and 100 feet, which is also the anticipated thickness of unconsolidated deposits beneath the site. silt, sand and gravel.
- ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.
Up to 5 feet of fill material consisting of sand and clay is present across much of the site and surrounding area.
- iii. Describe the depth to bedrock, bedrock type, competency and whether or not it was encountered during the investigation.
Locally, unconsolidated deposits range in thickness between 50 and 100 feet, which is also the anticipated thickness of unconsolidated deposits beneath the site. Bedrock was not encountered during the site investigation. The uppermost local bedrock is composed of Silurian dolomite.
- iv. Describe the nature and locations of current surface cover(s) across the site (e.g., natural vegetation, landscaped areas, gravel, hard surfaces, and buildings).
The entire site and immediate surrounding area is covered by the on-site concrete slab-on-grade building and concrete pavement.

B. Groundwater

- i. Discuss depth to groundwater and piezometric elevations. Describe and explain depth variations, including high and low water table elevation and whether free product affects measurement of water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.
Apparent saturated conditions were encountered between approximately 9 and 12 feet below land surface (bls) in the site borings and monitoring wells.

Groundwater at the site is present within the sand/silt layer encountered at approximately 4 to 9 feet bls. Apparent saturated conditions were observed in the direct-push soil borings at depths ranging from approximately 9 to 12 feet bls. Water depths in the monitoring wells range from approximately 9.8 to 12.3 feet bls. Observed variations in the depth to water at the site over time ranged from approximately 0.5 to 1.0 feet at the various wells.

- ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.
Groundwater flow in the vicinity of the Suggar Property is consistently toward the east-northeast and appears to be influenced by deep utility trenches beneath 60th Street that are likely acting as preferred conduits for groundwater migration.
- iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.
The hydraulic conductivity at the site was not determined as it was not deemed necessary to protect the public health, welfare or the environment.
- iv. Identify and describe locations/distance of potable and/or municipal wells within 1200 feet of the site. Include general summary of well construction (geology, depth of casing, depth of screened or open interval).
Potable water at the site and in the vicinity is provided by the City of Kenosha municipal water utility, which derives its water from Lake Michigan.

3. Site Investigation Summary

A. General

- i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.

The documents submitted to the Department by Midwest Environmental Consulting include the Site Investigation Work Plan - November 1, 2016, Site Investigation Report - March 5, 2020 and Remedial Action Options Report - March 19, 2020.

Midwest reviewed several reports by others that provided documentation of environmental activities and conditions on, and in the vicinity of, the site as summarized below. For a more detailed discussion, please refer to the Site Investigation Work Plan (MEC - November 2016).

In 2006 ChemReport, Inc. (CRI) advanced a direct-push soil boring (GP-12) at the site adjacent to the curb along the south side of 60th St. as part of the site investigation for the Mueller's Auto site at 3300 - 60th Street, on the northwest corner of the intersection of 60th St. and 33rd Ave. Soil and groundwater samples were collected and analyzed for petroleum volatile organic compounds (PVOCs). Soil sample analytical results revealed the presence of low-level petroleum soil contamination likely associated with the UST system closed in place on the Suggar property. The groundwater sample results did not yield PVOc contaminant concentrations above method detection limits (MDLs).

In 2008 ChemReport installed groundwater monitoring well MW-8 associated with the Mueller's Auto site. MW-8 is located near the southeast corner of the intersection of 60th St. and 33rd Ave. and, down gradient from the Suggar property. Soil samples collected from soil boring MW-8 and analyzed revealed the presence of low-level petroleum soil contamination which may be attributable to the Suggar site, Mueller's or both.

In July 2010 ChemReport collected a groundwater sample from Mueller's monitoring well MW-8 as part of the Phase II ESA for the Suggar property. The sample was analyzed for the full list of volatile organic compounds (VOCs). Only petroleum related VOCs were detected in the sample from MW-8, three of which exceeded their enforcement standards (ESs). The contamination at MW-8 was deemed likely to be attributable, at least in part, to the Suggar property.

In August 2010 ChemReport advanced two direct-push soil borings (DP-1 and DP-2) on site as part of a Phase II ESA. Soil and groundwater samples were collected from each boring and analyzed for VOCs. VOCs were detected in both soil and both groundwater samples. The VOCs detected were all petroleum related compounds, with the possible exception of chloromethane, detected in both groundwater samples. Chloromethane is a breakdown product and can form when chlorine, such as that found in municipal water, is in contact with decaying organic material. Chloromethane can also be a laboratory contaminant. Chloromethane has not been detected in soil at the site or in any other groundwater samples.

In November 2010 the used oil UST was removed from the site. CRI conducted the Tank System Site Assessment by collecting one soil sample (SS-1) from obviously contaminated soil at the base of the excavation. Laboratory results confirmed the presence of petroleum soil contamination.

On December 12, 2016 and January 10, 2017, MEC advanced 9 direct-push soil borings (DP-3 through DP-11) at the site. The borings were advanced to depths of 16 feet below land surface (bls). Soil cores were retrieved from the direct-push soil borings at 4-foot intervals to the termination depth of the borings. The soil cores were characterized per the Unified Soil Classification System and screened in the field for the presence of volatile organic vapors using a photoionization detector (PID). PID readings ranged from no detect to 751 ppm. Petroleum odors and/or staining were observed at all of the borings except DP-3. Based on field observations, two to three soil samples were collected from each boring for laboratory analysis.

Temporary groundwater sampling points were installed in all nine of the direct-push soil borings advanced at the site.

The temporary sampling points consisted of 1-inch PVC riser and 5 feet of screen extending to depths of 15 to 16 feet bls. Groundwater samples (DP-1W to DP-9W) were collected from each of these temporary sampling locations.

