



City of Rochester Hills RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

Application Form

This application form must be completed and signed by the Applicant to initiate the grant application review process by the City of Rochester Hills (the City). To be eligible, the project must be located within one of the designated areas listed on the application.

The completed application form and any supplemental materials must be emailed to planning@rochesterhills.org

Attach copies of proposed preliminary site plan development or concept plans to illustrate how the proposed redevelopment and land uses will be situated on the subject property. Attach a copy of a final unsigned access agreement (See Exhibit 1, example attached) that the Applicant will be willing to execute if approved. Provide electronic copies of all environmental assessment and investigation reports. Please refer to the document *Restoration and Remediation Subgrant, Policies and Procedures, City of Rochester Hills* for additional information.

Please note that if this application is approved to be funded, the Applicant will be required to execute a Subgrant Agreement (See Exhibit 2, example attached).

For assistance in completing this application form, please contact Sara Roediger at the Rochester Hills Planning and Economic Development Department at 248.841.2573 or by email at roedigers@rochesterhills.org

Attachments

Example Access Agreement
Example Subgrant Agreement



City of Rochester Hills
RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

Application Date: January 25, 2024

Section 1 Project Information

Project Summary				
Project Name: 1406 East Avon Road			City: Rochester Hills	
No. of Parcels: 2			School District(s): Rochester Community School District	
<input checked="" type="checkbox"/> Attach Preliminary Site Plan			Project is in: <input type="checkbox"/> Landfill Area A <input checked="" type="checkbox"/> Landfill Area B	
Parcel	Street address	Parcel ID No.	Improvements	Current Taxable Value
1	1406 East Avon Road	15-24-100-050		\$ 129,960
2	No address	15-24-100-021		\$ 1,210
3				\$
4				\$
5				\$
Current Use: Vacant			Proposed Future Use: Multiple Family	
Current Zoning: R-3 One Family Residential District			Proposed Future Zoning: RM-1 Multiple Family Residential	
Amount of Grant Funding Requested				
Task	Amount Requested		Schedule (Months Following Signed Agreement)	
Task 1: Environmental Assessments and Monitoring	\$ see attached		February-July 2024	
Task 2: Remediation, Remedial Actions, Response and Removal Actions	\$ see attached		August-December 2024	
Task 3: Engineered Controls	\$			
Total Subgrant Request		\$ see attached		
Project Description				
Detailed Project Description (include description of project and benefits): See attached detailed project description.				
Describe anticipated schedule, including critical dates to implement eligible activities: With grant approval, remedial activities could tentatively begin in Fall 2024.				
Why does the project need incentives? Are there excess costs or market conditions that make investment difficult? Project incentives are necessary to offset the significant costs to remove contaminated soil and organic debris and restore the site to "development ready" conditions. The incentives would be used for environmental assessment and response activities above and beyond typical development costs.				
Describe the status of permits and applications: Engineering and construction permits will be submitted later in 2024.				
Describe environmental activities to be funded under the grant: Proposed environmental activities include environmental assessments and monitoring, work plans, due care plans and activities, the removal of contaminated soil and organic debris, dewatering, work plans, project management, post remediation verification sampling, and site restoration.				



City of Rochester Hills RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

Section 1 Project Information (continued)

Project Details: Provide Information About the Type of Project						
<i>Describe End Use</i>						
Manufacturing		Square Footage		Lease/Sale Price	\$	
Commercial/Retail		Square Footage		Lease/Sale Price	\$	
Office		Square Footage		Lease/Sale Price	\$	
Housing	<input checked="" type="checkbox"/> Rental <input checked="" type="checkbox"/> For Sale	Number of Units	196	Price of Unit	\$ See below.	
Other	Development Scenario A For Sale Units starting at approximately \$350k. Development Scenario B For Lease Units ranging between \$1,200-\$1,900.					
Job Creation (Full time jobs only, not including construction jobs), if available						
End Use		First Year	Second Year	Third Year	Fourth Year	Fifth Year
	Jobs Retained	10	10	10	10	10
	Jobs Created	10	10	10	10	10
Construction Description						
	Cost per square foot	\$ TBD	Construction Jobs	80		
<p>Will the project promote.... <input type="checkbox"/> Mixed Use Development? <input checked="" type="checkbox"/> Walkable Communities? <input checked="" type="checkbox"/> Sustainable Development?</p> <p>If Yes, describe how: It will provide housing closer to nearby retail and commercial attractions and incorporable sustainable development design features.</p>						
<p>Will the project be LEED Certified, Sustainable or "Green"? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Future owners will be given the option to install solar panels and electric vehicle charging stations.</p> <p>If Yes, describe:</p>						
<p>Other Incentives or Overlay Districts to be included in this project: No other incentives are planned at the date of this application.</p>						



City of Rochester Hills RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

Section 2 Applicant Information

Applicant Information	
Company (the Applicant): United Tech Construction, LLC	Contact Person: Elvis Logu Bukurije Logu
Street Address: 1497 Walton Boulevard	Cell Phone: 248-289-2761
City/State/Zip: Rochester Hills	Email: elvislogu@icloud.com
Office Phone: NA	Fax: NA
Applicant's Interest in Property: (if Applicant does not own the property, an executed access agreement with permission to conduct the requested tasks, is required) The Applicant owns Parcel ID: 15-24-100-050, and plans to secure ownership of the City of Highland Park parcel (Parcel ID: 15-24-100-021).	
Property Owner's Name (if different from Applicant):	Property Owner's Phone:
Property Owner's Address:	Property Owner's Fax:
City/State/Zip:	Property Owner's Email:
Applicants Designated Representative:	Contact Person:
Street Address:	Cell Phone:
City/State/Zip:	Email:

Applicant Brownfield and Grant Experience
<p>How much experience do key staff who will be working on this project have with similar brownfield projects in their current positions? Describe experience with incentives for assessment and remediation.</p> <p style="text-align: center;"> <input type="checkbox"/> less than 1 year <input type="checkbox"/> 1 to 3 years <input checked="" type="checkbox"/> 3 or more years </p>
<p>Describe an example project (or provide attached narrative). United Tech Construction LLC is an experienced residential builder and partnered with SME for brownfield expertise. Key Staff at SME have more than two decades of experience in brownfield redevelopment, landfill redevelopment, vapor intrusion investigation and mitigation system design, and engineering controls to mitigate exacerbation of contamination and human health concerns, and securing financial incentives.</p>
<p>How many similar types of brownfield grant projects has the Applicant, and its subcontractors, previously completed?</p> <p style="text-align: center;"> <input type="checkbox"/> less than 1 year <input type="checkbox"/> 1 to 3 years <input checked="" type="checkbox"/> 3 or more years </p>
<p>Describe an example project (or provide attached narrative). Redevelopment of an unlicensed landfill into a minor league baseball stadium in Utica, MI (Jimmy John's Field). Redevelopment of several unlicensed landfills into warehouses/distribution centers for Ashley Capital across Metro-Detroit (Tri County Commerce Center in Hazel Park, Liberty Park Commerce Center in Sterling Heights, Metro 94 Commerce Center in Taylor).</p>
<p>Has the Applicant, or its subcontractors, ever had a permit violation or other violation with EGLE? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, explain (or provide attached narrative):</p>
<p>Within the last 24 months, has the Applicant, or its subcontractors, had a grant from the Department of Environment, Great Lakes, and Energy (EGLE) revoked or terminated, or has been determined by EGLE to be unable to manage a grant.? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>If yes, explain (or provide attached narrative):</p>



City of Rochester Hills
RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

Section 3 Required Attachments

Required Attachments	Attached?
Proposed preliminary site plan, development or concept plans.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
A draft written access agreement between the property owner, EGLE, and the City of Rochester Hills is required. The agreement must include a commitment from the property owner that allows EGLE staff and City of Rochester Hills staff or their designated representative access to the property to complete the proposed eligible activities. (NOTE: An example is attached for your use.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A <div style="border: 1px solid black; padding: 2px; width: fit-content;"> The access agreement with the City of Highland Park for Parcel ID: 15-24-100-021 is in process. </div>
Detailed list of eligible costs to be funded by the grant.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
Detailed list of other incentives which may be applied for as part of this project.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
All available reports on environmental investigations and assessments (provide electronically)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A
If Applicant does not own the properties listed above, an executed access agreement with permission to conduct activities at the property.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A

The undersigned, as a representative of the Applicant, certifies that all of the above statements and those contained in documents submitted herewith are true and complete to the best knowledge and belief of the Applicant and the undersigned.

The undersigned, as the representative of the Applicant, certifies that the Applicant will comply with all applicable state and federal statutes and regulations, including those associated with the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, its administrative rules, and those statutes related to civil rights, equal opportunity, labor standards, environmental protection, and historic preservation.
 Bukurije Logu / United Tech Construction, LLC

 Name of Applicant

Bukurije Logu

 Signature of Applicant

Member

 Title

2/2/24

 Date

For Official Use Only
Date Received:
File No.
Date Reviewed:



City of Rochester Hills
RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

Attachment A
CONFIDENTIAL INFORMATION

(Information contained on this page will not be published in any Agenda Packet,
nor will it made available to any person interested in viewing this file)

Section 4 Investment Information

Project Costs: Include the estimated costs of eligible activities and investments in the tables below. Include an estimated date when tasks in each category will be completed.

