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SCS ENGINEERS

April 9, 2018
File No. 25216022.00

Mr. Jason Lowery
Wisconsin Department of Natural Resources
101 S. Webster St.
P.O. Box 7921
Madison, WI 53707-7921

Subject: Semiannual Facility Inspection Report
Stoughton City Landfill
FID #113005950 – License #133
USEPA ID #WID980901219
WDNR Purchase Order #37000-0000000548

Dear Mr. Lowery:

This letter provides the semiannual facility inspection report information for the Stoughton City Landfill site. We have included one copy for you, and an electronic pdf has been emailed. One copy has been mailed to the U.S. Environmental Protection Agency (USEPA).

SCS Engineers (SCS) performed the gas probes monitoring on December 18, 2017, February 28, and April 2, 2018. SCS performed the semiannual facility inspection at the site on April 2, 2018. The semiannual facility inspection reports are included in **Attachment B**. The following inspection items were noted:

Bimonthly Gas Monitoring – SCS performed the bimonthly monitoring of the three perimeter gas probes on December 18, 2017, February 28, and April 2, 2018. All gas probes except for GMP-1 had methane readings of 0.0 percent. On December 18, GMP-1 had a methane reading of 0.2 percent, which is 4 percent of the lower explosive limit (LEL) of 5 percent as methane. Based on the monitoring results from these three events, it does not appear that high concentration landfill gas, exceeding the LEL of 5 percent for methane, is migrating to the south of the landfill towards occupied homes. The completed bimonthly gas monitoring report forms are included in **Attachment A**.

Landfill Cover – The vegetative cover across the landfill was in good condition. No bare spots, signs of erosion, or sparse vegetation were found (photographs in **Attachment C**). Several shallow, erosive channels were observed on the east cover slope; these channels were less than 0.5 feet deep and do not require maintenance. Several small burrow holes were present near MW-2D and GV-11. The burrow holes appear shallow, and there is no evidence that the cap has been compromised.

Storm Water Management System – No visible erosion was found in the drainage channels. The culverts were undamaged. Dense vegetation, including large shrubs, is present near many of

the culverts restricting flow. A map depicting these culvert locations is included in **Attachment D**. SCS will clear this vegetation and debris in front of the culverts in early spring/summer 2018.

Landfill Gas Venting System – No damage was found at any of the gas venting wells, and no stressed vegetation was found near any of the wells. Gas vent well screens were clear. SCS will attach labels to the gas vents for easy identification this summer.

Perimeter Security Fencing – The chain-link fencing on the north and east sides of the site were in good condition. Both access gates are in good condition, and the padlocks operated properly. Signage was present and legible on both access gates. The wooden perimeter fence was in good condition; broken slats were recently replaced along the west side of the landfill. "No Trespassing" signs were posted along the west perimeter fence near the disc golf course.

Monitoring Wells and Wellhead Covers – We found no sign of tampering or damage at any of the site monitoring wells. All monitoring wells were properly covered and locked. Identification markings were missing or illegible on some of the monitoring wells. SCS will attach permanent labels to all monitoring wells this summer. Four artesian monitoring wells: OW-2, MM-7I, MW-10I, and MW-13I were flowing. Standing water was present around the wells and the casings were corroding. SCS will plug and cap the artesian wells this summer.

Access Road – The site access road was wet but in good condition with no ruts, or erosion noted. No standing water was observed on the site access road.

If you have any questions about this report or any other aspect of the project, please call us at 608-224-2830.

Sincerely,

Eli Sankey
Associate Engineer
SCS ENGINEERS

Leslie A. Busse, PE
Senior Project Manager
SCS ENGINEERS

ES/lmh/LAB

cc: Ms. Giang Van Nguyen, USEPA Region V

Enclosures: Attachment A – Bimonthly Gas Monitoring Report Forms
Attachment B – Semiannual Facility Inspection Form
Attachment C – Photograph Log
Attachment D – Culvert Maintenance Locations

ATTACHMENT A

Bimonthly Gas Monitoring Report Forms

Gas Probe Monitoring Report
Stoughton City Landfill
Stoughton, Wisconsin

Probe	%LEL (as methane)	% Oxygen	% CO_2	PID (ppm)	Pressure (inches of water)
GMP -1	4.0	18.3	2.9	0.0	-0.01
GMP-2	0.0	19.8	1.0	0.0	0.00
GMP-3	0.0	18.1	3.2	0.0	0.02

Instruments Used: Gem 5000, MiniRAE PID

Operator: Paul Grover

Date: 12/18/17

Weather Conditions:

