

MEMO



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From:
Kris Hinskey

Date: June 1, 2023
Arcadis Project No.: 30167538

Subject:
Utility Corridor Assessment – Monthly Update for the Utility Corridor SSVE
ResAP IRA Activities
36200 Plymouth Road, Livonia, Wayne County, Michigan
Consent Decree No 2:1712372-GAD-RSW (CD)
Site ID No.: 82002970

On behalf of Ford Motor Company (Ford), Arcadis of Michigan, LLC (Arcadis) has prepared this memorandum (memo) for the Livonia Transmission Plant (LTP) site (the site). This memo is intended to update the Michigan Department of Environment, Great Lakes, and Energy (EGLE) with the most recent field activities related to the Utility Corridor Sanitary Sewer Vapor Extraction (SSVE) System Response Activity Plan for Interim Response Activities (Utility Corridor SSVE ResAP IRA) submitted to EGLE on May 31, 2022 (approved by EGLE June 23, 2022) and serve as the submittal for the month of May 2023.

Utility Corridor SSVE Response Activity Plan for Interim Response Activities – Update

On-site Response Activities

Sanitary Sewer Vapor Extraction System Operation and Compliance Sampling

The SSVE system continues to run at a flowrate of approximately 900 cubic feet per minute (cfm). The location of the SSVE system is provided on **Figure 1**. Compliance sampling continues to be completed monthly in accordance with the sampling frequency described in the Utility Corridor SSVE ResAP IRA.

Compliance samples were collected on May 9, 2023. Analytical results from these vapor grab samples were below the site-specific volatilization to indoor air criteria (SSVIAC) at the compliance sample locations SAMH-1231 and SL-2. Vapor grab sampling results to date for the SSVE compliance locations are included in **Table 1**. The next vapor sampling event of the compliance locations will be completed the week of June 5, 2023.

Utility Corridor Memo
Livonia Transmission Plant

Overall, a significant decrease in analytical vapor concentrations from samples collected at the compliance locations continues to be observed following the installation and operation of the SSVE system at the primary extraction location, as detailed in **Exhibit 1** below.

Exhibit 1: Vapor Concentrations at Compliance Locations following On-Site SSVE System Installation

Structure	Pre-SSVE Installation (Baseline) Concentration (µg/m ³) May 25, 2022	Compliance Sample Results (µg/m ³) May 9, 2023
SAMH-1231	1,200 (VC)/29 (TCE)	<0.46 (VC) /<0.72 (TCE)
SL-2	58 (VC)/2.8 (TCE)	<0.46 (VC)/<0.72 (TCE)

Notes:

µg/m³ = micrograms per cubic meter

TCE = trichloroethylene

VC = vinyl chloride

< = Denotes not detected above method detection limit

Arcadis is coordinating the replacement of the generator powering the SSVE system with a hardwired electrical service to minimize any downtime moving forward. Arcadis is scheduling the horizontal boring contractor to install the conduit to provide electrical service to the equipment. Installation is anticipated to occur in the third quarter of 2023.

In closing, information provided in this memo satisfies EGLE’s request in the June 23, 2022 letter. Ford is committed to completing the activities outlined in the Utility Corridor SSVE ResAP IRA. Monthly field activities and data associated with the SSVE system will continue to be provided to EGLE in subsequent memos.

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- Table 1. Compliance Sampling Results
- Figure 1. Utility Corridor Response Activities

Table 1

Compliance Sampling Results

Table 1
 Compliance Sampling Results
 Ford Livonia Transmission Plant
 36200 Plymouth Road
 Livonia, Michigan