Cost Category	Estimated Costs	Estimated Date Completed
<i>General Costs</i>		
Land Purchase	\$	
Construction Costs (bricks and mortar)	\$	
Equipment and Fixtures	\$	
Soft Costs (professional costs and fees)	\$	

Incentive Category	Estimated Costs	Estimated Date Completed
<i>Eligible Costs</i>		
Environmental Assessments	\$	
BEA/Due Care	\$	
Remediation Planning and Options Analysis	\$	
Remediation, Mitigation, Control	\$	
Removal Actions	\$	
Additional Response Activities	\$	
Vapor Mitigation Systems	\$	
Other Engineered Controls	\$	
Operations and Maintenance Plans (1)	\$	
Removal of Unstable Soils (2)		
Project Management and Oversight of Above	\$	
Other:	\$	
Total Estimated Project Cost	\$	

Requested Incentives	Amount Requested (3)	
Rochester Hills Grant Funding (4)	\$	Attach detailed cost breakdown
Brownfield TIF	\$	Attach detailed cost breakdown
Other Incentives:	\$	Attach detailed cost breakdown
	\$	
	\$	
Total Estimated Incentives	\$	

Footnotes:

- (1) Limited to plan preparation and approval. Does not include operation and maintenance costs.
- (2) Limited to removal of soils. Does not include foundation work or fill.
- (3) Ranges may be provided
- (4) To be eligible, costs must be incurred after execution of the Subgrant Agreement



City of Rochester Hills RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

For City Use Only			
ELIGIBILITY CRITERIA Date of Review: <u>2/12/24</u>			
Project is located in designated area	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Intended future use is consistent with proposed clean-up and EGLE policies (not applicable for assessment only applications)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Applicant successfully screened on www.SAM.gov	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Property has, or has reason to believe it has, historical contamination to soil, groundwater, surface water, sediment or air quality	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
The project will provide substantive improvements in reducing historical threats to public health or the environment	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
The project will provide a potential beneficial effect in the area that would not have occurred without the incentives	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
The project incorporates a preference for source control, active remediation, or mitigation beyond what is required for due care obligations	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
The project will ensure a desirable and cohesive development with the surrounding area, the Master Land Use Plan and zoning requirements (not applicable for assessment only applications)	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/> NA <input type="checkbox"/>
EVALUATION CRITERIA Date of Review: <u>2/12/24</u>			
Applicants' ability to complete the scope of work and experience with similar projects	H <input type="checkbox"/>	M <input type="checkbox"/>	L <input checked="" type="checkbox"/>
Proximity of the property to sensitive receptor or environmental features	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
Amelioration of threats to public health or the environment	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
Whether the projects implements best practices or innovative approach to cleanup	H <input type="checkbox"/>	M <input type="checkbox"/>	L <input checked="" type="checkbox"/>
Whether the project substantially supports the key objectives of the Grant	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
FUNDING CRITERIA Date of Review: <u>2/12/24</u>			
Location appropriate to the intended future use	H <input type="checkbox"/>	M <input checked="" type="checkbox"/>	L <input type="checkbox"/>
Job retention, creation and quality	H <input type="checkbox"/>	M <input type="checkbox"/>	L <input checked="" type="checkbox"/>
Demonstrated need for incentives	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
Increases taxable value	H <input checked="" type="checkbox"/>	M <input type="checkbox"/>	L <input type="checkbox"/>
Development ready	H <input type="checkbox"/>	M <input type="checkbox"/>	L <input checked="" type="checkbox"/>
Is the project leveraging other funding sources?	H <input type="checkbox"/>	M <input type="checkbox"/>	L <input checked="" type="checkbox"/>

FIGURES

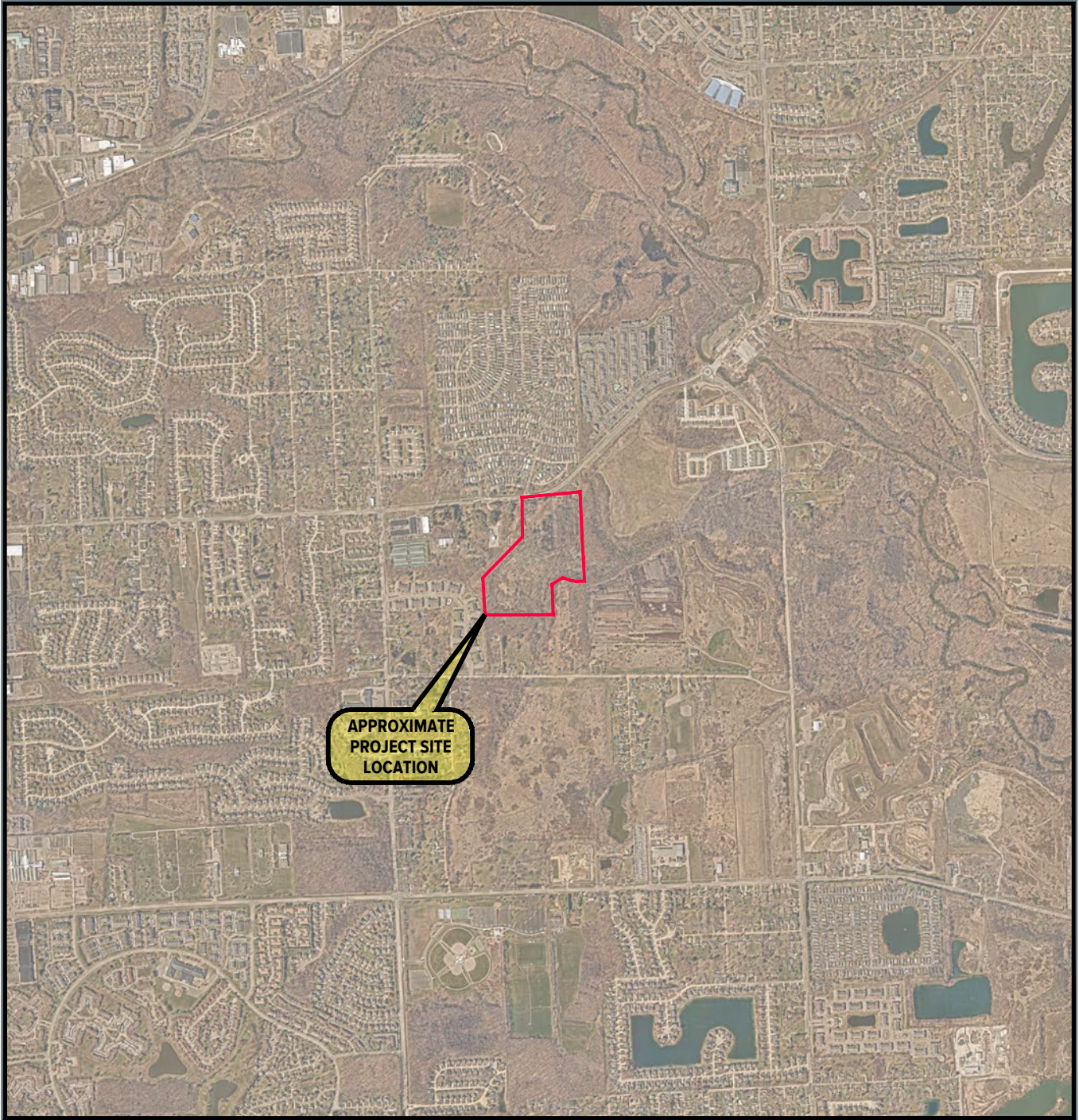
FIGURE 1: PROJECT SITE MAP

FIGURE 2: PROJECT SITE FEATURES AND SAMPLE LOCATION DIAGRAM

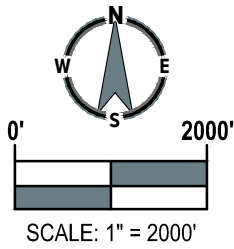
FIGURE 3: APPROXIMATE FILL DEPTH DIAGRAM

FIGURE 4: DIRECT CONTACT EXCEEDANCE DIAGRAM

FIGURE 5: VIAP SCREENING LEVEL EXCEEDANCE DIAGRAM



Base map obtained from Nearmap dated April 2, 2023



No.	Revision Date	Date
		12-18-2023
	Drawn By	MNR
	Designed By	CTV
	Scale	1" = 2000'
	Project	095159.00

PROJECT SITE MAP
1406 EAST AVON ROAD
ROCHESTER HILLS,
MICHIGAN 48307

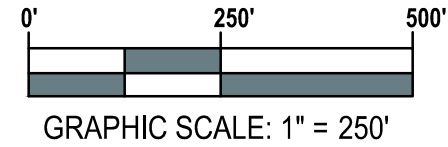
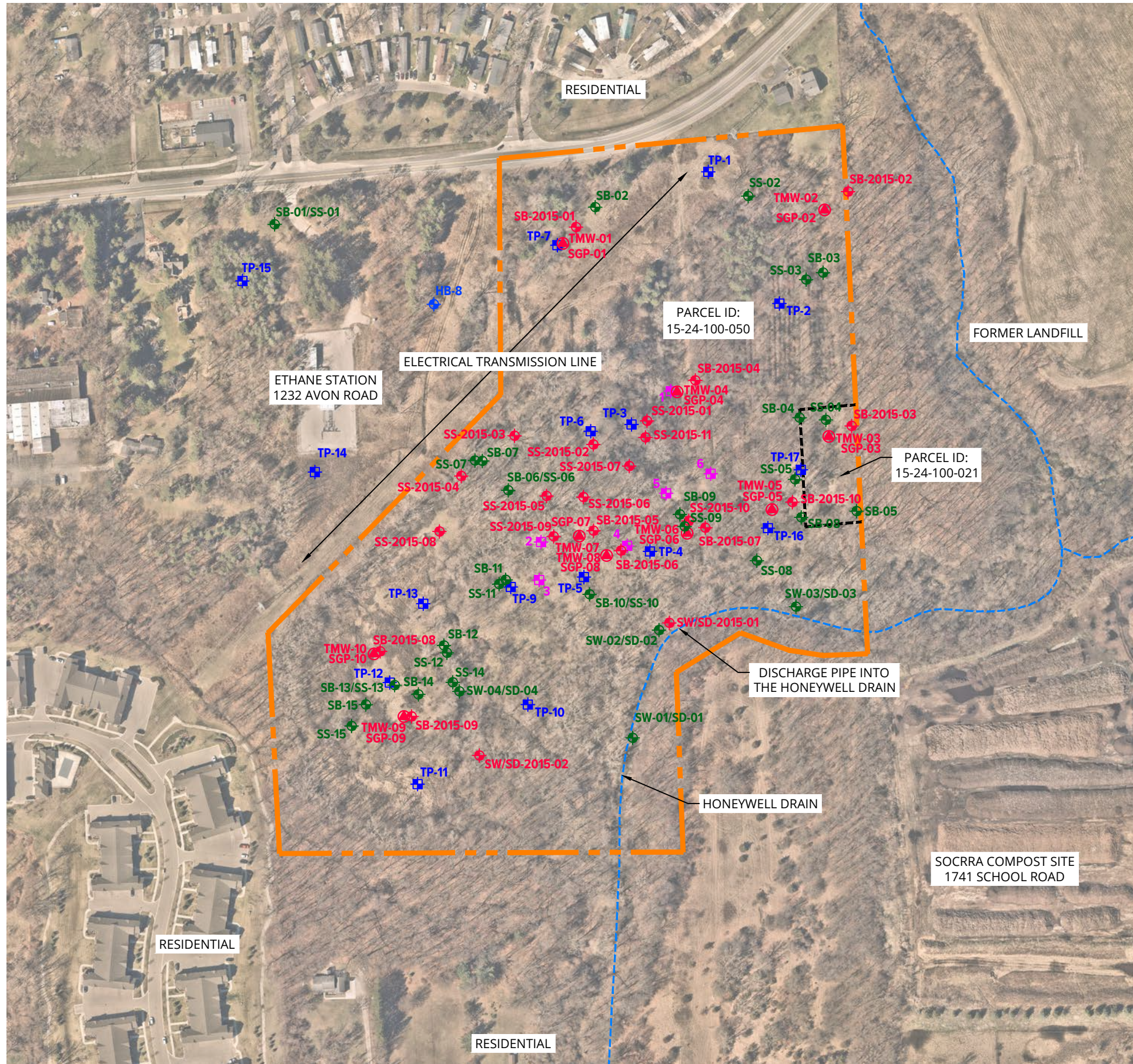


www.sme-usa.com

Figure No. 1

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PLOT DATE: Feb 01, 2024 - 3:06pm - matt.nowakrociford



LEGEND

- - - - - APPROXIMATE PROJECT SITE BOUNDARY
- - - - - APPROXIMATE PARCEL BOUNDARY
- ⊕ APPROXIMATE HAND AUGER SOIL BORING LOCATION (McDOWELL, 2004)
- ⊕ APPROXIMATE TEST PIT LOCATION (McDOWELL, 2004)
- ⊕ APPROXIMATE SOIL BORING/SOIL, SURFACE WATER OR SEDIMENT SAMPLE LOCATION (MDEQ 2011)
- ⊕ APPROXIMATE SOIL BORING/SOIL, SURFACE WATER, OR SEDIMENT, SAMPLE LOCATION (MDEQ, 2015)
- ⊕ APPROXIMATE TEMPORARY GROUNDWATER MONITORING/SOIL GAS WELL LOCATION (MDEQ, 2015)
- ⊕ APPROXIMATE TEST PIT LOCATION (McDOWELL, 2022)

NOTE:
1. AERIAL IMAGE TAKEN FROM NEARMAP WITH AN IMAGE DATE OF 4-2-2023 AND SITE RECONNAISSANCE.