Barometric Pressure (inches of Hg): 29.8 Temperature (Degrees F): 37

Relative Humidity (%): 75 Dewpoint (Degrees F): NA Wind: 10 SW

Sky Conditions: Mostly Sunny

Ground Conditions:

_____Snow __X__No Snow __X__Frozen Ground/Frost

Gas Probe Monitoring Report
Stoughton City Landfill
Stoughton, Wisconsin

Probe	%LEL (as methane)	% Oxygen	% CO_2	PID (ppm)	Pressure (inches of water)
GMP -1	0.0	19.9	0.7	0.0	-0.01
GMP-2	0.0	8.6	1.7	0.2	0.00
GMP-3	0.0	2.5	17.9	0.0	0.02

Instruments Used: Gem 5000, MiniRAE PID

Operator: Eli Sankey

Date: 2/28/18

Weather Conditions:

Barometric Pressure (inches of Hg): 29.83 Temperature (Degrees F): 36

Relative Humidity (%): 100 Dewpoint (Degrees F): 34 Wind: 11mph

Sky Conditions: Clear

Ground Conditions:

_____Snow _____No Snow _X_Frozen Ground/Frost

Gas Probe Monitoring Report
Stoughton City Landfill
Stoughton, Wisconsin

Probe	%LEL (as methane)	% Oxygen	% CO_2	PID (ppm)	Pressure (inches of water)
GMP -1	0.0	20.7	0.3	0.3	0.01
GMP-2	0.0	12.7	1.6	0.2	0.00
GMP-3	0.0	19.7	1.4	0.4	0.02

Instruments Used: Gem 5000, MiniRAE PID

Operator: Eli Sankey

Date: 4/2/18

Weather Conditions:

Barometric Pressure (inches of Hg): 30.09 Temperature (Degrees F): 33

Relative Humidity (%): 51 Dewpoint (Degrees F): 19 Wind: 1 WSW

Sky Conditions: Partly Cloudy

Ground Conditions:

_____Snow X____No Snow ____Frozen Ground/Frost

ATTACHMENT B

Semiannual Facility Inspection Form

Operation and Maintenance Semi Annual Inspection Report
Stoughton City Landfill
Stoughton, Wisconsin

Inspector	Eli Sankey
Company	SCS Enginners
Project	Stoughton LF Monitoring
Location	Stoughton, WI
Date/Time	4/2/18, 10:45 A.M
Project No.	25216022.0

Weather	Clear	**P. Cloudy**	Cloudy	Fog
Temperature	Low	**33 F**	---	---
Wind	**Calm**	Medium	High	---
Precipitation	**None**	Light	Moderate	Heavy
	Snow	Light	Moderate	Heavy

Type of Inspection Routine ☒ Special ☐

Persons/Equipment Present: Eli Sankey (SCS Engineers)

General Description of Site Conditions: Wet ground conditions from the spring thaw but no standing water observed. Cover vegitation was in good condtion and an acceptable length.

Specific Inspection Items	Potential Problem Areas	Status *	Notes
Perimeter Security Fencing	Broken or missing wood slats, torn chain link fabric.	1	Perimeter fencing in good condition, broken slats were recently repaired. Additonal signage posted along the west perimeter fence near the disc golf hole.
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative.	1	Lock present and functional.
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing.	2	Cap artesian wells: OW2, 7I, 10I, 13I. Water is corroding well casings. Label all MW's, only several wells are curerntly labeled.
Final Cover Vegetation	Bare spots, stressed vegetation, deep rooted vegetation.	1	Vegetation appears heathly, no bare spots obsreved.
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding.	1	Some minor erosive channels oberved on the east cover slope. Gullies are less than .5 feet, will continue to monitor. No current maintenance required.
Evidence of Burrowing Animals	Damage to final cover, evidence of waste.	2	Fill burrow holes near MW-2D and GV-11 with soil. Burrow holes appear to be shallow, no evidence that the cover has been compromised.
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked.	2	Several large shrubs impeding storm water flow into the culvert near the south entrance gate.
Landfill Gas Venting System	Damaged or blocked vent risers, stressed vegetation.	2	Landfill gas vents should be labeled.
Access Road	Ponding, rutting, erosion.	1	Access road in good condition no issues observed.
Cover Mowing and Tall Vegetation Removal (October Inspection Only)	Mowing and tall vegetation removal done to specified vegetation hight, any missed areas	1	Vegetation is an acceptable height on landfill cap.