On May 14 and 15, 2018, five hollow-stem auger (HSA) soil borings (SB-1 to SB-5) were advanced at the site for the purpose of installing groundwater monitoring wells (MW-1 to MW-5). The borings were all advanced to depths of 16 feet bls. Due to the proximity of many of these borings to previously advanced direct push borings, four of the borings (SB-2 through SB-5) were blind drilled. The exception was boring SB-1, located on the east side of 33rd Avenue, across from the site. Split-spoon samples were collected from boring SB-1 at standard two-foot intervals to the termination depth of the boring. PID readings ranged from zero to 248 ppm in the 12 to 13.5-foot depth interval. One soil sample was collected from boring SB-1 and submitted for laboratory analysis. All five of the site monitoring wells, as well as MW-8 associated with the Mueller's Auto site at 3300 - 60th Street, were purged and sampled on June 6, 2018.

On June 6, 2018, a sub-slab vapor sample (VP-1) was collected from beneath the concrete slab-on-grade floor in the shop area of the building, immediately adjacent to the former used oil UST location and TSSA sample SS-1. The vapor sampling location was also proximal to soil boring DP-6 where PCE was present in a soil sample that exceeded the groundwater protection RCL.

In November 2018, MEC conducted a survey of the basements of buildings located on the south side of 60th Street within the 3200 block of 60th Street in Kenosha, Wisconsin. The basement survey was conducted to evaluate the depths of the basements and type of construction, along with the presence of odors, floor and wall cracks, penetrations such as sumps and drains, and for the occurrence of dampness or water seeps to assist in screening for the potential of contaminated vapor or groundwater intrusion into the structures. The nature of the mechanical systems present in the basements and serving the buildings was also assessed. It was determined that there was approximately two to three feet of separation between the basement floors and the water table. No evidence groundwater or vapor intrusion was noted in any of the basements.

On December 11, 2018, two HSA borings (SB-6 and SB-7) were advanced down-gradient from the site at 3215 - 60th Street, in the middle of the 3200 block of 60th Street for the purpose of installing groundwater monitoring wells MW-6 and MW-7. Split-spoon samples were collected from the borings at standard two-foot intervals to the termination depth of the borings. Soil samples collected previously from locations SB-1/MW-1 and MW-8 and laboratory analyzed, did not exhibit contaminant concentrations exceeding non-aqueous phase liquid (NAPL) indicators or residual contaminant levels (RCLs). As a consequence, soil samples were not collected for laboratory analysis from the subsequently advanced, down-gradient borings SB-6/MW-6 or SB-7/MW-7. Monitoring wells MW-6 and MW-7 were sampled on December 20, 2018.

On June 5, 2019 a sub-slab vapor sample (SPV-1) was collected to assess the potential for VOC contaminated vapor intrusion into the basement of building beneath the apartment and housing the furnace serving the apartment. The sampling location was in the northeast corner of the basement, closest to the on-site contaminant sources.

On June 13, 2019, all seven Suggar Property monitoring wells were sampled for a second time. All nine wells associated with the Mueller's Auto site across 60th Street to the north were also sampled the same day in order to provide the most optimal comparisons of groundwater quality, elevation and flow direction data in the area of the two sites.

On January 14, 2020, soil boring SB-9 was advanced at 3203 - 60th Street, near the southwest corner of the intersection of 60th Street and 32nd Avenue. The boring was advanced to a depth of 20 feet bls for the purpose of installing groundwater monitoring well MW-9. Split-spoon samples were collected from the boring at standard two-foot intervals to the termination depth of the boring. No elevated PID readings or other evidence of contamination was observed and no soil samples were collected for laboratory analysis. Monitoring well MW-9 was sampled on January 22, 2020.

- ii. Identify whether contamination extends beyond the source property boundary, and if so describe the media affected (e.g., soil, groundwater, vapors and/or sediment, etc.), and the vertical and horizontal extent of impacts.

Soil contamination exceeding direct contact RCLs has been defined, is limited to naphthalene in the immediate area of the former used oil tank cavity and does not extend off site. The distribution of soil contamination exceeding groundwater protection RCLs is limited to the source area between the three gasoline USTs closed in place, the former used oil tank cavity and the immediately adjacent portion of the 33rd Avenue right-of-way.

Groundwater sampling results revealed that the groundwater contamination exceeding groundwater quality standards extends from within the source area on site between the former pump island and former used oil tank locations and to down-gradient areas offsite beneath the 33rd Avenue right-of-way and beyond to monitoring wells MW-6 and MW-7 in the middle of the 3200 block of 60th Street. Down-gradient monitoring MW-9, near the corner of 32nd Ave. and 60th St., exhibited no contaminant concentrations above MDLs, thus providing definition of the extent of the groundwater plume.

- iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.

The investigation was not impeded by structures at the site.

B. Soil

- i. Describe degree and extent of soil contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways.
Soil contamination exceeding direct contact RCLs has been defined, is limited to naphthalene in the immediate area of the former used oil tank cavity and does not extend off site. The distribution of soil contamination exceeding groundwater protection RCLs is limited to the source area between the three gasoline USTs closed in place, the former used oil tank cavity and the immediately adjacent portion of the 33rd Avenue right-of-way.
- ii. Describe the concentration(s) and types of soil contaminants found in the upper four feet of the soil column.
Soil contamination exceeding direct contact RCLs has been defined and is limited to the immediate area of the former used oil tank cavity.
- iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site. This includes a soil performance standard established in accordance with s. NR 720.08, a Residual Contaminant Level (RCL) established in accordance with s. NR 720.10 that is protective of groundwater quality, or an RCL established in accordance with s. NR 720.12 that is protective of human health from direct contact with contaminated soil. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/information in Attachment C.