Project
1406 EAST AVON ROAD

Project Location
ROCHESTER HILLS, MICHIGAN 48307

Sheet Name
PROJECT SITE FEATURES AND SAMPLE LOCATION DIAGRAM

No.	Revision Date

Date **12-18-2023**

CADD **MNR**

Designer **CTV**

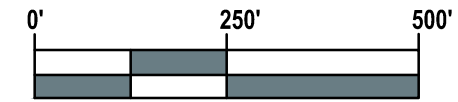
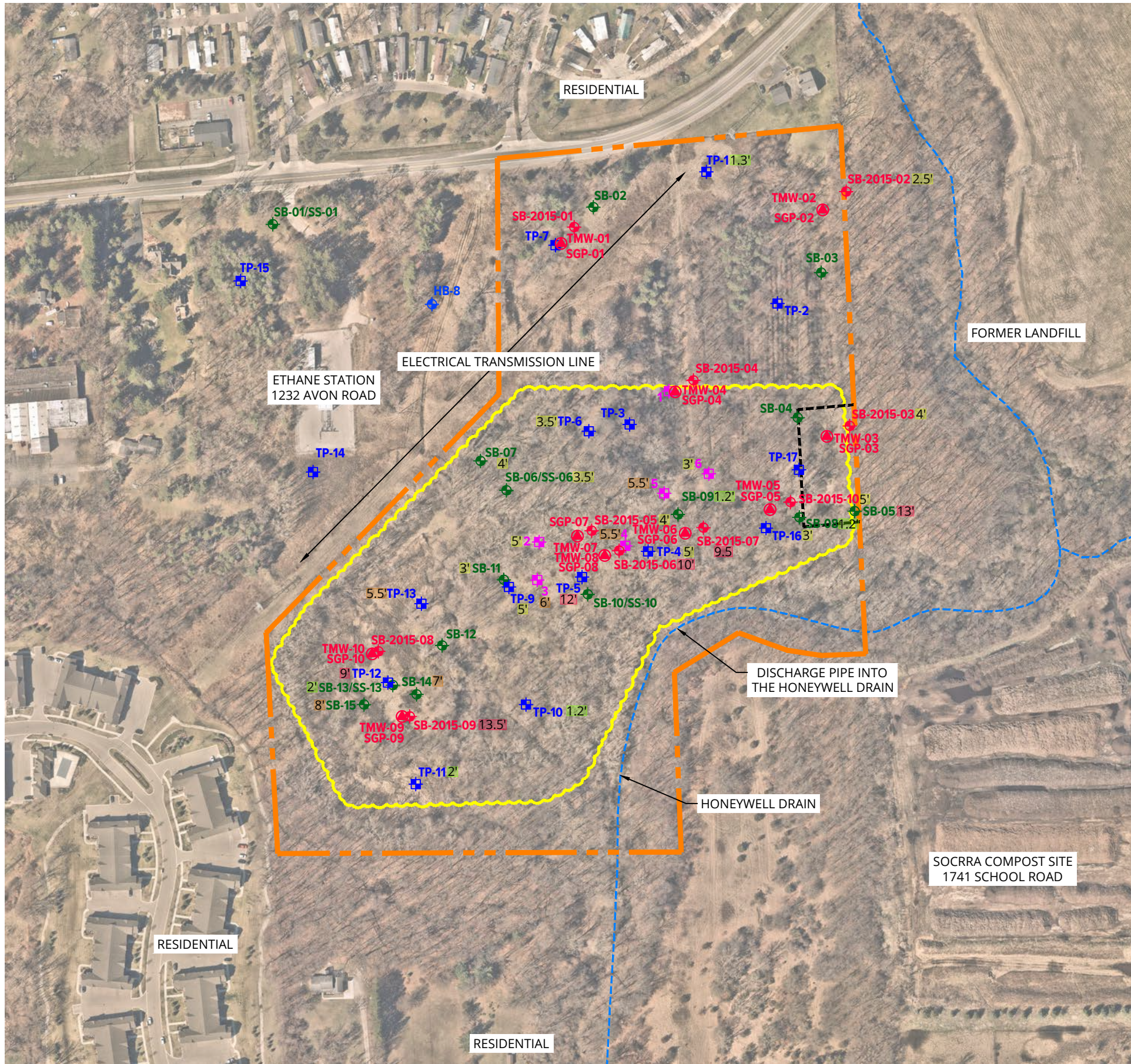
Scale **AS NOTED**

Project **095159.00**

Figure No.
2

DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 11" X 17" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA
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GRAPHIC SCALE: 1" = 250'