Location:	EGLE	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231
Sample Name:	Residential	SSVE-MH-1231_052522	SSVE-MH-1231_052622	SSVE-MH-1231_053122	SSVE-MH-1231_060822	SSVE-MH-1231_061022	SSVE-MH-1231_061522	SSVE-MH-1231_062322
Sample Date:	SSVIAC	5/25/2022	5/26/2022	5/31/2022	6/8/2022	6/10/2022	6/15/2022	6/23/2022
Sample Time:	24-Hour	10:58	14:51	12:24	14:47	12:22	12:21	11:07
Sample Type:	Exposure	Summa	Summa	Summa	Summa*	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)								
1,1-Dichloroethylene	210	9.3	<0.60	<0.60	<5.4	<0.60	<0.60	<0.60
1,4-Dioxane	5.1	<0.60	<0.60	<0.60	<5.8	<0.60	<0.60	<0.60
cis-1,2-Dichloroethylene	8.3	870	1.1	2.2	<5.5	<0.58	7.6	8.0
Tetrachloroethylene	41	3.2	<1.0	<1.0	<8.7	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	83	14	<0.62	<0.62	<4.7	<0.62	<0.62	<0.62
Trichloroethylene	2.0	29	<0.72	<0.72	<9.4	<0.72	<0.72	<0.72
Vinyl chloride	1.6	1,200	0.87	1.8	<6.7	<0.46	<0.46	7.7

Location:	EGLE	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231
Sample Name:	Residential	SSVE-MH-1231_063022	SSVE-MH-1231_070722	SSVE-MH-1231_071422	SSVE-MH-1231_071822	SSVE-MH-1231_072722	SSVE-MH-1231_080422	SSVE-MH-1231_081122
Sample Date:	SSVIAC	6/30/2022	7/7/2022	7/14/2022	7/18/2022	7/27/2022	8/4/2022	8/11/2022
Sample Time:	24-Hour	9:34	9:43	8:08	11:21	11:01	10:48	10:16
Sample Type:	Exposure	Summa	Summa	Summa	Summa	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)								
1,1-Dichloroethylene	210	<0.60	<0.60	<0.60	<0.60	<0.6	<0.6	<0.6
1,4-Dioxane	5.1	<0.60	<0.60	<0.60	<0.60	<0.6	<0.6	<0.6
cis-1,2-Dichloroethylene	8.3	<0.58	<0.58	<0.58	<0.58	87 J	3.1	<0.58
Tetrachloroethylene	41	<1.0	<1.0	<1.0	<1.0	<1.0	1.1 J	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62	<0.62	1.3	<0.62	<0.62
Trichloroethylene	2.0	<0.72	<0.72	<0.72	<0.72	2.1	<0.72	<0.72
Vinyl chloride	1.6	<0.46	<0.46	<0.46	<0.46	41	3.3	<0.46

Location:	EGLE	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231
Sample Name:	Residential	SSVE-MH-1231_081822	SSVE-MH-1231_082522	SSVE-MH-1231_090122	SSVE-MH-1231_090822	SSVE-MH-1231_100322	SSVE-MH-1231_110422	MH-1231_111522
Sample Date:	SSVIAC	8/18/2022	8/25/2022	9/1/2022	9/8/2022	10/3/2022	11/4/2022	11/15/2022
Sample Time:	24-Hour	13:36	10:21	12:21	11:51	12:46	13:03	9:40
Sample Type:	Exposure	Summa	Summa	Summa	Summa	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)								
1,1-Dichloroethylene	210	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.60 [<0.60]
1,4-Dioxane	5.1	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.60 [<0.60]
cis-1,2-Dichloroethylene	8.3	<0.58	<0.58	<0.58	<0.58	<0.58	7.1	1.5 [1.7]
Tetrachloroethylene	41	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0 [<1.0]
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62 [0.92]
Trichloroethylene	2.0	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72 [<0.72]
Vinyl chloride	1.6	<0.46	<0.46	<0.46	<0.46	<0.46	3.6	<0.46 [<0.46]

Table 1
Compliance Sampling Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location:	EGLE	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231	SAMH-1231
Sample Name:	Residential	MH1231-121522	MH-1231-011023	MH-1231-020723	MH-1231-030123	MH-1231-041123	MH-1231-050923
Sample Date:	SSVIAC	12/15/2022	1/10/2023	2/7/2023	3/1/2023	4/11/2023	5/9/2023
Sample Time:	24-Hour	11:41	11:06	11:08	10:21	10:12	11:16
Sample Type:	Exposure	Summa	Summa	Summa	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)