The December 2018 WDNR spreadsheet RCLs were used.

C. Groundwater

- i. Describe degree and extent of groundwater contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.
Groundwater sampling results revealed that the groundwater contamination exceeding groundwater quality standards extends from within the source area on site between the former pump island and former used oil tank locations and to down-gradient areas offsite beneath the 33rd Avenue right-of-way and beyond to monitoring wells MW-6 and MW-7 in the middle of the 3200 block of 60th Street. Down-gradient monitoring MW-9, near the corner of 32nd Ave. and 60th St., exhibited no contaminant concentrations above MDLs, thus providing definition of the extent of the groundwater plume.

The groundwater contaminant plume intersects storm and sanitary sewer trenches in the 33rd Avenue right-of-way adjacent to the east of the site. Groundwater flow also appears to be influenced by deep utility trenches beneath 60th Street that are likely acting as preferred conduits for groundwater migration. However, with numerous sites of petroleum contamination in the area, including up-gradient from the site, differentiating the sources of such contamination would be exceedingly difficult, expensive and unproductive.

With 8-foot deep basements in the vicinity of the the site and depth to groundwater ranging between about 10 and 12 feet bls, the water table does not intersect foundations, with approximately two to three feet of separation between the floors and the water table. No evidence groundwater intrusion was noted in any of the basements surveyed.

- ii. Describe the presence of free product at the site, including the thickness, depth, and locations. Identify the depth and location of the smear zone.

Free product was not observed at any of the sampling locations at the site.

D. Vapor

- i. Describe how the vapor migration pathway was assessed, including locations where vapor, soil gas, or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.
MEC conducted a vapor intrusion screening for the on-site building in accordance with the January 2018 WDNR guidance document RR800. The assessment determined that the TSSA sampling results for the used oil tank removed from the site in December 2010 revealed a soil benzene concentration in soil sample SS-1 exceeding 700 ug/kg adjacent to the building foundation. This indicated that there was less than five feet of clean, unsaturated soil between the residual petroleum contamination and the building, which precluded elimination of the potential for vapor intrusion, thus triggering the need for a vapor intrusion investigation.

On June 6, 2018, a sub-slab vapor sample (VP-1) was collected from beneath the concrete slab-on-grade floor in the shop area of the building, immediately adjacent to the former used oil UST location and TSSA sample SS-1. The vapor sampling location was also proximal to soil boring DP-6 where tetrachlorethene was present in a soil sample that exceeded the groundwater protection RCL.

A hammer drill was used to core through the concrete floor slab in the automobile service garage area adjacent to the former used oil UST cavity, about 10 feet west of TSSA soil sample SS-1 location. A brass sampling point with a gasket seal was advanced through the slab and into the top of the gravel sub-slab base course using a deadfall hammer.

The water dam method was used to ensure that the seal around the sampling point was tight and that the sample would include only air from beneath the concrete floor slab. A cap was placed over the nipple of the sampling point and non-VOC containing clay was placed around the sampling point and filled with water. The water was allowed to stand for one minute and was observed to maintain a consistent level, indicating a tight seal with no leakage through the floor.

A four-gas meter with a PID was used to screen the sub-slab air. A below normal atmospheric oxygen level of 16.3 percent was noted along with a VOC vapor reading of 6 ppm. No detectable carbon monoxide, hydrogen sulfide or lower explosive limit readings were observed.

Teflon tubing supplied by the laboratory was then used to connect the sampling point to the sampling device. The sampling device used was a six-liter stainless steel vacuum canister with an inert interior coating designed to collect an air sample. The canister was prepared by the laboratory, certified as clean and evacuated to induce a vacuum of -30 inches of mercury (Hg). The canister was fitted with a vacuum gauge and regulator calibrated to collect the air sample at a rate of 200 ml per minute, resulting in a 30-minute duration of sample collection.

The sampling event began at 11:03 AM when the toggle valve on the canister was opened. The pressure gauge on the regulator indicated an initial vacuum of -29.5 inches of Hg. The sampling event was discontinued at 11:33 AM when the pressure gauge indicated a final vacuum of 0 inches of Hg. Upon completion, the sampling point was removed and the hole in the concrete slab was sealed with cement.

On June 5, 2019 a sub-slab vapor sample (SPV-1) was collected to assess the potential for VOC contaminated vapor intrusion into the basement of building beneath the apartment and housing the furnace serving the apartment. The sampling was conducted in the same manner as that described above for sample VP-1. The sampling began at 10:58 AM with a vacuum reading of -27 inches Hg and ended at 11:28 AM with a final vacuum reading of -7 inches Hg. The sampling location was in the northeast corner of the basement, closest to the onsite contaminant sources.

MEC conducted a survey of the basements of buildings located on the south side of 60th Street within the 3200 block of 60th Street in Kenosha, Wisconsin. The basement survey was conducted to evaluate the depths of the basements and type of construction, along with the presence of odors, floor and wall cracks, penetrations such as sumps and drains, and for the occurrence of dampness or water seeps to assist in screening for the potential of contaminated vapor or groundwater intrusion into the structures. The nature of the mechanical systems present in the basements and serving the buildings was also assessed.

A PID and four-gas meter was used to screen the atmospheres within the basements as well as any sumps, drains or other foundation penetrations for volatile organic vapors and percent of the lower explosive limits.