LEGEND

- - - - - APPROXIMATE PROJECT SITE BOUNDARY
- - - - - APPROXIMATE PARCEL BOUNDARY
- ~~~~~ APPROXIMATE REMEDIAL EXCAVATION AREA
- + APPROXIMATE HAND AUGER SOIL BORING LOCATION (McDOWELL, 2004)
- + APPROXIMATE TEST PIT LOCATION (McDOWELL, 2004)
- + APPROXIMATE SOIL BORING/SOIL, SURFACE WATER OR SEDIMENT SAMPLE LOCATION (MDEQ, 2011)
- + APPROXIMATE SOIL BORING/SOIL, SURFACE WATER, OR SEDIMENT, SAMPLE LOCATION (MDEQ, 2015)
- + APPROXIMATE TEMPORARY GROUNDWATER MONITORING/SOIL GAS WELL LOCATION (MDEQ, 2015)
- + APPROXIMATE TEST PIT LOCATION (McDOWELL, 2022)

APPROXIMATE FILL DEPTHS

- 0' TO 2' BELOW GROUND SURFACE
- 3' TO 5' BELOW GROUND SURFACE
- 6' TO 8' BELOW GROUND SURFACE
- 9' TO 13.5' BELOW GROUND SURFACE

NOTES:

1. AERIAL IMAGE TAKEN FROM NEARMAP WITH AN IMAGE DATE OF 4-2-2023 AND SITE RECONNAISSANCE.
2. THE APPROXIMATE FILL DEPTHS WERE OBTAINED FROM BORING LOGS IN McDOWELL'S 2004 DRAFT PRELIMINARY SOILS INVESTIGATION AND 2023 LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORTS, AND THE MDEQ'S 2011 AND 2016 BROWNFIELD REDEVELOPMENT ASSESSMENT REPORTS.



Project
1406 EAST AVON ROAD

Project Location
ROCHESTER HILLS, MICHIGAN 48307

Sheet Name
APPROXIMATE FILL DEPTH DIAGRAM

No.	Revision Date

Date **1-9-2024**

CADD **MNR**

Designer **CTV**

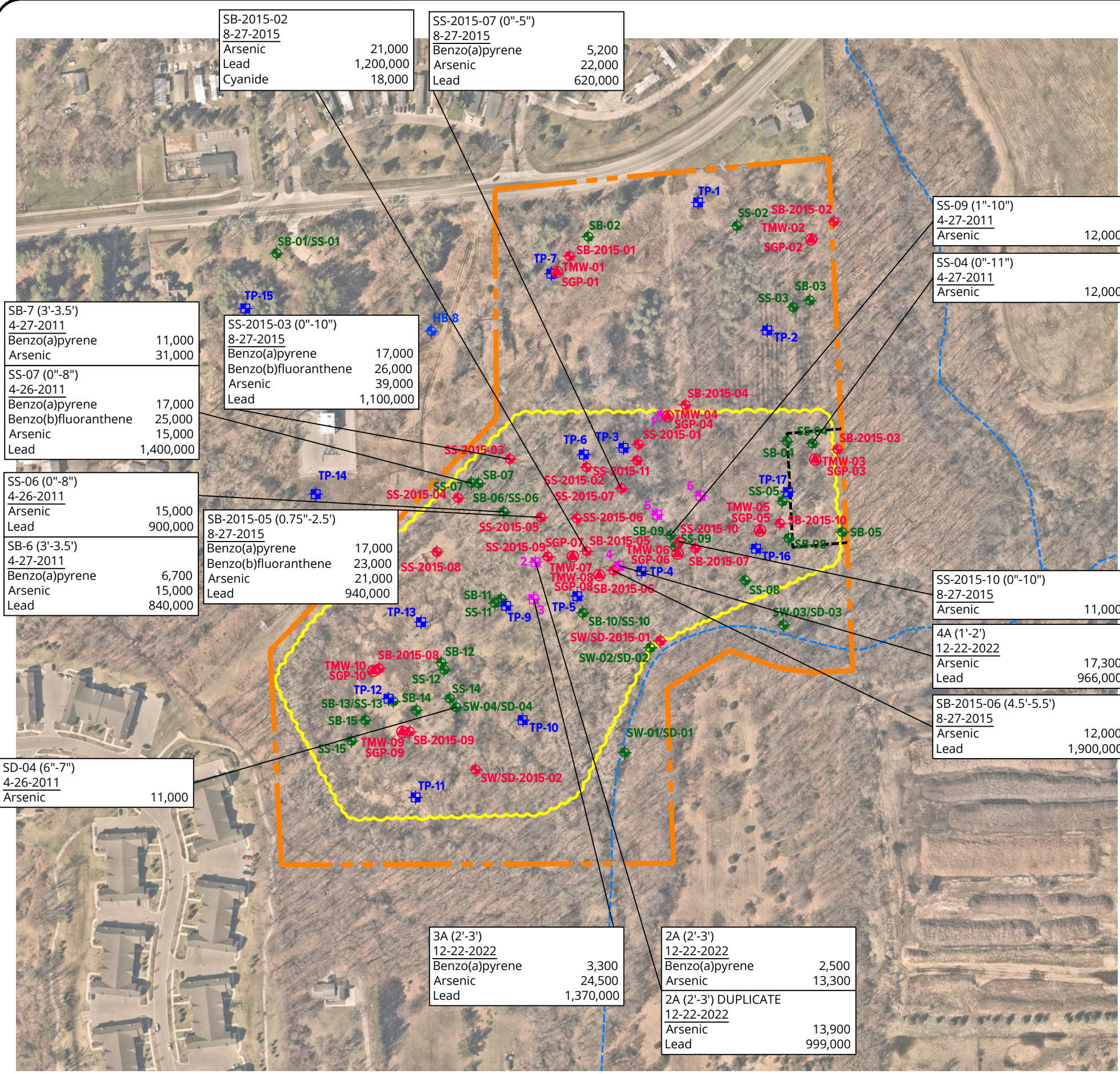
Scale **AS NOTED**

Project **095159.00**

Figure No.
3

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SB-2015-02 8-27-2015	
Arsenic	21,000
Lead	1,200,000
Cyanide	18,000

SS-2015-07 (0"-5") 8-27-2015	
Benzo(a)pyrene	5,200
Arsenic	22,000
Lead	620,000

SB-7 (3'-3.5') 4-27-2011	
Benzo(a)pyrene	11,000
Arsenic	31,000
SS-07 (0"-8") 4-26-2011	
Benzo(a)pyrene	17,000
Benzo(b)fluoranthene	25,000
Arsenic	15,000
Lead	1,400,000

SS-2015-03 (0"-10") 8-27-2015	
Benzo(a)pyrene	17,000
Benzo(b)fluoranthene	26,000
Arsenic	39,000
Lead	1,100,000

SS-06 (0"-8") 4-26-2011	
Arsenic	15,000
Lead	900,000

SB-2015-05 (0.75"-2.5') 8-27-2015	
Benzo(a)pyrene	17,000
Benzo(b)fluoranthene	23,000
Arsenic	21,000
Lead	940,000

SB-6 (3'-3.5') 4-27-2011	
Benzo(a)pyrene	6,700
Arsenic	15,000
Lead	840,000

SD-04 (6"-7") 4-26-2011	
Arsenic	11,000

3A (2'-3') 12-22-2022	
Benzo(a)pyrene	3,300
Arsenic	24,500
Lead	1,370,000

2A (2'-3') 12-22-2022	
Benzo(a)pyrene	2,500
Arsenic	13,300
2A (2'-3') DUPLICATE 12-22-2022	
Arsenic	13,900
Lead	999,000

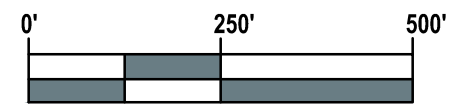
SS-09 (1"-10") 4-27-2011	
Arsenic	12,000

SS-04 (0"-11") 4-27-2011	
Arsenic	12,000

SS-2015-10 (0"-10") 8-27-2015	
Arsenic	11,000

4A (1'-2') 12-22-2022	
Arsenic	17,300
Lead	966,000

SB-2015-06 (4.5'-5.5') 8-27-2015	
Arsenic	12,000
Lead	1,900,000



LEGEND

- APPROXIMATE PROJECT SITE BOUNDARY
- APPROXIMATE PARCEL BOUNDARY
- APPROXIMATE REMEDIAL EXCAVATION AREA
- + APPROXIMATE HAND AUGER SOIL BORING LOCATION (McDOWELL, 2004)
- + APPROXIMATE TEST PIT LOCATION (McDOWELL, 2004)
- + APPROXIMATE SOIL BORING/SOIL, SURFACE WATER OR SEDIMENT SAMPLE LOCATION (MDEQ, 2011)
- + APPROXIMATE SOIL BORING/SOIL, SURFACE WATER, OR SEDIMENT, SAMPLE LOCATION (MDEQ, 2015)
- + APPROXIMATE TEMPORARY GROUNDWATER MONITORING/SOIL GAS WELL LOCATION (MDEQ, 2015)
- + APPROXIMATE TEST PIT LOCATION (McDOWELL, 2022)

- NOTES:**
- AERIAL IMAGE TAKEN FROM NEARMAP WITH AN IMAGE DATE OF 4-2-2023 AND SITE RECONNAISSANCE.
 - CONCENTRATIONS ARE SHOWN IN MICROGRAMS PER KILOGRAM (µg/kg) AND EXCEED PART 201 GENERIC RESIDENTIAL DIRECT CONTACT CRITERIA.



Project
1406 EAST AVON ROAD

Project Location
ROCHESTER HILLS, MICHIGAN 48307

Sheet Name
DIRECT CONTACT EXCEEDANCE DIAGRAM

No.	Revision Date

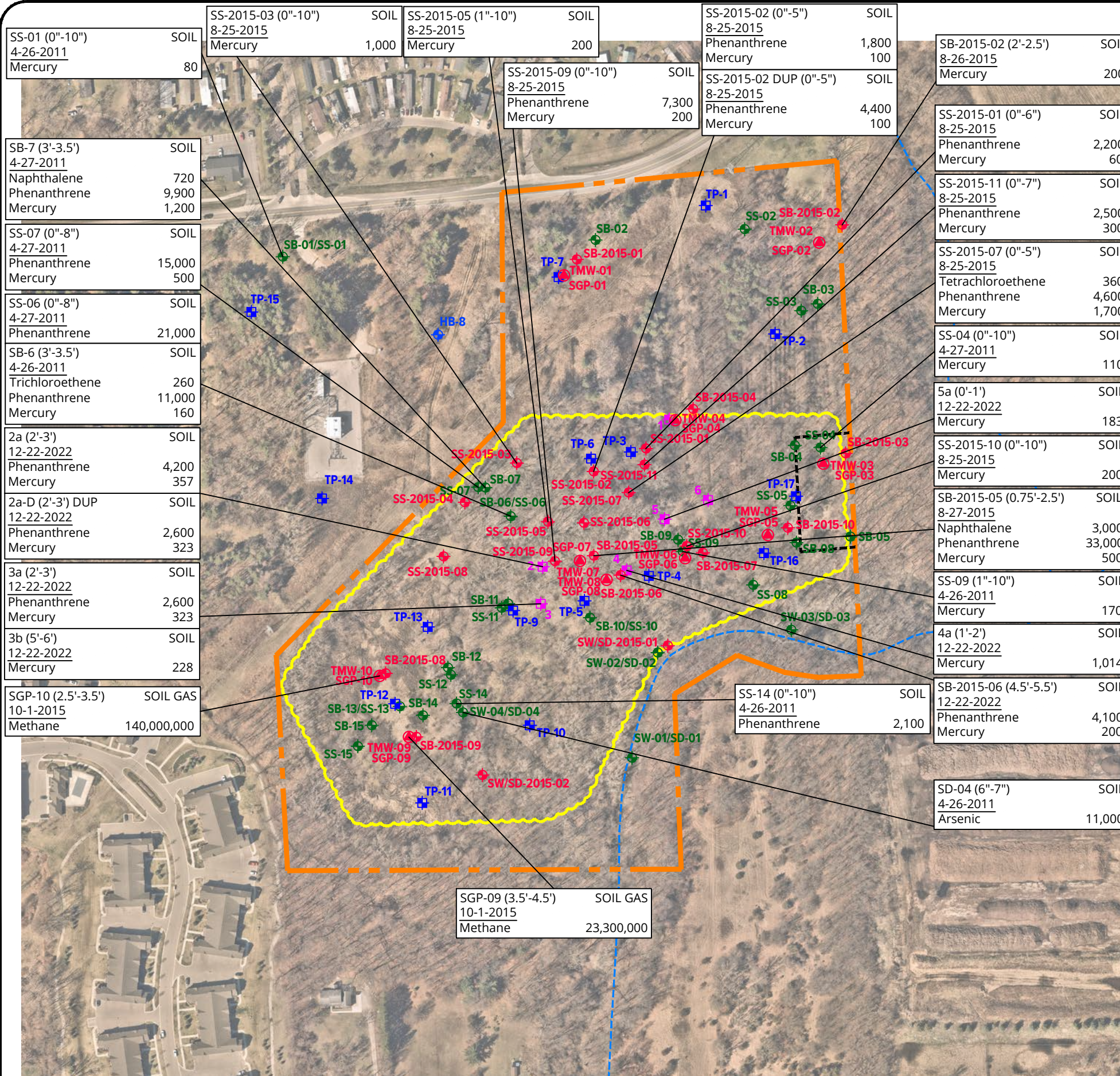
Date 12-18-2023
CADD MNR
Designer CTV
Scale AS NOTED
Project 095159.00

Figure No.
4

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SS-01 (0"-10") 4-26-2011 Mercury	SOIL	80
SB-7 (3'-3.5') 4-27-2011 Naphthalene Phenanthrene Mercury	SOIL	720 9,900 1,200
SS-07 (0"-8") 4-27-2011 Phenanthrene Mercury	SOIL	15,000 500
SS-06 (0"-8") 4-27-2011 Phenanthrene	SOIL	21,000
SB-6 (3'-3.5') 4-26-2011 Trichloroethene Phenanthrene Mercury	SOIL	260 11,000 160
2a (2'-3') 12-22-2022 Phenanthrene Mercury	SOIL	4,200 357
2a-D (2'-3') DUP 12-22-2022 Phenanthrene Mercury	SOIL	2,600 323
3a (2'-3') 12-22-2022 Phenanthrene Mercury	SOIL	2,600 323
3b (5'-6') 12-22-2022 Mercury	SOIL	228
SGP-10 (2.5'-3.5') 10-1-2015 Methane	SOIL GAS	140,000,000

SS-2015-03 (0"-10") 8-25-2015 Mercury	SOIL	1,000
---	------	-------

SS-2015-05 (1"-10") 8-25-2015 Mercury	SOIL	200
---	------	-----

SS-2015-02 (0"-5") 8-25-2015 Phenanthrene Mercury	SOIL	1,800 100
--	------	--------------

SS-2015-02 DUP (0"-5") 8-25-2015 Phenanthrene Mercury	SOIL	4,400 100
--	------	--------------

SB-2015-02 (2'-2.5') 8-26-2015 Mercury	SOIL	200
--	------	-----

SS-2015-09 (0"-10") 8-25-2015 Phenanthrene Mercury	SOIL	7,300 200
---	------	--------------

SS-2015-01 (0"-6") 8-25-2015 Phenanthrene Mercury	SOIL	2,200 60
--	------	-------------

SS-2015-11 (0"-7") 8-25-2015 Phenanthrene Mercury	SOIL	2,500 300
--	------	--------------

SS-2015-07 (0"-5") 8-25-2015 Tetrachloroethene Phenanthrene Mercury	SOIL	360 4,600 1,700
---	------	-----------------------

SS-04 (0"-10") 4-27-2011 Mercury	SOIL	110
--	------	-----

5a (0'-1') 12-22-2022 Mercury	SOIL	183
-------------------------------------	------	-----

SS-2015-10 (0"-10") 8-25-2015 Mercury	SOIL	200
---	------	-----

SB-2015-05 (0.75'-2.5') 8-27-2015 Naphthalene Phenanthrene Mercury	SOIL	3,000 33,000 500
--	------	------------------------

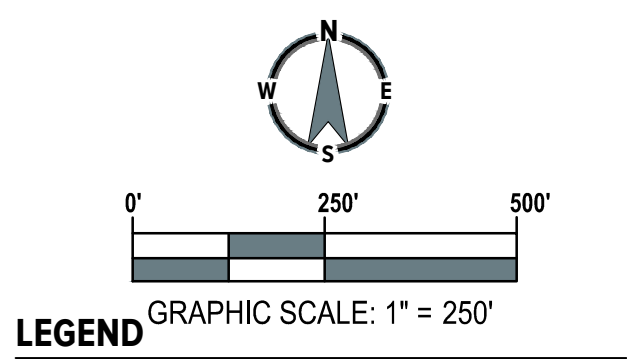
SS-09 (1"-10") 4-26-2011 Mercury	SOIL	170
--	------	-----

4a (1'-2') 12-22-2022 Mercury	SOIL	1,014
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SB-2015-06 (4.5'-5.5') 12-22-2022 Phenanthrene Mercury	SOIL	4,100 200
---	------	--------------

SD-04 (6"-7") 4-26-2011 Arsenic	SOIL	11,000
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SGP-09 (3.5'-4.5') 10-1-2015 Methane	SOIL GAS	23,300,000
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- - - - - APPROXIMATE PROJECT SITE BOUNDARY
- - - - - APPROXIMATE PARCEL BOUNDARY
- - - - - APPROXIMATE REMEDIAL EXCAVATION AREA
- + APPROXIMATE HAND AUGER SOIL BORING LOCATION (McDOWELL, 2004)
- + APPROXIMATE TEST PIT LOCATION (McDOWELL, 2004)
- + APPROXIMATE SOIL BORING/SOIL, SURFACE WATER OR SEDIMENT SAMPLE LOCATION (MDEQ, 2011)
- + APPROXIMATE SOIL BORING/SOIL, SURFACE WATER, OR SEDIMENT, SAMPLE LOCATION (MDEQ, 2015)
- + APPROXIMATE TEMPORARY GROUNDWATER MONITORING/SOIL GAS WELL LOCATION (MDEQ, 2015)
- + APPROXIMATE TEST PIT LOCATION (McDOWELL, 2022)

- NOTES:
- AERIAL IMAGE TAKEN FROM NEARMAP WITH AN IMAGE DATE OF 4-2-2023 AND SITE RECONNAISSANCE.
 - SOIL CONCENTRATIONS ARE SHOWN IN MICROGRAMS PER KILOGRAM ($\mu\text{g}/\text{kg}$), SOIL GAS CONCENTRATIONS ARE SHOWN MICROGRAMS PER CUBIC METER ($\mu\text{g}/\text{m}^3$) AND EXCEED THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)'S RESIDENTIAL VOLATILIZATION TO INDOOR AIR PATHWAY (VIAP) SCREENING LEVELS.



Project
1406 EAST AVON ROAD

Project Location
ROCHESTER HILLS, MICHIGAN 48307

Sheet Name
VIAP SCREENING LEVEL EXCEEDANCE DIAGRAM

No.	Revision Date

Date	12-18-2023
CADD	MNR
Designer	CTV
Scale	AS NOTED
Project	095159.00
Figure No.	5

DRAWING NOTE: SCALE DEPICTED IS MEANT FOR 11" X 17" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA
NO REPRODUCTION SHALL BE MADE WITHOUT THE PRIOR CONSENT OF SME