* (1) Acceptable - No Maintenance Required. (2) Not Acceptable - Identify Required Maintenance.

Summary of Deficiencies and/or Corrective Actions: Label GV's and MW's, cap artesian wells, fill burrow holes near MW-2D and GV-11, and remove shrubs in drainage way near south entrance gate.

Signature of Inspector Eli Sankey Date 4/2/18

ATTACHMENT C

Photograph Log

Semiannual Facility Inspection Report
Stoughton City Landfill – April 2, 2018
SCS Engineers Project No. 25216022.00

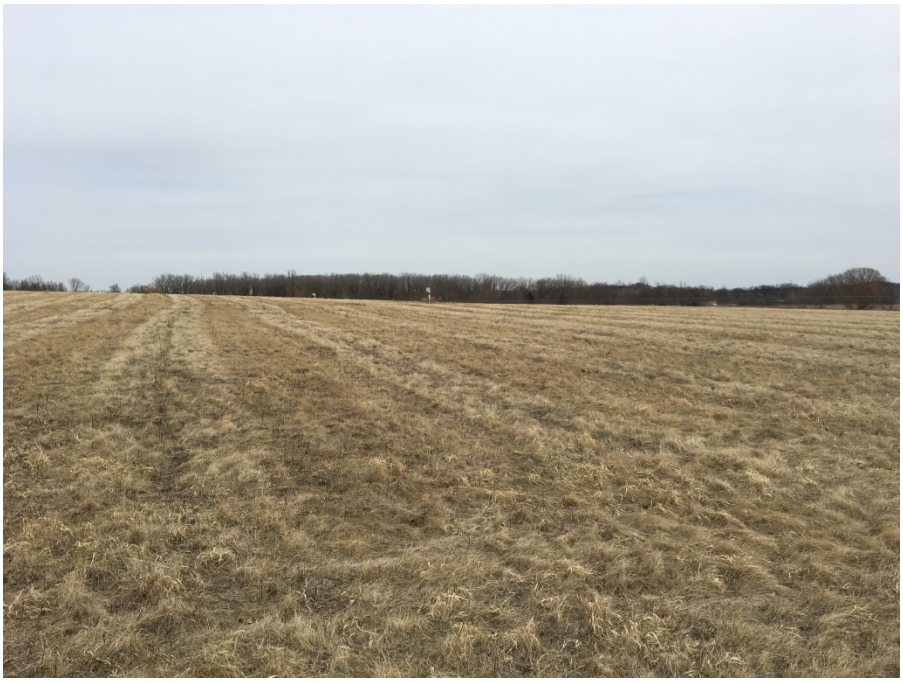

Photo 1: Photo taken just inside the south access gate. Final cover vegetation was in good condition and of the appropriate length (looking north).

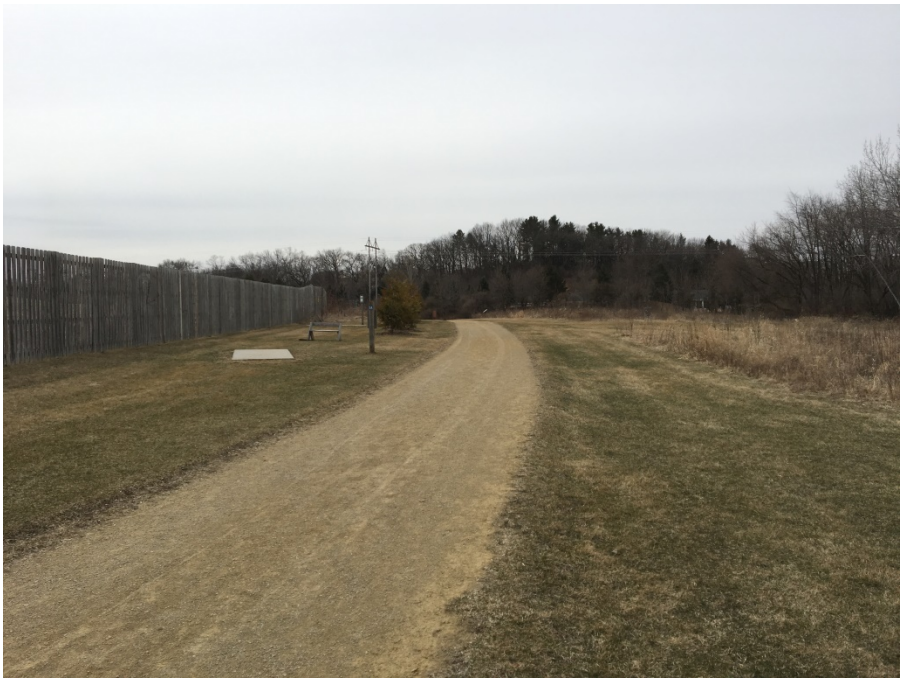

Photo 2: Gravel drive on the west side of the landfill (looking south).