The basement survey was conducted prior to planned sub-slab vapor sampling of the basement onsite at the Suggar Property so that if additional sub-slab vapor sampling was warranted, such sampling could be conducted during one field mobilization. The layout of the basements is illustrated on Figures 2, 5 and 6.

3221 - 60th Street: This one-story building is located at the southeast corner of the intersection of 60th - Street and 33rd Avenue, across 33rd Avenue and directly down-gradient from the Suggar Property. The property is occupied by Our Kenosha Tap, a bar and restaurant.

The building has two separate basement areas, east and west, both of which extend to approximately eight feet below land surface. Both sections have exterior walls of poured concrete with concrete block and brick walls in the interior portions and poured concrete floors. A small section of the western basement extends beneath a ground floor apartment attached to the south end of the bar/restaurant building. Two remaining attached ground floor apartments are of concrete slab-on-grade construction with no basement beneath. The basements are used for storage with a small office located at the north end of the western basement. The building is served by natural gas forced air heat.

Three floor drains were observed in the western basement and one in the eastern basement. The basements in general and the floor drains specifically were screened for volatile organic vapors and lower explosive limit with a PID and four-gas meter. No elevated readings and no odors were observed. No sumps were present and no cracks or water seeps were noted. According to the occupant the basement remains dry.

3215 - 60th Street: This one-story building is located adjacent to the east of the bar/restaurant building at 3221 - 60th Street. The building is occupied by Renwood Messenger, a music recording studio.

The building has a full basement and an additional basement room that extends beneath the northwest corner of the building adjacent to the east. The basement extends to approximately eight feet below land surface. The exterior walls are poured concrete with concrete block, brick and wood-frame walls in the interior portions and a poured concrete

floor. A small section of the concrete floor in the southwestern portion of the basement has deteriorated, exposing sand beneath. The basement is used for music recording and rehearsal. The building is served by natural gas forced air heat.

Two floor drains were observed, one in the southwestern portion and one in the southeastern portion of the basement. The basement in general and the floor drains specifically were screened for volatile organic vapors and lower explosive limit with a PID and four-gas meter. No elevated readings and no odors were observed. No sumps were present and no cracks or water seeps were noted, other than the floor in the southwestern corner. According to the occupant the basement remains dry.

3203 - 60th Street: This one-story building is located adjacent to the east of the recording studio building at 3215 - 60th Street. The building is occupied by Westtown Foods, a grocery and convenience store.

The building has a basement in the southwest corner and a basement room occupied by Renwood Messenger to the west that extends beneath the northwest corner of the building. An additional basement area is located on the east end of the building. According to the building owner there is no basement beneath the central portion of the building. The basements extend to approximately eight feet below land surface. The exterior walls are poured concrete with concrete block and brick walls in the interior portions and poured concrete floors. The basements are used for storage. The building is served by natural gas forced air heat.

No floor drains were observed in the southwest corner basement. Three floor drains were observed in the eastern basement. The basements in general and the floor drains specifically were screened for volatile organic vapors and lower explosive limit with a PID and four-gas meter. No elevated readings and no odors were observed. No sumps were present and no cracks or water seeps were noted. According to the owner the basement remains dry.

Midwest Environmental Consulting (MEC) completed vapor intrusion screening for buildings in the 3200 block of 60th Street, downgradient of the above-referenced site. The buildings are located to the east, across 33rd Avenue from the site, on the south side of 60th Street. Existing soil and groundwater data were reviewed to assess the potential for PVOC vapor intrusion of the buildings. No Chlorinated volatile organic compounds (CVOCs) have been detected in groundwater adjacent to the buildings and therefore, CVOCs were eliminated for consideration for potential vapor intrusion downgradient from the site.

The screening was conducted in accordance with the January 2018 WDNR guidance document RR-800. The purpose of the screening was to determine if a vapor intrusion investigation of these buildings, to include sampling and analysis, was necessary. The situations where a vapor investigation is recommended according to the guidance document were evaluated, as discussed below.

Non-aqueous phase liquid (NAPL) indicators: NAPL also referred to as free product, has not been observed in any of the monitoring wells at the Suggar Property site or at the Muellers Auto Sales and Service site to the northwest at 3300 60th Street. Five soil boring/monitoring wells are located in close proximity to the buildings in question, SB-1/MW-1, SB-6/MW-6, SB-7/MW-7, SB-8/MW-8 and SB-9/MW-9. Soil samples collected from locations SB-1/MW-1 and MW-8 and laboratory analyzed did not exhibit contaminant concentrations exceeding NAPL indicators or residual contaminant levels (RCLs). As a consequence, soil samples were not collected for laboratory analysis from the subsequently advanced, downgradient borings SB-6/MW-6, SB-7/MW-7 or SB-9/MW-9. However, a PID reading greater 500 ppm was observed during field screening of a split-spoon sample from the top of the saturated zone. This soil core from the 12 to 14-foot depth interval in boring location SB-7/MW-7 exhibited a PID reading of 673 ppm and a response of 10 percent of the lower explosive limit (LEL). However, with highly weathered gasoline and a 673 ppm PID reading it is unlikely that concentrations approach the LEL and it seems likely that the response may have been an instrument malfunction or interference issue.

Monitoring well MW-7 is located 8 feet to the north of the building at 3215 - 60th Street, which is the Renwood recording studio with basement studios. A PID reading exceeding 500 ppm is considered to be an indicator of the presence of NAPL per the guidance. However, MW-7 has been checked for the presence of free product on four occasions with none observed. As a consequence, free product is not present and therefore, this avenue of vapor intrusion can be eliminated as a concern.

