

TRANSMITTAL LETTER



To:
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From:
Kris Hinskey

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Copies:

Date:

September 1, 2023

Subject:

Arcadis Project No.:

Livonia Transmission Plant Utility
Corridor Assessment –Monthly Update
for the Utility Corridor SSVE ResAP
IRA Activities

30167538

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MEMO



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From:
Kris Hinskey

Date: September 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 serves as the submittal for the month of August 2023. This memo also meets the obligations outlined in Section A (ii) of EGLE’s June 8, 2023 letter.

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 August 11, 2023. Analytical results from the vapor grab sample collected at SAMH-1231 were above the site-specific volatilization to indoor air criteria (SSVIAC) for vinyl chloride, however, analytical results from vapor grab samples collected at the compliance sample locations SL-2 and SL-3

Utility Corridor Memo
Livonia Transmission Plant

downgradient of SAMH-1231 were below the SSVIAC. 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 September 4, 2023.

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/m³) May 25, 2022	Compliance Sample Results (µg/m³) August 11, 2023
SAMH-1231	1,200 (VC) / 29 (TCE)	2.0 (VC) / <0.44 (TCE)
SL-2	58 (VC) / 2.8 (TCE)	<0.23 (VC) / <0.44 (TCE)
SL-3	960 (VC) / 25 (TCE)	<0.23 (VC) / <0.44 (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. A horizontal boring contractor installed the conduit in July to provide electrical service to the equipment. Installation of the remaining infrastructure is ongoing and anticipated to be completed in September of 2023.

In closing, information provided in this memo satisfies EGLE’s request in the June 23, 2022 and June 8, 2023 EGLE letters. 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.

Enc.

- 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	SAMH-1231
Sample Name:	Residential	MH1231-121522	MH-1231-011023	MH-1231-020723	MH-1231-030123	MH-1231-041123	MH-1231-050923	MH-1231-061523
Sample Date:	SSVIAC	12/15/2022	1/10/2023	2/7/2023	3/1/2023	4/11/2023	5/9/2023	6/15/2023
Sample Time:	24-Hour	11:41	11:06	11:08	10:21	10:12	11:16	11:59
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 [<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]	<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]	<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]	<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]	<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]	<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]	<0.46

Location:	EGLE	SAMH-1231	SAMH-1231	SL-2	SL-2	SL-2	SL-2	SL-2
Sample Name:	Residential	MH-1231-071323	MH-1231-081123	SSVE-SL-2_052522	SSVE-SL-2_052622	SSVE-SL-2_053122	SSVE-SL-2_060822	SSVE-SL-2_061022
Sample Date:	SSVIAC	7/13/2023	8/11/2023	5/25/2022	5/26/2022	5/31/2022	6/8/2022	6/10/2022
Sample Time:	24-Hour	9:59	12:35	11:34	15:36	11:38	15:35	14:15
Sample Type:	Exposure	Summa	Summa	Summa	Summa	Summa	Summa*	Summa

Volatile Organic Compounds (VOCs)								
1,1-Dichloroethylene	210	<0.60	<0.23 [<0.23]	<0.60	<0.60	<0.60	<5.7	<0.60
1,4-Dioxane	5.1	<0.60	<3.5 [<3.5]	<0.60	<0.60	<0.60	<6.0	<0.60
cis-1,2-Dichloroethylene	8.3	3.7	3.1 [1.2]	57	<0.58	6.3	19	<0.58
Tetrachloroethylene	41	1.2 J	<0.51 [<0.51]	14	<1.0	1.2 J	<9.1	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.26 [<0.26]	<0.62	<0.62	<0.62	<4.9	<0.62
Trichloroethylene	2.0	<0.72	<0.44 [<0.44]	2.8	<0.72	<0.72	<9.7	<0.72
Vinyl chloride	1.6	1.9	2.0 [0.98]	58	<0.46	6.5	<7.0	<0.46