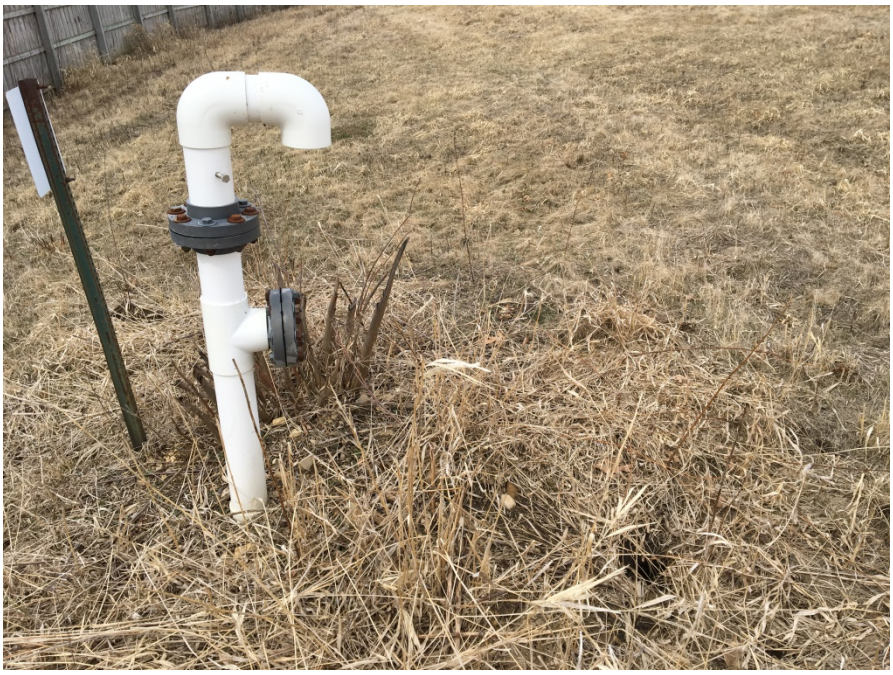

Photo 3: GV-11 is functional but missing an identification label (looking west).

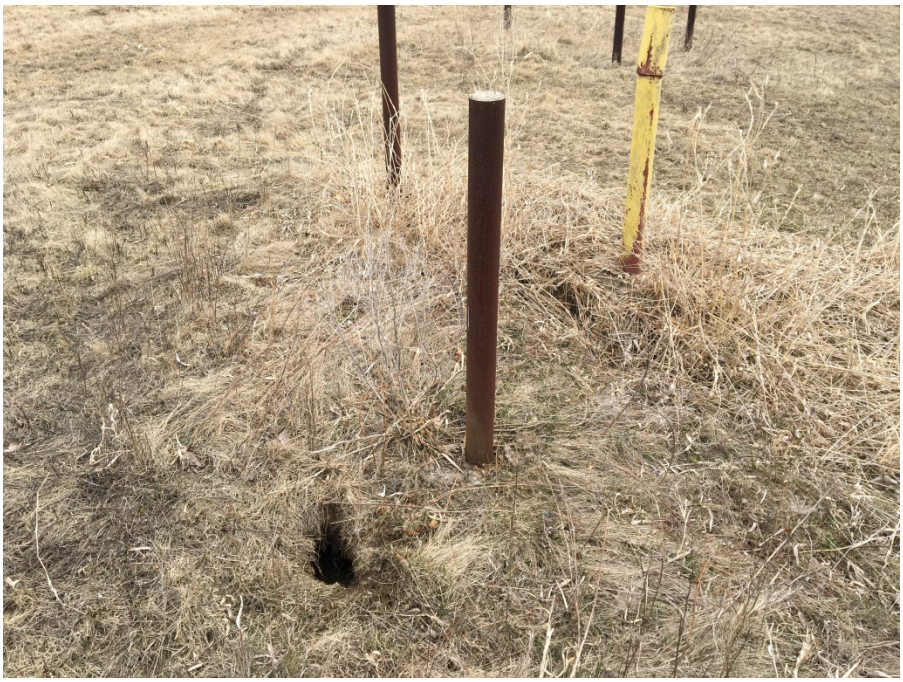

Photo 4: Animal burrow present near MW-2D (looking down).