Building has less than 5 feet of separation from groundwater with benzene exceeding 1,000 ug/l: At approximately 10 to 12 feet below land surface (bls), the groundwater table is within the five-foot distance listed in the guidance as presenting a risk of intrusion. The basements in all the buildings in question are approximately 8 feet deep. However, the highest benzene concentration near the buildings was observed at groundwater monitoring well MW-7 at 79.2 ug/l, well below the 1,000 ug/l screening threshold for groundwater beneath a building, as stipulated in the guidance document. As a consequence, this potential pathway for vapor intrusion can be dismissed per the guidance.

Benzene exceeding the preventive action limit in contact with foundation or entering the building: Benzene concentrations in all four wells near the building foundations exceed PALs. However, the 8-foot deep building foundations are approximately 2 to 4 feet above the water table. In addition, the March 2019 basement survey did not indicate the occurrence of groundwater infiltration of the foundations based on both observations and occupant

responses. Therefore, contaminated groundwater is below the foundations and this avenue for vapor intrusion can be eliminated as a concern.

PVOC impacted soil with potential for off-gassing: As indicated in the NAPL section above, soil samples collected from locations SB-1/MW-1 and MW-8 and analyzed did not exhibit contaminant concentrations exceeding NAPL indicators. In addition, PID field screening for the boring locations near the buildings in question indicated an absence of significant contamination within the unsaturated zone. Therefore, this avenue for vapor intrusion can be eliminated as a concern.

Utilities with petroleum volatile organic compound (PVOC) vapors: The bottom of the sanitary sewer line beneath 33rd Avenue is at approximately 12 feet bls and therefore, the trench intersects the water table and crosses the groundwater contamination plume making it and its service laterals a potential conduit for vapors. However, based on the March 2019 Basement Survey, there is no evidence that the utility trenches serving the buildings exhibit odors or are conduits for vapor migration into the buildings. The basement atmospheres generally, and all floor drains specifically, were screened for volatile organic vapors with a PID. No elevated PID readings were observed. In addition, as discussed previously, benzene levels in the groundwater in this area as evidenced by samples from MW-1, MW-6, MW-7, MW-8 and MW-9 are well below the 1,000 ug/l threshold per the guidance and the water table is below the base of the foundations.

PVOC odors: Based on the March 2019 Basement Survey of the buildings, no odors were evident and have reportedly not been present within the buildings in question, according to the occupants.

- ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).

The VOC concentrations were compared with the WDNR Quick Lookup Table for indoor air vapor action levels and vapor risk screening levels. All of the VOC concentrations exhibited by sample VP-1 were below the small commercial vapor risk screening levels (VRSLs) for those compounds included on the Quick Lookup Table.

One compound (naphthalene) in sample VP-1 exhibited a concentration of 28.6 micrograms per cubic meter (ug/m³), slightly above the VRSL of 28 ug/m³. The naphthalene concentration was well below the small commercial VRSL of 120 ug/m³. All other detected parameters were at concentrations well below VRSLs.

Although small commercial VRSLs, which were not exceeded, apply to the service garage, the residential VRSLs apply to the apartment in the building. Therefore, the naphthalene concentration constitutes an exceedance of the residential VRSL with respect to the residential apartment. The apartment is located on the second floor at the rear (south end) of the building, away from the source areas. The south end of the shop area is located beneath the apartment and the possibility of vapor intrusion of the apartment was initially screened out based on this intervening space. However, MEC became aware that there is a sub-grade basement area in the southwest corner of the structure below both the shop area and the apartment. The basement houses the forced air furnace for the apartment with a chimney that runs up through the apartment, discharging above the roof. The municipal water/plumbing connections and water heater for the apartment, as well as the sanitary sewer drains are also located in this basement.

The basement is accessed through a stairway that leads to a first-floor attached garage, which has an overhead car door leading outside and a door leading to the stairwell accessing the second-floor apartment. No sump is present in the basement. According to Jose Ochoa, the site owner, the basement is dry. No evidence of groundwater seeps were observed by MEC. Air conditioning for the apartment is provided by second floor window air conditioners.

In light of the naphthalene residential VRSL exceedance below the building and the presence of the subgrade basement with the furnace and utilities as well as the interior access from the basement to the second-floor apartment, MEC determined that sub-slab vapor sampling of the basement was warranted, which was conducted by the collection of sample SPV-1.

The VOC concentrations were compared with the WDNR Quick Lookup Table for indoor air vapor action levels and vapor risk screening levels. All of the VOC concentrations exhibited by sample SPV-1 were below both the residential and small commercial vapor risk screening levels for those compounds included on the Quick Lookup Table.

E. Surface Water and Sediment

- i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.

There is no surface water or sediment in the vicinity of the site.

- ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.

There is no surface water or sediment in the vicinity of the site.

4. Remedial Actions Implemented and Residual Levels at Closure

- A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.

No remedial activities have been conducted at the site.

- B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.

No interim or immediate actions have been conducted at the site.

- C. Describe the *active* remedial actions taken at the source property, including: type of remedial system(s) used for each media affected; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.

No remedial action has been taken at the site.

- D. Describe the alternatives considered during the Green and Sustainable Remediation evaluation in accordance with NR 722.09 and any practices implemented as a result of the evaluation.

Natural attenuation with a barrier maintenance plan and continuing obligations is considered to be the most appropriate response action at the site.

- E. Describe the nature, degree and extent of residual contamination that will remain at the source property or on other affected properties after case [closure](#).

Soil contamination exceeding direct contact RCLs has been defined and is limited to the immediate area of the former used oil tank cavity. The distribution of soil contamination exceeding groundwater protection RCLs limited to the source area between the three gasoline USTs closed in place, the former used oil tank cavity and the immediately adjacent portion of the 33rd Avenue ROW.