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TABLES

TABLE 1: SUMMARY OF SOIL ANALYTICAL RESULTS

TABLE 2: SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

TABLE 3: SUMMARY OF SOIL GAS ANALYTICAL RESULTS



TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
 1406 EAST AVON ROAD
 ROCHESTER HILLS, MICHIGAN
 SME PROJECT NO.: 095159.00

Constituent	CAS #	Part 201 Generic Residential Cleanup Criteria				VIAP Screening Levels	Statewide Default Background Levels	Chemical Analysis Results						Maximum Concentration Measured at Property
		Drinking Water Protection Criteria	Groundwater Surface Water Interface Criteria	Particulate Soil Inhalation Criteria	Direct Contact Criteria	Residential Volatilization to Indoor Air Pathway (VIAP) Screening Levels		Sample Identification						
								Depth (Feet)						
								2a	2a-D Duplicate	3a	3b	4a	5a	
(2'-3')	(2'-3')	(2'-3')	(5'-6')	(1'-2')	(0'-1')	12/22/2022	12/22/2022	12/22/2022	12/22/2022	12/22/2022	12/22/2022			
						McDowell	McDowell	McDowell	McDowell	McDowell	McDowell			
Volatile Organic Compounds (VOCs)														
p-Isopropyl toluene	99-87-6	NA	NA	NA	NA	NA	NA	NE	NE	<RL	<RL	NE	NE	77
2-Methylnaphthalene	91-57-6	57,000	4,200	670,000,000	8,100,000	1,700	NA	NE	NE	200	<100	NE	NE	460
Naphthalene	91-20-3	35,000	730	200,000,000	16,000,000	330 (M)	NA	NE	NE	300	<300	NE	NE	1,000
Tetrachloroethene	127-18-4	100	1,200	2,700,000,000	200,000	50 (M)	NA	NE	NE	<RL	<RL	NE	NE	360
Toluene	108-88-3	16,000	5,400	27,000,000,000	50,000,000	3,700	NA	NE	NE	200	<60	NE	NE	200
Trichloroethene	79-01-6	100	4,000*	130,000,000	110,000	50 (M)	NA	NE	NE	<60	<60	NE	NE	260
Xylenes	1330-20-7	5,600	980	290,000,000,000	410,000,000	280	NA	NE	NE	170	<160	NE	NE	170
Other Analyzed VOCs	CS	CS	CS	CS	CS	CS	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Polynuclear Aromatic Hydrocarbons (PAHs)														
Acenaphthene	83-32-9	300,000	8,700	14,000,000,000	41,000,000	200,000	NA	<300	<300	400	NE	NE	<300	4,200
Acenaphthylene	208-96-8	5,900	ID	2,300,000,000	1,600,000	ID	NA	<300	<300	<300	NE	NE	<300	300
Anthracene	120-12-7	41,000	ID	67,000,000,000	230,000,000	13,000,000	NA	1,100	700	1,600	NE	NE	<300	8,500
Benzo(a)anthracene	56-55-3	NLL	NLL	ID	20,000	160,000	NA	2,800	2,000	3,900	NE	NE	700	20,000
Benzo(a)pyrene	50-32-8	NLL	NLL	1,500,000	2,000	NA	NA	2,500	2,000	3,300	NE	NE	700	17,000
Benzo(b)fluoranthene	205-99-2	NLL	NLL	ID	20,000	NA	NA	3,300	3,600	6,200	NE	NE	1,100	26,000
Benzo(g,h,i)perylene	191-24-2	NLL	NLL	800,000,000	2,500,000	NA	NA	1,300	1,200	1,700	NE	NE	300	9,500
Benzo(k)fluoranthene	207-08-9	NLL	NLL	ID	200,000	NA	NA	3,700	4,000	6,900	NE	NE	1,300	8,800
Chrysene	218-01-9	NLL	NLL	ID	2,000,000	NA	NA	2,800	2,200	4,200	NE	NE	700	20,000
Dibenzo(a,h)anthracene	53-70-3	NLL	NLL	ID	2,000	NA	NA	<300	500	600	NE	NE	<300	1,200
Fluoranthene	206-44-0	730,000	5,500	9,300,000,000	46,000,000	NA	NA	6,100	4,500	9,100	NE	NE	1,300	45,000
Fluorene	86-73-7	390,000	5,300	9,300,000,000	27,000,000	470,000	NA	500	<300	500	NE	NE	<300	3,800
Indeno(1,2,3-cd)pyrene	193-39-5	NLL	NLL	ID	20,000	NA	NA	1,300	1,100	1,700	NE	NE	300	9,200
Naphthalene	91-20-3	35,000	730	200,000,000	16,000,000	330 (M)	NA	<300	<300	<300	NE	NE	<300	3,000
Phenanthrene	85-01-8	56,000	2,100	6,700,000	1,600,000	1,700	NA	4,200	2,600	5,800	NE	NE	700	33,000
Pyrene	129-00-0	480,000	ID	6,700,000,000	29,000,000	250,000	NA	4,900	3,800	7,400	NE	NE	1,100	36,000
Other Analyzed PAHs	CS	CS	CS	CS	CS	CS	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Semivolatile Organic Compounds (SVOCs)														
Di-n-butyl phthalate	84-74-2	960,000	11,000	3,300,000,000	27,000,000	NA	NA	NE	NE	NE	NE	NE	NE	8,300
Other Analyzed SVOCs	CS	CS	CS	CS	CS	CS	NA	NE	NE	NE	NE	NE	NE	<RL
Pesticides														
4,4-DDD	72548	NLL	NLL	44,000,000	95,000	NA	NA	NE	NE	NT	NE	<20	20	5,400
4,4-DDE	72559	NLL	NLL	32,000,000	45,000	39,000	NA	NE	NE	NT	NE	120	20	18,000
2,4-DDT	789-02-6	NA	NA	NA	NA	NA	NA	<RL	<RL	<RL	<RL	<RL	<RL	3,400
4,4-DDT	50293	NLL	NLL	32,000,000	57,000	NA	NA	NE	NE	NT	NE	80	30	15,000
Chlordane	57749	NLL	NLL	31,000,000	31,000	13,000	NA	NE	NE	NT	NE	<100	<100	2,600
Endosulfan II	115297	NLL	NLL	ID	1,400,000	NA	NA	NE	NE	<300	NE	<20	20	20
Other Analyzed Pesticides	CS	CS	CS	CS	CS	CS	NA	NE	NE	<RL	NE	<RL	<RL	<RL
Polychlorinated Biphenyls (PCBs)														
PCB, Aroclor 1260	11096-82-5	NA	NA	NA	NA	NA	NA	NE	NE	<RL	NE	NE	400	400
Total PCBs	1336-36-3	NLL	NLL	5,200,000	4,000	NA	NA	NE	NE	<300	NE	NE	400	1,100
Metals														
Antimony	7440-36-0	4,300	94,000*	13,000,000	180,000	NA	NA	NE	NE	NE	NE	NE	NE	25,000
Arsenic	7440-38-2	5,800	5,800	720,000	7,600	NA	5,800	13,300	13,900	24,500	6,880	17,300	4,650	39,000
Barium	7440-39-3	1,300,000	440,000*	330,000,000	37,000,000	NA	75,000	844,000	727,000	862,000	271,000	598,000	63,500	950,000
Beryllium	7440-41-7	51,000	160,000*	1,300,000	410,000	NA	NA	NE	NE	NE	NE	NE	NE	2,300
Cadmium	7440-43-9	6,000	3,600*	1,700,000	550,000	NA	1,200	4,710	6,860	7,640	920	6,500	500	14,000
Chromium, Total**	7440-47-3	30,000	3,300	260,000	2,500,000	NA	18,000 (total)	22,200	19,800	303,000	8,860	24,600	14,200	390,000
Cobalt	7440-48-4	6,800	6,800	13,000,000	2,600,000	NA	6,800	NE	NE	NE	NE	NE	NE	65,000
Copper	7440-50-8	5,800,000	75,000*	130,000,000	20,000,000	NA	32,000	131,000	494,000	1,710,000	69,400	167,000	31,600	1,710,000
Iron	7439-89-6	12,000,000	NA	ID	160,000,000	NA	12,000,000	NE	NE	NE	NE	NE	NE	120,000,000
Lead	7439-92-1	700,000	6,000,000*	100,000,000	400,000	NA	21,000	322,000	999,000	1,370,000	270,000	966,000	164,000	1,900,000
Manganese	7439-96-5	440,000	440,000	3,300,000	25,000,000	NA	440,000	NE	NE	NE	NE	NE	NE	1,700,000
Mercury	7439-97-6	1,700	130	20,000,000	160,000	50 (M)	130	357	323	812	228	1,014	183	1,700
Molybdenum	7439-98-7	1,500	64,000*	ID	2,600,000	NA	NA	NE	NE	NE	NE	NE	NE	33,000
Nickel	7440-02-0	100,000	76,000*	13,000,000	40,000,000	NA	20,000	NE	NE	NE	NE	NE	NE	160,000
Selenium	7782-49-2	4,000	410	130,000,000	2,600,000	NA	410	630	1,010	1,167	600	1,110	<400	16,000
Silver	7440-22-4	4,500	1,000	6,700,000	2,500,000	NA	1,000	1,130	2,310	4,950	1,620	1,330	<200	39,000
Vanadium	7440-62-2	72,000	430,000	ID	750,000	NA	NA	NE	NE	NE	NE	NE	NE	83,000
Zinc	7440-66-6	2,400,000	170,000*	ID	170,000,000	NA	47,000	489,000	723,000	1,050,000	215,000	2,220,000	124,000	5,400,000
Other Analytes														
Cyanide	57125	4,000	100	250,000	12,000	NA	NA	NE	NE	NE	NE	NE	NE	18,000

Notes are found on the last page of this table.



TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS
1406 EAST AVON ROAD
ROCHESTER HILLS, MICHIGAN
SME PROJECT NO.: 095159.00

Notes:

- Concentrations reported in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
- Analytical results were compared to the October 12, 2023 Promulgated Cleanup Criteria, Residential and/or Nonresidential Part 201 Generic Cleanup Criteria and Screening Levels.
- Analytical results were also compared to the EGLE September 4, 2020 Residential and/or Nonresidential Volatilization to Indoor Air Pathway (VIAP) Screening Levels.
- Results exceeding one or more criteria are shaded, as are the criteria exceeded.
- Refer to the analytical report for the full list of analytes.
- CS - Criterion is specific to individual constituent.
- <RL - Analytical result was below laboratory reporting limit.
- ID - Insufficient data to develop criteria.
- NA - Not applicable.
- NE - Not evaluated.