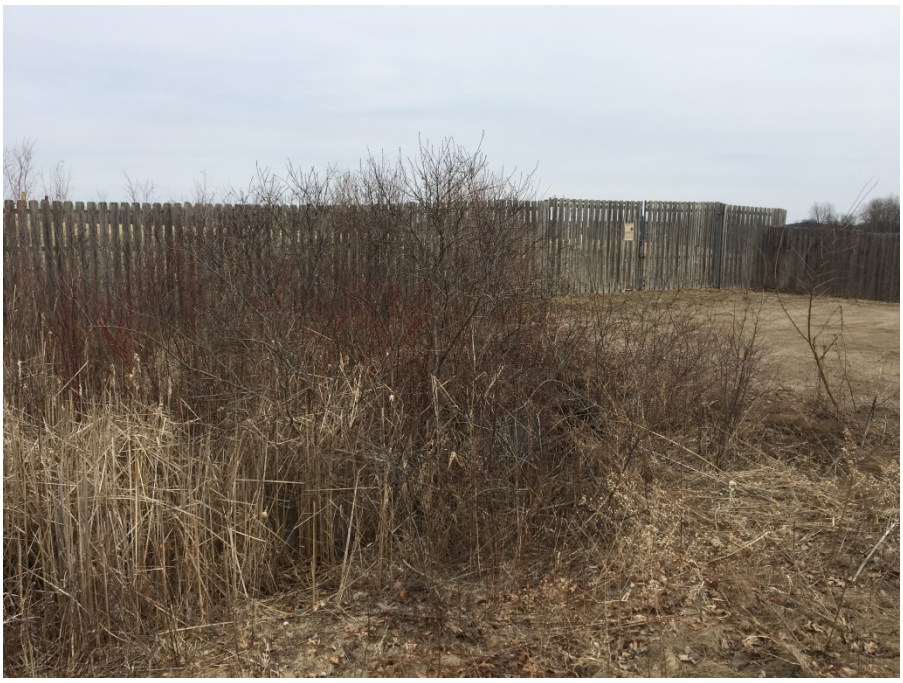

Photo 5: Large shrubs inhibiting water flow into culvert near the south gate entrance (looking northeast).

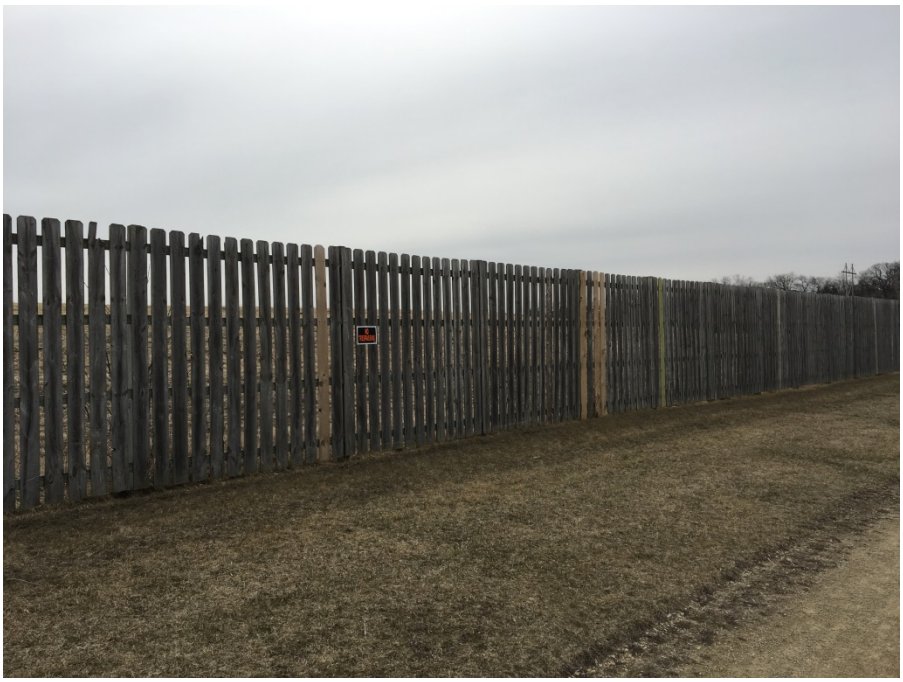

Photo 6: West perimeter security fencing depicted; slats were recently replaced and new signage "NO TRESPASSING" was posted (Looking southeast).