Groundwater sampling results revealed that the groundwater contamination exceeding groundwater quality standards extends from within the source area on site between the former pump island and former used oil tank locations and to down-gradient areas offsite beneath the 33rd Avenue right-of-way and beyond to monitoring wells MW-6 and MW-7 in the middle of the 3200 block of 60th Street. Down-gradient monitoring MW-9, near the corner of 32nd Ave. and 60th St., exhibited no contaminant concentrations above MDLs, thus providing definition of the extent of the groundwater plume.

- F. Describe the residual soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds RCLs established under s. NR 720.12, Wis. Adm. Code, for protection of human health from direct contact.

Soil contamination exceeding direct contact RCLs has been defined and is limited to naphthalene in the immediate area of the former used oil tank cavity.

- G. Describe the residual soil contamination that is above the observed low water table that attains or exceeds the soil standard(s) for the groundwater pathway.

The distribution of soil contamination exceeding groundwater protection RCLs limited to the source area between the three gasoline USTs closed in place, the former used oil tank cavity and the immediately adjacent portion of the 33rd Avenue ROW.

- H. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.

A Cap Maintenance Plan with notifications of continuing obligations has been developed to ensure that the site building and concrete pavement on, and in the vicinity of the site are maintained to preclude direct contact exposure to the naphthalene soil contamination exceeding the direct contact RCL and to inhibit surface water infiltration that may induce contaminant leaching to groundwater.

- I. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration (e.g., stable or receding groundwater plume).

Two rounds of groundwater sampling at all of the site wells except MW-9 (one round) exhibit concentrations that are stable to decreasing. In addition, nine rounds of groundwater monitoring at MW-8 from 2008 to 2019 exhibit concentrations decreasing from exceeding enforcement standards to exceeding only preventive action limits. Therefore, the overall groundwater plume is stable to decreasing in extent and concentration.

Based on the low levels of lighter end volatile organic compounds (VOCs), such as benzene and the prevalence of heavier end VOCs, such as naphthalene and the trimethylbenzenes, the petroleum groundwater contamination appears to be highly weathered, which indicates substantial attenuation.

- J. Identify how all exposure pathways (soil, groundwater, vapor) were removed and/or adequately addressed by immediate, interim and/or remedial action(s).

Not applicable, no interim or remedial actions have been conducted

K. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.
Not applicable, no remediation system was installed at the site.

L. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances.
No applicable, as natural attenuation will result in compliance with groundwater quality standards over time.

M. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed.

Two sub-slab vapor samples were collected from within the on-site building. The VOC concentrations were compared with the WDNR Quick Lookup Table for indoor air vapor action levels and vapor risk screening levels. All of the VOC concentrations exhibited by sample VP-1 were below the small commercial vapor risk screening levels (VRSLs) for those compounds included on the Quick Lookup Table.

One compound (naphthalene) in sample VP-1 exhibited a concentration of 28.6 micrograms per cubic meter (ug/m³), slightly above the VRSL of 28 ug/m³. The naphthalene concentration was well below the small commercial VRSL of 120 ug/m³. All other detected parameters were at concentrations well below VRSLs.

Although small commercial VRSLs, which were not exceeded, apply to the service garage, the residential VRSLs apply to the apartment in the building. Therefore, the naphthalene concentration constitutes an exceedance of the residential VRSL with respect to the residential apartment. The apartment is located on the second floor at the rear (south end) of the building, away from the source areas. The south end of the shop area is located beneath the apartment and the possibility of vapor intrusion of the apartment was initially screened out based on this intervening space. However, MEC became aware that there is a sub-grade basement area in the southwest corner of the structure below both the shop area and the apartment. The basement houses the forced air furnace for the apartment with a chimney that runs up through the apartment, discharging above the roof. The municipal water/plumbing connections and water heater for the apartment, as well as the sanitary sewer drains are also located in this basement.

The basement is accessed through a stairway that leads to a first-floor attached garage, which has an overhead car door leading outside and a door leading to the stairwell accessing the second-floor apartment. No sump is present in the basement. According to Jose Ochoa, the site owner, the basement is dry. No evidence of groundwater seeps were observed by MEC. Air conditioning for the apartment is provided by second floor window air conditioners.

In light of the naphthalene residential VRSL exceedance below the building and the presence of the subgrade basement with the furnace and utilities as well as the interior access from the basement to the second-floor apartment, MEC determined that sub-slab vapor sampling of the basement was warranted, which was conducted by the collection of sample SPV-1.

The VOC concentrations were compared with the WDNR Quick Lookup Table for indoor air vapor action levels and vapor risk screening levels. All of the VOC concentrations exhibited by sample SPV-1 were below both the residential and small commercial vapor risk screening levels for those compounds included on the Quick Lookup Table.

N. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed.

Not applicable, there is no surface water or sediment in the vicinity of the site.

5. Continuing Obligations: Includes all affected properties and rights-of-way (ROWs). In certain situations, maintenance plans are also required, and must be included in Attachment D.

Directions: For each of the 3 property types below, check all situations that apply to this closure request.

(NOTE: Monitoring wells to be transferred to another site are addressed in Attachment E.)