1,1-Dichloroethylene	210	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]
1,4-Dioxane	5.1	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]	<0.60 [<0.60]
cis-1,2-Dichloroethylene	8.3	11 [10]	<0.58 [<0.58]	1.5 [0.68 J]	<0.58 [<0.58]	<0.58 [<0.58]	<0.58 [<0.58]
Tetrachloroethylene	41	<1.0 [<1.0]	<1.0 [<1.0]	<1.0 [<1.0]	<1.0 [<1.0]	<1.0 [<1.0]	<1.0 [<1.0]
trans-1,2-Dichloroethylene	83	<0.62 [<0.62]	<0.62 [<0.62]	<0.62 [<0.62]	<0.62 [<0.62]	0.70 J [<0.62]	<0.62 [<0.62]
Trichloroethylene	2.0	1.0 J [1.3]	<0.72 [<0.72]	<0.72 [<0.72]	<0.72 [<0.72]	<0.72 [<0.72]	<0.72 [<0.72]
Vinyl chloride	1.6	4.6 [6.3]	<0.46 [<0.46]	0.97 [<0.46]	<0.46 [<0.46]	<0.46 [<0.46]	<0.46 [<0.46]

Location:	EGLE	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2
Sample Name:	Residential	SSVE-SL-2_052522	SSVE-SL-2_052622	SSVE-SL-2_053122	SSVE-SL-2_060822	SSVE-SL-2_061022	SSVE-SL-2_061522	SSVE-SL-2_062322
Sample Date:	SSVIAC	5/25/2022	5/26/2022	5/31/2022	6/8/2022	6/10/2022	6/15/2022	6/23/2022
Sample Time:	24-Hour	11:34	15:36	11:38	15:35	14:15	13:22	10:36
Sample Type:	Exposure	Summa	Summa	Summa	Summa*	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)

1,1-Dichloroethylene	210	<0.60	<0.60	<0.60	<5.7	<0.60	<0.60	<0.60
1,4-Dioxane	5.1	<0.60	<0.60	<0.60	<6.0	<0.60	<0.60	<0.60
cis-1,2-Dichloroethylene	8.3	57	<0.58	6.3	19	<0.58	<0.58	0.63 J
Tetrachloroethylene	41	14	<1.0	1.2 J	<9.1	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62	<4.9	<0.62	<0.62	<0.62
Trichloroethylene	2.0	2.8	<0.72	<0.72	<9.7	<0.72	<0.72	<0.72
Vinyl chloride	1.6	58	<0.46	6.5	<7.0	<0.46	<0.46	<0.46

Location:	EGLE	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2
Sample Name:	Residential	SSVE-SL-2_063022	SSVE-SL-2_070722	SSVE-SL-2_071422	SSVE-SL-2_071822	SSVE-SL-2_072722	SSVE-SL-2_080422	SSVE-SL-2_081122
Sample Date:	SSVIAC	6/30/2022	7/7/2022	7/14/2022	7/18/2022	7/27/2022	8/4/2022	8/11/2022
Sample Time:	24-Hour	9:04	9:14	12:54	10:21	11:37	12:44	10:53
Sample Type:	Exposure	Summa	Summa	Summa	Summa	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)

1,1-Dichloroethylene	210	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
1,4-Dioxane	5.1	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
cis-1,2-Dichloroethylene	8.3	<0.58	<0.58	<0.58	2.6	<0.58	<0.58	<0.58
Tetrachloroethylene	41	<1.0	<1.0	<1.0	1.2 J	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62	1.7	<0.62	<0.62	<0.62
Trichloroethylene	2.0	<0.72	<0.72	<0.72	0.80 J	<0.72	<0.72	<0.72
Vinyl chloride	1.6	<0.46	<0.46	<0.46	0.59	<0.46	<0.46	<0.46