- NLV - Not likely to volatilize.
- NLL - Not likely to leach.
- * = GSI Protection was calculated for the indicated metals using the EGLE spreadsheet for calculating GSI. A default water hardness value of 150 mg/kg as CaCO_3 was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
- *Italicized* - the respective criterion was below the Statewide Default Background Level (SDBL) and therefore the value defaulted to the SDBL value.
- ** - Total chromium results compared to the more restrictive hexavalent chromium criteria because chromium was not speciated.
- Concentrations were also compared to, and found to be below, the ambient and indoor air criteria and the soil saturation concentration screening levels.
- (M) - Calculated criterion is below the analytical target detection limit; therefore, the criterion defaults to the target detection limit.



TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
 1406 EAST AVON ROAD
 ROCHESTER HILLS, MICHIGAN
 SME PROJECT NO.: 095159.00

Constituent	CAS #	Part 201 Generic Cleanup Criteria		Volatilization to Indoor Air Pathway (VIAP) Screening Levels		Chemical Analysis Results Sample Identification							
		Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential Shallow Groundwater	Residential Groundwater Not in Contact	Depth (Feet) Date Collected							
						SW1	SW2	SW2 Dup	SW3	SW4	SW-2015-01	SW-2015-02	SW-2015-02 Duplicate
						Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
						4/26/2011	4/26/2011	4/26/2011	4/26/2011	4/26/2011	8/26/2015	8/26/2015	8/26/2015
Volatile Organic Compounds (VOCs)	CAS #												
Analyzed VOCs	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Semivolatile Organic Compounds (SVOCs)													
Analyzed SVOCs	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Polychlorinated Biphenyls (PCBs)													
Total PCBs	1336-36-3	0.50	0.2	NA	NA	<RL	<RL	<RL	<RL	<RL	NE	NE	NE
Pesticides													
2-4'-DDT	789-02-6	NA	NA	NA	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
4-4'-DDD	72-54-8	9	NA	NA	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
4-4'-DDE	72-55-9	4	NA	32	30	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
4-4'-DDT	50-29-3	4	0.02 (M); 1.1 E-5	NA	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Other Analyzed Pesticides	CS	CS	CS	CS	CS	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Metals													
Antimony	7440-36-0	6	130*	NA	NA	<RL	1	<RL	<RL	<RL	<RL	<RL	<RL
Arsenic	7440-38-2	10	10	NA	NA	<RL	1.7	1.7	1	1.5	<RL	<RL	<RL
Barium	7440-39-3	2,000	670*	NA	NA	32	84	84	32	67	120	46	43
Chromium, Total	7440-47-3	100	11	NA	NA	<RL	<RL	<RL	1.6	<RL	<RL	<RL	<RL
Copper	7440-50-8	1,000	13*	NA	NA	2.9	6	5.9	3.8	2.6	2.6	4.3	6.3
Iron	7439-89-6	300	NA	NA	NA	386	2,600	2,600	730	250	1,100	350	320
Lead	7439-92-1	4.0	34*	NA	NA	<RL	1.7	1.7	<RL	<RL	<RL	<RL	<RL
Manganese	7439-96-5	50.0	2,800*	NA	NA	42	200	200	64	140	170	410	380
Molybdenum	7439-98-7	73	3200*	NA	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Nickel	7440-02-0	100	73*	NA	NA	2.1	4.7	4.6	2.5	5.3	10	4.6	4.4
Selenium	7782-49-2	50	5	NA	NA	<RL	<RL	<RL	<RL	<RL	1.0	<RL	<RL
Vanadium	7440-62-2	4.5	27	NA	NA	<RL	2.6	2.5	<RL	<RL	<RL	<RL	<RL
Zinc	7440-66-6	2,400	170*	NA	NA	<RL	45	43	<RL	<RL	12	<RL	<RL
Other Parameters													
Methane	74-82-8	ID	NA	10,000 (AA)	10,000 (AA)	NE	NE	NE	NE	NE	NE	NE	NE



TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
 1406 EAST AVON ROAD
 ROCHESTER HILLS, MICHIGAN
 SME PROJECT NO.: 095159.00

Constituent	CAS #	Part 201 Generic Cleanup Criteria		Volatilization to Indoor Air Pathway (VIAP) Screening Levels		Chemical Analysis Results Sample Identification Depth (Feet) Date Collected							
		Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential Shallow Groundwater	Residential Groundwater Not in Contact	TMW-01	TMW-01	TMW-02	TMW-02 Duplicate	TMW-03	TMW-04	TMW-05	TMW-06
						(6'-7')	(10'-11')	(13'-14)	(13'-14)	(15'-16')	(5'-6')	(23'-24')	(20'-21')
						9/3/2015	9/3/2015	9/3/2015	9/3/2015	9/3/2015	9/3/2015	9/3/2015	9/3/2015
Volatile Organic Compounds (VOCs)	CAS #												
Analyzed VOCs	CS	CS	CS	CS	CS	NE	<RL	<RL	<RL	<RL	NE	<RL	NE
Semivolatile Organic Compounds (SVOCs)													
Analyzed SVOCs	CS	CS	CS	CS	CS	NE	<RL	<RL	<RL	<RL	NE	<RL	NE
Polychlorinated Biphenyls (PCBs)													
Total PCBs	1336-36-3	0.50	0.2	NA	NA	NE	NE	NE	NE	NE	NE	NE	NE
Pesticides													
2-4'-DDT	789-02-6	NA	NA	NA	NA	NE	<RL	<RL	<RL	<RL	NE	0.006	NE
4-4'-DDD	72-54-8	9	NA	NA	NA	NE	<RL	<RL	<RL	<RL	NE	0.038	NE
4-4'-DDE	72-55-9	4	NA	32	30	NE	<RL	<RL	<RL	<RL	NE	0.008	NE
4-4'-DDT	50-29-3	4	0.02 (M); 1.1 E-5	NA	NA	NE	<RL	<RL	<RL	<RL	NE	0.039	NE
Other Analyzed Pesticides	CS	CS	CS	CS	CS	NE	<RL	<RL	<RL	<RL	NE	<RL	NE
Metals													
Antimony	7440-36-0	6	130*	NA	NA	NE	<RL	<RL	<RL	<RL	NE	<RL	NE
Arsenic	7440-38-2	10	10	NA	NA	NE	<RL	6.5	6.1	14	NE	5.2	NE
Barium	7440-39-3	2,000	670*	NA	NA	NE	210	320	310	180	NE	93	NE
Chromium, Total	7440-47-3	100	11	NA	NA	NE	<RL	2.6	2.6	2.4	NE	6.7	NE
Copper	7440-50-8	1,000	13*	NA	NA	NE	33	5	3.3	14	NE	14	NE
Iron	7439-89-6	300	NA	NA	NA	NE	160	7,600	7,600	6,200	NE	9,900	NE
Lead	7439-92-1	4.0	34*	NA	NA	NE	<RL	2.3	2	2.6	NE	5.7	NE
Manganese	7439-96-5	50.0	2,800*	NA	NA	NE	160	200	230	170	NE	290	NE
Molybdenum	7439-98-7	73	3200*	NA	NA	NE	<RL	<RL	<RL	<RL	NE	10	NE
Nickel	7440-02-0	100	73*	NA	NA	NE	9.7	17	17	8.5	NE	13	NE
Selenium	7782-49-2	50	5	NA	NA	NE	<RL	<RL	<RL	<RL	NE	<RL	NE
Vanadium	7440-62-2	4.5	27	NA	NA	NE	<RL	5.7	5.3	5.8	NE	11	NE
Zinc	7440-66-6	2,400	170*	NA	NA	NE	9.5	24	17	18	NE	31	NE
Other Parameters													
Methane	74-82-8	ID	NA	10,000 (AA)	10,000 (AA)	21	25	27	15	16	100	24	18



TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
 1406 EAST AVON ROAD
 ROCHESTER HILLS, MICHIGAN
 SME PROJECT NO.: 095159.00

Constituent	CAS #	Part 201 Generic Cleanup Criteria		Volatilization to Indoor Air Pathway (VIAP) Screening Levels		Chemical Analysis Results Sample Identification Depth (Feet) Date Collected				Maximum Concentration Measured at Property
		Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Residential Shallow Groundwater	Residential Groundwater Not in Contact	TMW-07	TMW-08	TMW-09	TMW-10	
						(17'-18')	(19'-20')	(12'-13')	(6.5'-7.5')	
						9/3/2015	9/3/2015	9/3/2015	9/3/2015	
Volatile Organic Compounds (VOCs)										
Analyzed VOCs	CS	CS	CS	CS	CS	NE	NE	NE	<RL	<RL
Semivolatile Organic Compounds (SVOCs)										
Analyzed SVOCs	CS	CS	CS	CS	CS	NE	NE	NE	<RL	<RL
Polychlorinated Biphenyls (PCBs)										
Total PCBs	1336-36-3	0.50	0.2	NA	NA	NE	NE	NE	NE	<RL
Pesticides										
2-4'-DDT	789-02-6	NA	NA	NA	NA	NE	NE	NE	<RL	0.006
4-4'-DDD	72-54-8	9	NA	NA	NA	NE	NE	NE	<RL	0.038
4-4'-DDE	72-55-9	4	NA	32	30	NE	NE	NE	<RL	0.008
4-4'-DDT	50-29-3	4	0.02 (M); 1.1 E-5	NA	NA	NE	NE	NE	<RL	0.039
Other Analyzed Pesticides	CS	CS	CS	CS	CS	NE	NE	NE	<RL	<RL
Metals										
Antimony	7440-36-0	6	130*	NA	NA	NE	NE	NE	<RL	1
Arsenic	7440-38-2	10	10	NA	NA	NE	NE	NE	11	14
Barium	7440-39-3	2,000	670*	NA	NA	NE	NE	NE	82	320
Chromium, Total	7440-47-3	100	11	NA	NA	NE	NE	NE	<RL	7
Copper	7440-50-8	1,000	13*	NA	NA	NE	NE	NE	<RL	33
Iron	7439-89-6	300	NA	NA	NA	NE	NE	NE	11,000	11,000
Lead	7439-92-1	4.0	34*	NA	NA	NE	NE	NE	<RL	6
Manganese	7439-96-5	50.0	2,800*	NA	NA	NE	NE	NE	440	440
Molybdenum	7439-98-7	73	3200*	NA	NA	NE	NE	NE	<RL	10
Nickel	7440-02-0	100	73*	NA	NA	NE	NE	NE	7.3	17
Selenium	7782-49-2	50	5	NA	NA	NE	NE	NE	<RL	1