This situation applies to the following property or Right of Way (ROW):			Case Closure Situation - Continuing Obligation (database fees will apply, ii. - xiv.)	Maintenance Plan Required	
Property Type:					
Source Property	Affected Property (Off-Source)	ROW			
i.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	None of the following situations apply to this case closure request.	NA
ii.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Residual groundwater contamination exceeds ch. NR 140 ESs.	NA
iii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residual soil contamination exceeds ch. NR 720 RCLs.	NA
iv.				Monitoring Wells Remain:	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Not Abandoned (filled and sealed)	NA
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Continued Monitoring (requested or required)	Yes
v.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) direct contact pathways (includes vapor barriers)	Yes
vi.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) groundwater infiltration pathway	Yes
vii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural Impediment: impedes completion of investigation or remedial action (not as a performance standard cover)	NA
viii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination meets NR 720 industrial soil RCLs, land use is classified as industrial	NA
ix.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor Mitigation System (VMS) required due to exceedances of vapor risk screening levels or other health based concern	Yes
x.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Dewatering System needed for VMS to work effectively	Yes
xi.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Compounds of Concern in use: full vapor assessment could not be completed	NA
xii.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Commercial/industrial exposure assumptions used.	NA
xiii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vapor: Residual volatile contamination poses future risk of vapor intrusion	NA
xiv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Site-specific situation: (e. g., fencing, methane monitoring, other) (<i>discuss with project manager before submitting the closure request</i>)	Site specific

6. Underground Storage Tanks

- A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action? Yes No
- B. Do any upgraded tanks meeting the requirements of ch. ATCP 93, Wis. Adm. Code, exist on the property? Yes No
- C. If the answer to question 6.B. is yes, is the leak detection system currently being monitored? Yes No

General Instructions

All information shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected. For each attachment (A-G), provide a Table of Contents page, listing all 'applicable' and 'not applicable' items by Closure Form titles (e.g., A.1. Groundwater Analytical Table, A.2. Soil Analytical Results Table, etc.). If any item is 'not applicable' to the case closure request, you must fully explain the reasons why.

Data Tables (Attachment A)

Directions for Data Tables:

- Use **bold** and italics font for information of importance on tables and figures. Use **bold** font for ch. NR 140, Wis. Adm. Code ES attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, PAL attainments or exceedances.
- Use **bold** font to identify individual ch. NR 720 Wis. Adm. Code RCL exceedances. Tables should also include the corresponding groundwater pathway and direct contact pathway RCLs for comparison purposes. Cumulative hazard index and cumulative cancer risk exceedances should also be tabulated and identified on Tables A.2 and A.3.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e., do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15 (3)(c), Wis. Adm. Code, in the format required in s. NR 716.15(4)(e), Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Soil Analytical Results Table, etc.).
- For required documents, each table (e.g., A.1., A.2., etc.) should be a separate Portable Document Format (PDF).

A. Data Tables

- Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates for all groundwater sampling points (e.g., monitoring wells, temporary wells, sumps, extraction wells, potable wells) for which samples have been collected.
- Soil Analytical Results Table(s):** Table(s) showing **all** soil analytical results and collection dates. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated).
- Residual Soil Contamination Table(s):** Table(s) showing the analytical results of only the residual soil contamination at the time of closure. This table shall be a subset of table A.2 and should include only the soil sample locations that exceed an RCL. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated). Table A.3 is optional only if a total of fewer than 15 soil samples have been collected at the site.
- Vapor Analytical Table(s):** Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method and results of communication testing.
- Other Media of Concern (e.g., sediment or surface water):** Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, and time period for sample collection.
- Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.
- Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

Maps, Figures and Photos (Attachment B)

Directions for Maps, Figures and Photos:

- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11 x 17 inches, in a PDF readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.
- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(4), 726.09(2) and 726.11(3), (5) and (6), Wis. Adm. Code.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.,) should be a separate PDF.
- Maps, figures and photos should be dated to reflect the most recent revision.

B.1. Location Maps

- Location Map:** A map outlining all properties within the contaminated site boundaries on a United States Geological Survey (U.S.G.S.) topographic map or plat map in sufficient detail to permit easy location of all affected and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.
- Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for all affected properties, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination attaining or exceeding a ch. NR 140 ES, and/or in relation to the boundaries of soil contamination attaining or exceeding a RCL. Provide parcel identification numbers for all affected properties.
- RR Sites Map:** From RR Sites Map ([http://dnrmaps.wi.gov/sl/?Viewer=RR Sites](http://dnrmaps.wi.gov/sl/?Viewer=RR%20Sites)) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

B.2. Soil Figures

- B.2.a. **Soil Contamination:** Figure(s) showing the location of **all** identified unsaturated soil contamination. Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720.Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedances (0-4 foot depth).
- B.2.b. **Residual Soil Contamination:** Figure(s) showing only the locations of soil samples where unsaturated soil contamination remains at the time of closure (locations represented in Table A.3). Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720 Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedance (0-4 foot depth).

B.3. Groundwater Figures

- B.3.a. **Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered. Display on one or more figures all of the following:
 - Source location(s) and vertical extent of residual soil contamination exceeding an RCL. Distinguish between direct contact and the groundwater pathway RCLs.
 - Source location(s) and lateral and vertical extent if groundwater contamination exceeds ch. NR 140 ES.
 - Surface features, including buildings and basements, and show surface elevation changes.
 - Any areas of active remediation within the cross section path, such as excavations or treatment zones.
 - Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1.b.)
- B.3.b. **Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, PAL and/or an ES. Indicate the date and direction of groundwater flow based on the most recent sampling data.
- B.3.c. **Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.
- B.3.d. **Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been abandoned.

B.4. Vapor Maps and Other Media

- B.4.a. **Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway in relation to residual soil and groundwater contamination, including sub-slab, indoor air, soil vapor, soil gas, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.
- B.4.b. **Other media of concern (e.g., sediment or surface water):** Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.
- B.4.c. **Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank).