Location:	EGLE	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2	SL-2
Sample Name:	Residential	SSVE-SL-2_061522	SSVE-SL-2_062322	SSVE-SL-2_063022	SSVE-SL-2_070722	SSVE-SL-2_071422	SSVE-SL-2_071822	SSVE-SL-2_072722
Sample Date:	SSVIAC	6/15/2022	6/23/2022	6/30/2022	7/7/2022	7/14/2022	7/18/2022	7/27/2022
Sample Time:	24-Hour	13:22	10:36	9:04	9:14	12:54	10:21	11:37
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	0.63 J	<0.58	<0.58	<0.58	2.6	<0.58
Tetrachloroethylene	41	<1.0	<1.0	<1.0	<1.0	<1.0	1.2 J	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62	<0.62	<0.62	1.7	<0.62
Trichloroethylene	2.0	<0.72	<0.72	<0.72	<0.72	<0.72	0.80 J	<0.72
Vinyl chloride	1.6	<0.46	<0.46	<0.46	<0.46	<0.46	0.59	<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_080422	SSVE-SL-2_081122	SSVE-SL-2_081822	SSVE-SL-2_082522	SSVE-SL-2_090122	SSVE-SL-2_090822	SSVE-SL-2_100322
Sample Date:	SSVIAC	8/4/2022	8/11/2022	8/18/2022	8/25/2022	9/1/2022	9/8/2022	10/3/2022
Sample Time:	24-Hour	12:44	10:53	14:04	14:11	13:36	10:08	13:01
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	<0.58	<0.58	0.67 J
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	SL-2
Sample Name:	Residential	SSVE-SL-2_110422	SL-2-111522	SL-2-121522	SL-2-011023	SL-2-020723	SL-2-030123	SL-2-041123
Sample Date:	SSVIAC	11/4/2022	11/15/2022	12/15/2022	1/10/2023	2/7/2023	3/1/2023	4/11/2023
Sample Time:	24-Hour	13:13	9:52	11:32	10:46	10:57	10:06	10:01
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	0.73 J	<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	<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-3	SL-3	SL-3
Sample Name:	Residential	SL-2-050923	SL-2-061523	SL-02-071323	SL-2-081123	SL-3_052522	SL-3-061523	SL-03-071323
Sample Date:	SSVIAC	5/9/2023	6/15/2023	7/13/2023	8/11/2023	5/25/2022	6/15/2023	7/13/2023
Sample Time:	24-Hour	10:56	11:50	10:57	12:19	11:36	11:40	11:11
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]	<0.23	6.5	<0.60	<0.60
1,4-Dioxane	5.1	<0.60	<0.60	<0.60 [<0.60]	<3.5	<0.60	<0.60	<0.60
cis-1,2-Dichloroethylene	8.3	<0.58	<0.58	<0.58 [<0.58]	<0.24	520	<0.58	<0.58
Tetrachloroethylene	41	<1.0	<1.0	1.8 [1.3 J]	<0.51	19	<1.0	<1.0
trans-1,2-Dichloroethylene	83	<0.62	<0.62	<0.62 [<0.62]	<0.26	8.4	<0.62	<0.62
Trichloroethylene	2.0	<0.72	<0.72	<0.72 [<0.72]	<0.44	25	<0.72	<0.72
Vinyl chloride	1.6	<0.46	<0.46	<0.46 [<0.46]	<0.23	960	<0.46	<0.46

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

Location:	EGLE	SL-3
Sample Name:	Residential	SL-3-081123
Sample Date:	SSVIAC	8/11/2023
Sample Time:	24-Hour	12:06
Sample Type:	Exposure	Summa
Volatile Organic Compounds (VOCs)		
1,1-Dichloroethylene	210	<0.23
1,4-Dioxane	5.1	<3.5
cis-1,2-Dichloroethylene	8.3	<0.24
Tetrachloroethylene	41	<0.51
trans-1,2-Dichloroethylene	83	<0.26
Trichloroethylene	2.0	<0.44
Vinyl chloride	1.6	<0.23