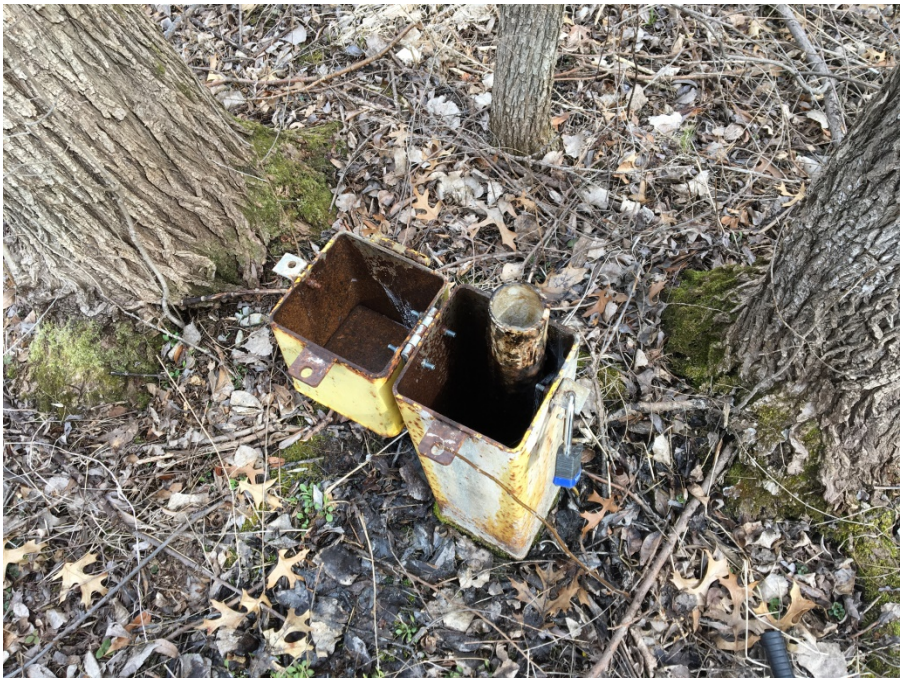

Photo 7: MW-10I casing flooded with water (looking down).

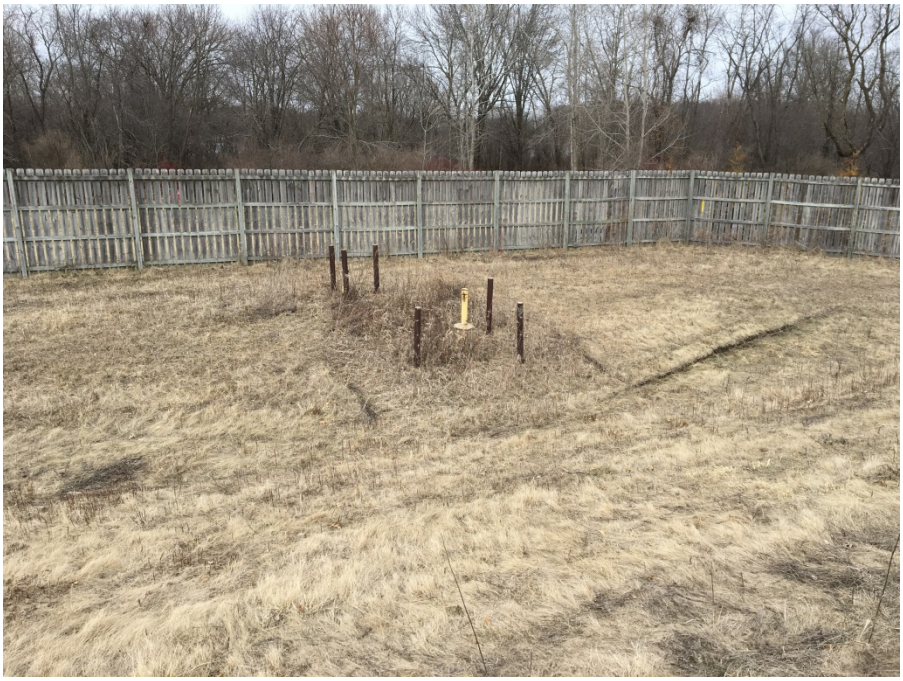

Photo 8: MW-5 cluster depicted; wells locked and no signs of tampering (looking west).

ATTACHMENT D

Culvert Maintenance Locations

Culverts locations to be cleared of vegetation and debris.