- B.5. Structural Impediment Photos:** One or more photographs documenting the structural impediment feature(s) which precluded a complete site investigation or remediation at the time of the closure request. The photographs should document the area that could not be investigated or remediated due to a structural impediment. The structural impediment should be indicated on Figures B.2.a and B.2.b.

Documentation of Remedial Action (Attachment C)

Directions for Documentation of Remedial Action:

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc.).
- If the documentation requested below has already been submitted to the DNR, please note the title and date of the report for that particular document requested.
 - C.1. **Site investigation documentation**, that has not otherwise been submitted with the Site Investigation Report.
 - C.2. **Investigative waste** disposal documentation.
 - C.3. Provide a **description of the methodology** used along with all supporting documentation if the RCLs are different than those contained in the Department's RCL Spreadsheet available at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html>.
 - C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.
 - C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment.
 - C.6. **Other.** Include any other relevant documentation not otherwise noted above (This section may remain blank).

Maintenance Plan(s) and Photographs (Attachment D)

Directions for Maintenance Plans and Photographs:

Attach a maintenance plan for each affected property (source property, each off-source affected property) with continuing obligations requiring future maintenance (e.g., direct contact, groundwater protection, vapor intrusion). See Site Summary section 5 for all affected property(s) requiring a maintenance plan. Maintenance plan guidance and/or templates for: 1) Cover/barrier systems; 2) Vapor intrusion; and 3) Monitoring wells, can be found at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html#tabx3>

- D.1. **Descriptions of maintenance action(s) required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required:**
 - Provide brief descriptions of the type, depth and location of residual contamination.

- Provide a description of the system/cover/barrier/monitoring well(s) to be maintained.
 - Provide a description of the maintenance actions required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.
 - Provide contact information, including the name, address and phone number of the individual or facility who will be conducting the maintenance.
- D.2. **Location map(s) which show(s):** (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) all property boundaries.
- D.3. **Photographs** for site or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system, include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features shall be visible and discernible. Photographs shall be submitted with a title related to the site name and location, and the date on which it was taken.
- D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter. The inspection and maintenance log is found at: <http://dnr.wi.gov/files/PDF/forms/4400/4400-305.pdf>.

Monitoring Well Information (Attachment E)

Directions for Monitoring Well Information:

For all wells that will remain in use, be transferred to another party, or that could not be located; attach monitoring well construction and development forms (DNR Form 4400-113 A and B: http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf)

Select One:

- No monitoring wells were installed as part of this response action.
- All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site
- Select One or More:**
 - Not all monitoring wells can be located, despite good faith efforts. Attachment E must include a description of efforts made to locate the wells.
 - One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason (s) the well(s) will remain in use. When one or more monitoring wells will remain in use this is considered a continuing obligation and a maintenance plan will be required and must be included in Attachment D.
 - One or more monitoring wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s). Provide documentation from the party accepting future responsibility for monitoring well(s).

Source Legal Documents (Attachment F)

Directions for Source Legal Documents:

Label documents with the specific closure form titles (e.g., F.1. Deed, F.2. Certified Survey Map, etc.). Include all of the following documents, in the order listed:

- F.1. **Deed:** The most recent deed with legal description clearly listed.
Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.
- F.2. **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- F.3. **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- F.4. **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties. This section applies to the source property only. Signed statements for Other Affected Properties should be included in Attachment G.

Notifications to Owners of Affected Properties (Attachment G)

Directions for Notifications to Owners of Affected Properties:

Complete the table on the following page for sites which require notification to owners of affected properties pursuant to ch. 292, Wis. Stats. and ch. NR 725 and 726, 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.]. The DNR's "Guidance on Case Closure and the Requirements for Managing Continuing Obligations" (PUB-RR-606) lists specific notification requirements <http://dnr.wi.gov/files/PDF/pubs/rr/RR606.pdf>.

State law requires that the responsible party provide a 30-day, written advance notification to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned. Use form 4400-286, Notification of Continuing Obligations and Residual Contamination, at <http://dnr.wi.gov/files/PDF/forms/4400/4400-286.pdf>

Include a copy of each notification sent and accompanying proof of delivery, i.e., return receipt or signature confirmation.

Include the following documents for each property, keeping each property's documents grouped together and labeled with the letter G and the corresponding ID number from the table on the following page. (Source Property documents should only be included in Attachment F):

- **Deed:** The most recent deed with legal descriptions clearly listed for all affected properties.
Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.
- **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes the attached legal description(s) accurately describe(s) the correct contaminated property or properties.

Signatures and Findings for Closure Determination

This page has been updated as of February 2019 to comply with the requirements of Wis. Admin. Code ch. NR 712.

Check the correct box for this case closure request and complete the corresponding certification statement(s) listed below to demonstrate that the requirements of Wis. Admin. Code ch. NR 712 have been met. The responsibility for signing the certification may not be delegated per Wis. Admin. Code § NR 712.09 (1). Per Wis. Admin. Code § 712.05 (1), the work must be conducted or supervised by the person certifying.

- The investigation and/or response action(s) for this site evaluated and/or addressed groundwater (including natural attenuation remedies). Both a professional engineer and a hydrogeologist must sign this document per Wis. Admin. Code ch. NR 712.
- The investigation and the response action(s) for this site did not evaluate or address groundwater. A professional engineer must sign this document per Wis. Admin. Code ch. NR 712.

Engineering Certification

I, Robert Evangelisti, 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.

Signature Robert Evangelisti 5/13/20

P. E. #

Title Professional Engineer

P.E. Stamp



Hydrogeologist Certification

I, Sean Cranley, 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.

Signature Sean Cranley

Title Professional Geologist

Date

5/11/2020