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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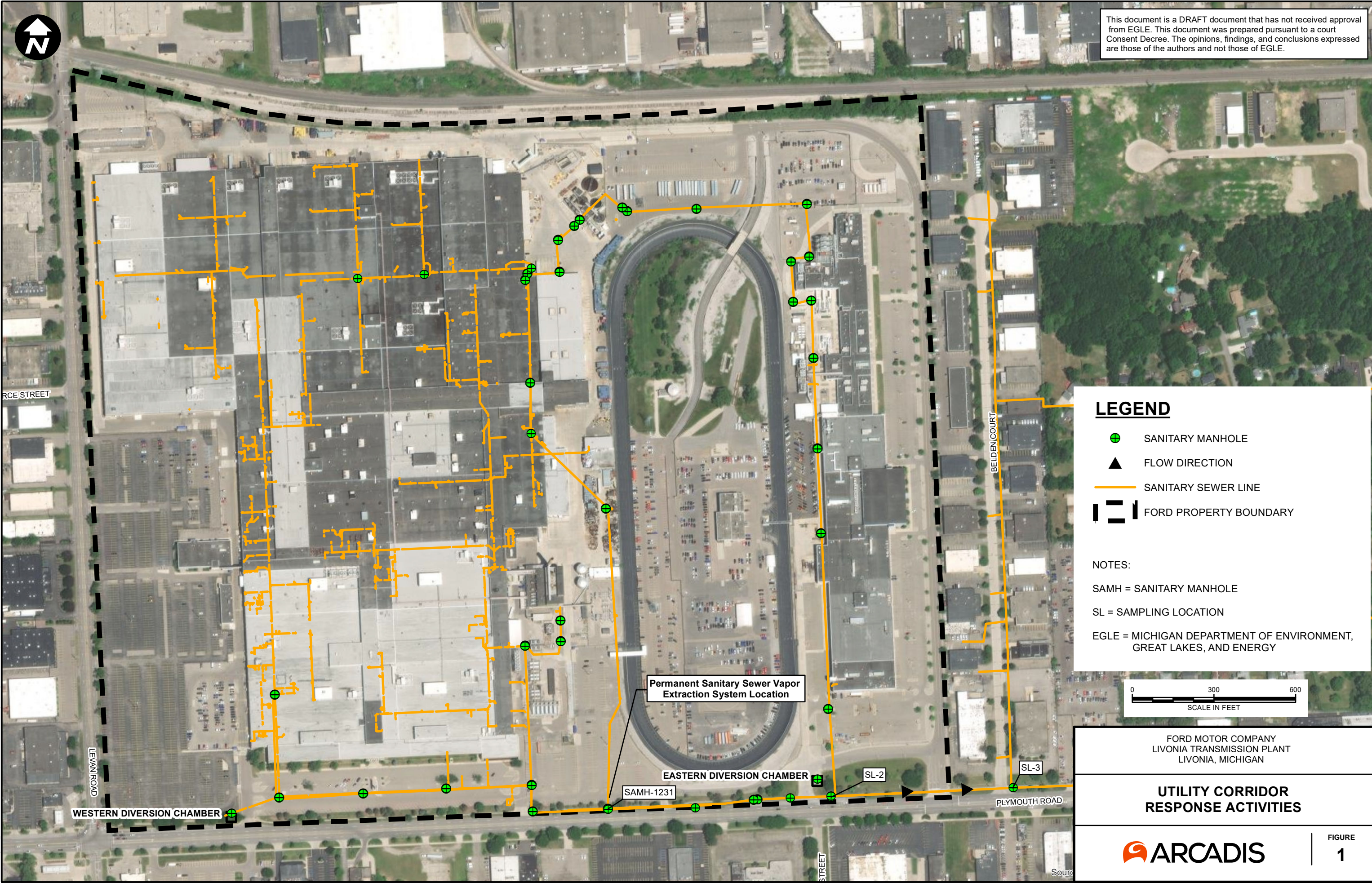
Figure 1

Utility Corridor Response Activities

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LEGEND

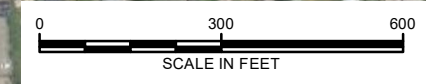
- SANITARY MANHOLE
- FLOW DIRECTION
- SANITARY SEWER LINE
- FORD PROPERTY BOUNDARY

NOTES:

SAMH = SANITARY MANHOLE

SL = SAMPLING LOCATION

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



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

**UTILITY CORRIDOR
RESPONSE ACTIVITIES**

ARCADIS

FIGURE
1