Vanadium	7440-62-2	4.5	27	NA	NA	NE	NE	NE	<RL	11
Zinc	7440-66-6	2,400	170*	NA	NA	NE	NE	NE	<RL	45
Other Parameters										
Methane	74-82-8	ID	NA	10,000 (AA)	10,000 (AA)	19	<RL	6,200	8,300	8,300



TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
1406 EAST AVON ROAD
ROCHESTER HILLS, MICHIGAN
SME PROJECT NO.: 095159.00

Notes:

- Concentrations reported in micrograms per liter ($\mu\text{g/L}$).
- Analytical results were compared to October 12, 2023 Promulgated Cleanup Criteria, Residential and Nonresidential Part 201 Generic Cleanup Criteria and Screening Levels.
- Results exceeding one or more criteria are shaded, as are the criteria exceeded.
- Refer to the analytical report for the full list of analytes.
- CS - Criterion is specific to individual constituent.
- <RL - Analytical result was below laboratory reporting limit.
- NE - Not evaluated.
- NA - Not available.
- ID - Insufficient data to develop criterion.
- NLV - Not likely to volatilize under most soil conditions.
- * = GSI Protection was calculated for the indicated metals using the EGLE spreadsheet for calculating GSI. A default water hardness value of 150 mg/kg as CaCO_3 was used to calculate GSI. Results are presented for surface water receiving bodies not protected as a drinking water source.
- **Total chromium concentrations were compared to the more restrictive hexavalent chromium criteria because chromium was not speciated.
- Concentrations were also compared to, and found to be below, the groundwater volatilization to indoor air inhalation criteria and the flammability and explosivity screening levels.



TABLE 3
SUMMARY OF SOIL GAS ANALYTICAL RESULTS
 1406 EAST AVON ROAD
 ROCHESTER HILLS, MICHIGAN
 SME PROJECT NO.: 095159.00

Constituent		Volatilization to Indoor Air Pathway Screening Levels	Chemical Analysis Results										
		Residential	Sample Identification										
Depth (Feet)													
Date Collected													
			SGP-01	TMW-01	SGP-02	TMW-02	SGP-03	TMW-03	SGP-04	TMW-04	TMW-04	SGP-05	TMW-05
			(3'-4')	(10'-11')	(2.5'-3.5')	(13'-14')	(4.5'-5.5')	(15'-16')	(3'-4')	(5'-6')	(6'-7')	(5'-6')	(23'-24')
			10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015
Analytes		µg/m3											
Ethane	74-84-0	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Ethylene	74-85-1	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Methane	74-82-8	8,400,000	<RL	12,000	100,000	<RL	<RL	46,700	<RL	<RL	<RL	<RL	<RL



TABLE 3
SUMMARY OF SOIL GAS ANALYTICAL RESULTS
1406 EAST AVON ROAD
ROCHESTER HILLS, MICHIGAN
SME PROJECT NO.: 095159.00

Constituent		Volatilization to Indoor Air Pathway Screening Levels	Chemical Analysis Results									Maximum Concentration Measured at Property
		Residential	Sample Identification									
			SGP-06	TMW-06	SGP-07	TMW-07	SGP-08	TMW-08	SGP-09	TMW-09	SGP-10	
			(6'-7')	(20'-21')	(4'-5')	(17'-18')	(9'-10')	(19'-20')	(3.5'-4.5')	(12'-13')	(2.5'-3.5')	
			10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	10/1/2015	
Analytes		µg/m3										
Ethane	74-84-0	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Ethylene	74-85-1	NA	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL	<RL
Methane	74-82-8	8,400,000	<RL	<RL	<RL	<RL	<RL	<RL	23,300,000	5,200,000	140,000,000	140000000



TABLE 3
SUMMARY OF SOIL GAS ANALYTICAL RESULTS
1406 EAST AVON ROAD
ROCHESTER HILLS, MICHIGAN
SME PROJECT NO.: 095159.00

Notes:

- Concentrations reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).
- The concentrations were converted from units of parts per million by volume (ppmv) as reported in the MDEQ's 2016 Brownfield Redevelopment Assessment Report to $\mu\text{g}/\text{m}^3$.
- Analytical results were compared to the EGLE September 4, 2020 Residential and/or Nonresidential Volatilization to Indoor Air Pathway (VIAP) Screening Levels.
- Results exceeding one or more screening levels/criteria are shaded, as are the screening level/criteria exceeded
- Refer to the analytical report for the full list of analytes.
- CS - Criterion is specific to individual constituent.
- <RL - Analytical result was below laboratory reporting limit.
- ID - Insufficient data to develop criteria.
- NA - Not available
- NE - Not evaluated

ATTACHMENT 1
PROJECT DESCRIPTION

PROJECT DESCRIPTION

1406 EAST AVON ROAD

ROCHESTER HILLS, MICHIGAN 48307

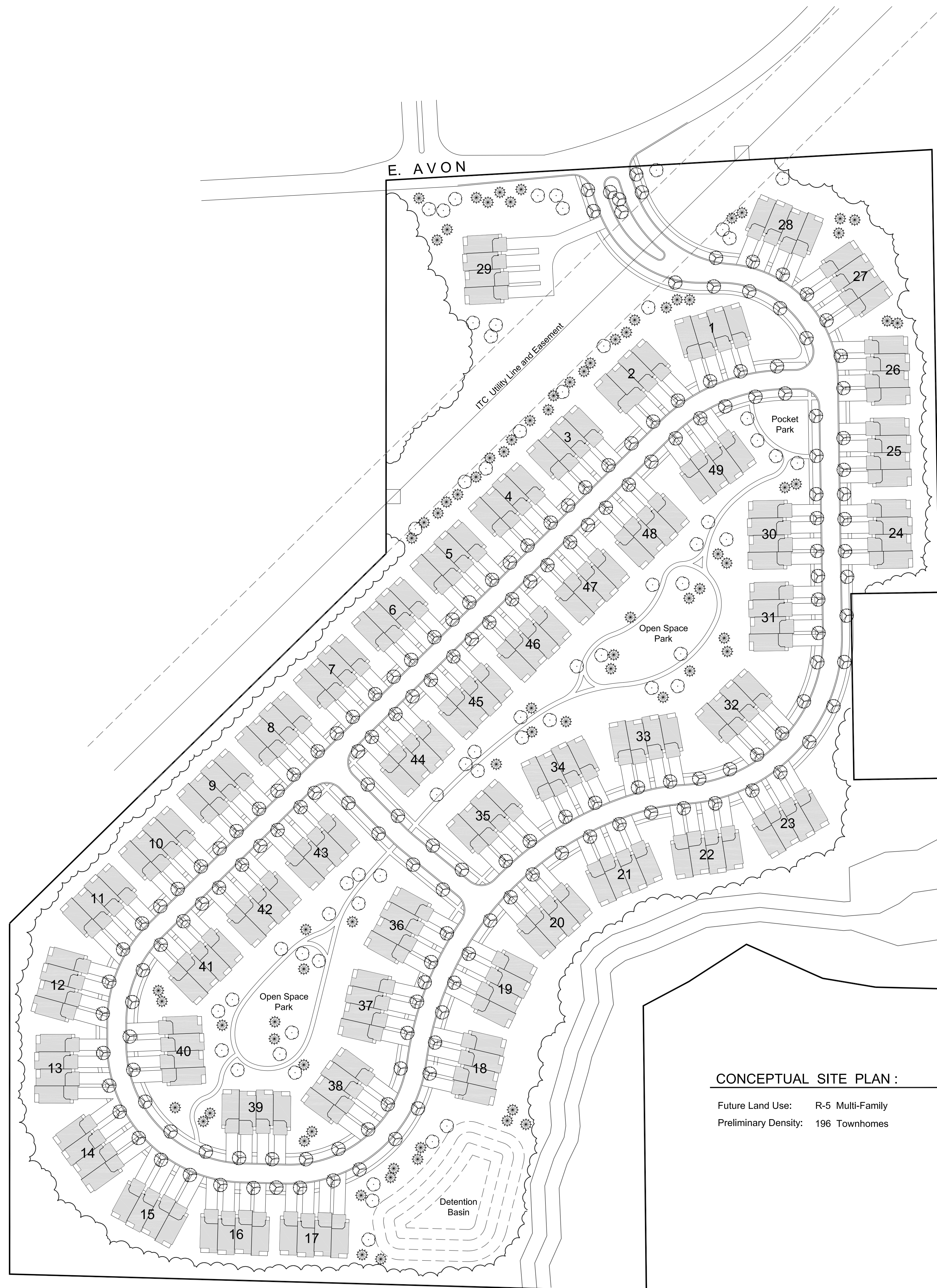
SME PROJECT NO. 095159.00

United Tech Construction, LLC (the Applicant) is proposing to redevelop the vacant project site at 1406 East Avon Road, Rochester Hills, Michigan (Project Site Map; Figure 1) into a multi-family residential development. The project site is comprised of two parcels. The 32.5-acre parcel is owned by the Applicant (Parcel ID: 15-24-100-050). The 0.7-acre parcel is currently owned by the City of Highland Park (Parcel ID: 15-24-100-021), however the Applicant is in the process of securing ownership. The current Project Site features are depicted on Figure 2.

The project site was previously occupied by the former Highland Park Woodfill and tree farm. Previous environmental assessments noted the project site was used for the disposal of trees by the City of Highland Park from the 1940s to the 1990s. Buried fill material (including tree stumps, limbs, and limited municipal waste) was observed at excavated test pit and soil boring locations on the site extending to depths ranging from approximately 2 feet to 13.5 feet below ground surface (bgs) as displayed on Figure 3. Previous environmental assessments identified various volatile organic compounds (VOCs), semi-VOCs, and metals in soil, and pesticides and metals in groundwater, at concentrations above Part 201 Generic Residential Cleanup Criteria. Methane gas was also measured above EGLE's Residential Volatilization to Indoor Air Pathway Screening Levels (VIAP SLs) in two of 19 total collected soil gas samples. These two samples were collected in the western area of buried fill material. Dissolved methane was measured in groundwater samples at concentrations above laboratory reporting limits, but below VIAP SLs. The attached figures summarize soil results above residential direct contact criteria (Figure 4), and soil and soil gas results above VIAP SLs (Figure 5).

The applicant intends to use grant funding to conduct environmental remediation activities that will meet applicable EGLE Part 201 generic residential cleanup criteria. The general area of the proposed cleanup activity is shown on Figure 3. The applicant will work with the City and EGLE to determine appropriate cleanup goals for the project in order to restore the site to a condition that can be safely used for residential development. Grant activities will include but are not limited to: performing additional assessment of the extent of contaminated materials, development of a cleanup plan and bid specifications for remediation, clearing the site and installing environmental controls to prevent exacerbation, excavating and appropriately disposing buried debris and impacted materials, appropriately managing encountered groundwater, and restoring the remediation area.

ATTACHMENT 2
PRELIMINARY SITE PLAN



Scale: 1" = 80'

CONCEPTUAL SITE PLAN :

Future Land Use: R-5 Multi-Family
 Preliminary Density: 196 Townhomes



J EPPINK PARTNERS, INC.
 Urban Design Studio
 Landscape Architecture