Table 1
 Compliance Sampling Results
 Ford Livonia Transmission Plant
 36200 Plymouth Road
 Livonia, Michigan



Location:	EGLE	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2
Sample Name:	Residential	SSVE-SL-2_081822	SSVE-SL-2_082522	SSVE-SL-2_090122	SSVE-SL-2_090822	SSVE-SL-2_100322	SSVE-SL-2_110422	SL-2-111522
Sample Date:	SSVIAC	8/18/2022	8/25/2022	9/1/2022	9/8/2022	10/3/2022	11/4/2022	11/15/2022
Sample Time:	24-Hour	14:04	14:11	13:36	10:08	13:01	13:13	9:52
Sample Type:	Exposure	Summa	Summa	Summa	Summa	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)								
1,1-Dichloroethylene	210	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
1,4-Dioxane	5.1	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
cis-1,2-Dichloroethylene	8.3	<0.58	<0.58	<0.58	<0.58	0.67 J	<0.58	<0.58
Tetrachloroethylene	41	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
Trichloroethylene	2.0	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72
Vinyl chloride	1.6	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46

Location:	EGLE	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2
Sample Name:	Residential	SL-2-121522	SL-2-011023	SL-2-020723	SL-2-030123	SL-2-041123	SL-2-050923
Sample Date:	SSVIAC	12/15/2022	1/10/2023	2/7/2023	3/1/2023	4/11/2023	5/9/2023
Sample Time:	24-Hour	11:32	10:46	10:57	10:06	10:01	10:56
Sample Type:	Exposure	Summa	Summa	Summa	Summa	Summa	Summa

Volatile Organic Compounds (VOCs)							
1,1-Dichloroethylene	210	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
1,4-Dioxane	5.1	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
cis-1,2-Dichloroethylene	8.3	<0.58	0.73 J	<0.58	<0.58	<0.58	<0.58
Tetrachloroethylene	41	<1.0	1.2 J	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62
Trichloroethylene	2.0	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72
Vinyl chloride	1.6	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46

Table 1
Compliance Sampling Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Notes:

All results reported in $\mu\text{g}/\text{m}^3$.

Result exceeds the EGLE site-specific volatilization to indoor air criteria (SSVIAC) to evaluate vapor migration in preferential pathways developed for residential 24-hour exposure.

< Denotes not detected above method detection limit.

* Method detection limits were elevated for this sample.

[] Indicates duplicate sample

Sample Type:

Summa Indicates results are from lab analyzed summa canister.

Abbreviations:

$\mu\text{g}/\text{m}^3$ micrograms per cubic meter

EGLE Michigan Department of Environment, Great Lakes, and Energy

J estimated result

MH manhole

SAMH sanitary manhole

SSVE sanitary sewer vapor extraction system

SL sample location

Analytical Methods:

United States Environmental Protection Agency (USEPA) Method TO-15

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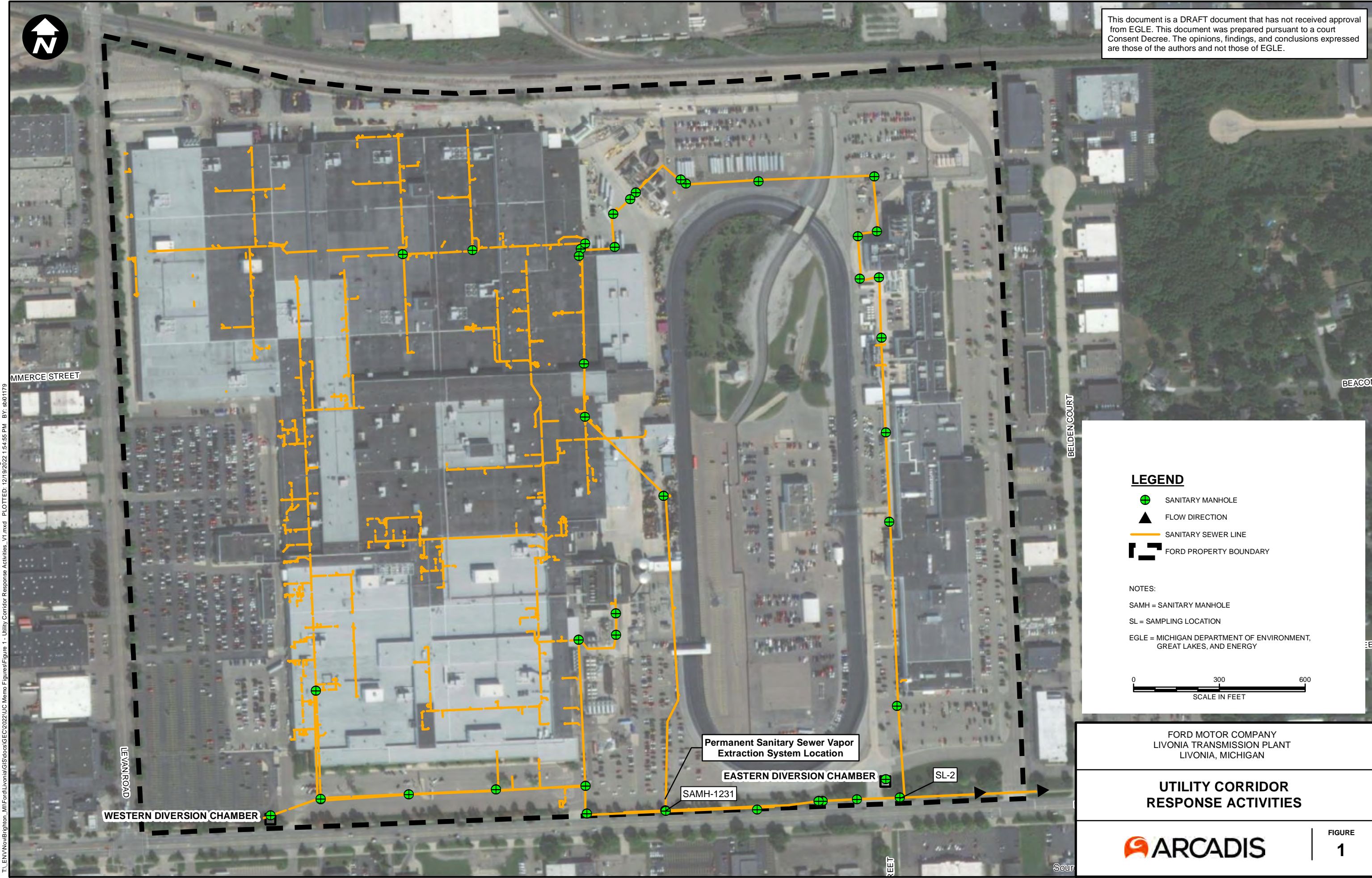
Figure 1

Utility Corridor Response Activities

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CITY: Novi; DIV: ENV; DB: MG; PIC: R. ELLIS; PM: K. HINSKEY; PROJECT NUMBER: 30080642; COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl; T: ENV; NOVI; BRIGHTON; MI; FORD; LIVONIA; GIS; DATA; GCS; GEG; 2022; UC; Memo; Figures; Figure 1 - Utility Corridor Response Activities; VI.mxd; PLOTTED: 12/19/2022 1:54:55 PM; BY: sbd1179



LEGEND

- SANITARY MANHOLE
- FLOW DIRECTION
- SANITARY SEWER LINE
- FORD PROPERTY BOUNDARY

NOTES:

SAMH = SANITARY MANHOLE

SL = SAMPLING LOCATION

EGLE = MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

0 300 600
SCALE IN FEET

FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

**UTILITY CORRIDOR
RESPONSE ACTIVITIES**