 Traditional Town Planning
 9336 Sashabaw Road
 Clarkston, Michigan 48348
 248.922.0789

The ideas and design concepts expressed herein and the graphically displayed arrangement of their components represented by this drawing have been developed for the exclusive use of the specified project and are the sole property of J EPPINK PARTNERS, INC. Any conveyance or disclosure of the ideas or design concepts or use of any graphically displayed arrangements of their components shall be at the discretion of and only through the expressed written consent of J EPPINK PARTNERS, INC.
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Project:
1406 East Avon
 Rochester Hills, Michigan

Owner:
United Tech Construction, LLC
 1497 Walton Blvd
 Rochester Hills, MI 48309

Sheet:
Conceptual Site Plan

Issues / Revisions

No.	Description

Drawn by:
 Checked By: JTE
 Date: January 28, 2024
 Scale: As Indicated

Not for Construction
 Sheet:
CSP 1.1

ATTACHMENT C
DRAFT ACCESS AGREEMENT



City of Rochester Hills
RESTORATION AND REMEDIATION PROJECT GRANT APPLICATION

DRAFT

EXHIBIT 1
CONSENT FOR ACCESS TO PROPERTY

PROJECT NAME: 1406 E. Avon Rd.
PROPERTY ADDRESS: 1406 E. Avon Rd., Rochester Hills, MI 48307
PARCEL ID NUMBERS INCLUDED: 15-24-100-050
NAME OF PROPERTY OWNER: Elvis Logu, United Tech Construction, LLC

I hereby grant the right to enter the property named above to employees, officers, guests, contractors, consultants, and authorized representatives of the City of Rochester Hills and the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and its contractors, subcontractors and consultants. Access by, through, or on, and use of the property is granted only for the duration of the grant contract and amendments, if any, to:

1. Provide project oversight and documentation, including collection and analysis of samples of environmental media or waste.
2. Perform response activities, removal actions, remediation, installation of engineered controls, and other work described in the grant and associated work plans. I understand that the scope of work described in the grant and associated work plans may include digging, excavating, vehicle access, sampling, demolition, and other activities that would materially change the condition of my property and confirm the presence or extent of environmental contamination there.
3. Undertake other actions necessary to administer and perform the scope of work under the grant and associated work plans.
4. Photograph and create images of or on the property with an aerial drone and/or video. Images may be used by EGLE or the City of Rochester Hills to describe the project, promote its brownfield program, post on social media or a website.

I am the property owner or an individual with authority or the property owner’s authorization to sign this access agreement. I give this written permission voluntarily with the full knowledge of my right to refuse and without threats or promises of any kind.

Please indicate that you are granting access by signing this document.

Elvis Logu
United Tech Construction, LLC
January 2, 2023
1497 Walton Boulevard
Rochester Hills, MI 48309
(248) 289-2761
elvislogu@icloud.com

Signature

ATTACHMENT 4
ELIGIBLE ACTIVITES AND COSTS TABLE

**1406 EAST AVON ROAD
ROCHESTER HILLS, MICHIGAN
SME PROJECT NO. 095159.00**

ENVIRONMENTAL ACTIVITIES - GRANT		
Task #1 Environmental Assessments and Monitoring		
1001	Work Plan and coordination with City/EGLE	\$ 5,000
1002	Survey existing grades for remediation planning and estimating	\$ 15,000
1003	Obtain site-specific criteria for VIAP and sediment	\$ 3,000
1004	Conduct assessment to delineate shallow lead-impacted soil area and evaluate potential hazardous disposal requirements.	\$ 15,000
1005	Conduct assessment to delineate extent of methane impact.	\$ 20,000
1006	Conduct assessment to delineate: extent of buried debris and contamination; assess GSI pathway by creek; and obtain waste characterization data for disposal approvals.	\$ 80,000
1007	Excavation planning: evaluate assessment data, determine excavation boundaries, prepare excavation cross-sections, etc.	\$ 20,000
1008	Secure landfill approval - waste profiles, characterization data package	\$ 2,000
1009	Obtain permits: SESC, tree clearing, NPDES discharge permit, etc.	\$ 5,000
1010	Prepare Environmental Management Plan (Due Care Plan) for excavation	\$ 4,000
1011	Prepare bid specifications and engineering drawings for Contractor activities	\$ 10,000
	subtotal:	\$ 179,000
Task #2 Remediation, Remedial Actions, Response and Removal Actions		
2001	Work Plan #2	\$ 5,000
2002	Solicit contractor bids - tree clearing, excavation, and dewatering contractors	\$ 5,000
2003	Install SESC measures to prevent trackout of contaminated sediment; perform street sweeping	\$ 30,000
2004	Tree clearing and grubbing for remedial activities	\$ 150,000
2005	Excavation, transportation, and disposal of landscape debris (10,000 tons)	\$ 200,000
2006	Excavation, transportation, and disposal of Type II contaminated soils and debris (100,000 tons)	\$ 4,500,000
2007	Excavation, transportation, and disposal of hazardous soils (1,500 tons)	\$ 500,000
2008	Excavation monitoring, field screening, verification sampling; field equipment; supplies (6 months)	\$ 200,000
2009	Laboratory analyses of verification samples	\$ 50,000
2010	Pumping, treatment, transportation and/or disposal of contaminated groundwater	\$ 50,000
2011	Backfill placement and compaction in remedial excavation area (100,000 cyds)	\$ 2,500,000
2012	Density testing of backfilled soil	\$ 50,000
2013	Post remediation soil gas sampling/verification	\$ 20,000
2014	Remedial Excavation Report	\$ 25,000
2015	Grant Reimbursement Requests and Closeout Documentation	\$ 5,000
	subtotal:	\$ 8,290,000
Task #3 Engineering Controls		
Task #4 EGLE Sign		
4001	EGLE Sign	\$ 500
Task #8 Contingency		
8001	Project Contingency (15%)	\$ 1,270,425
ENVIRONMENTAL (EGLE) ACTIVITIES COSTS:		\$ 9,739,925

Notes:

(1) The budgets listed above are estimates and will vary based on future assessment results, actual site conditions, project strategy, and contractor bid rates.

ATTACHMENT 5
LIST OF PREVIOUS ENVIRONMENTAL INVESTIGATION AND ASSESSMENT
REPORTS

ENVIRONMENTAL INVESTIGATION AND ASSESSMENT REPORTS

Download links to the following reports will be provided via email.

REPORT	CONDUCTED BY	DATE	PARCELS
Draft Preliminary Soils Investigation, Highland Park Site	McDowell & Associates	April 6, 2004	43.96-acre parent parcel
Brownfield Redevelopment Assessment Report for Tree Farm	MDEQ	September 1, 2011	42.57-acre parent parcel and 0.73-acre parcel
Phase I ESA	GES	July 26, 2013	12 acres of the parent parcel (current west-adjointing parcel)
Phase II ESA	GES	August 5, 2013	12 acres of the parent parcel (current west-adjointing parcel)
BEA	GES	September 27, 2013	12 acres of the parent parcel (current west-adjointing parcel)
Brownfield Redevelopment Assessment Report for Tree Farm	MDEQ	March 14, 2016	32.49-acre Property parcel and 0.7-acre parcel
Phase I ESA	Michigan Consulting and Environmental (MCE)	December 28, 2022	32.49-acre Property parcel
Limited Phase II Environmental Site Assessment	McDowell & Associates	January 2, 2023	32.49-acre Property parcel
Baseline Environmental Assessment	McDowell & Associates	January 2, 2023	32.49-acre Property parcel