



November 3, 2017

City of Detroit Department of Public Works  
City Engineering & Street Maintenance Divisions  
Coleman A. Young Municipal Center  
2 Woodward Avenue, Suite 611  
Detroit, Michigan 48226

Re: Notice of Migration of Contamination  
From 276 S. Waterman Street, Detroit, MI, Tax ID 180002360 (MDOT Parcel 5322)  
Potentially toward S. Waterman Street right-of-way to the east, South Street right-of-way to the south,  
And/or S. Schroeder Street and alley right-of-ways to the south  
Notification No. 5322-ROW

Dear City Engineering & Street Maintenance Divisions:

The Mannik Smith Group, Inc. ("MSG"), on behalf of the Michigan Department of Transportation ("MDOT"), has directed or conducted underground environmental testing at 276 S. Waterman Street, Detroit, Michigan ("the Site") in relation to the Gordie Howe International Bridge project underway in the vicinity of the right-of-ways referenced above ("the subject properties").

The Michigan Department of Environmental Quality ("MDEQ") requires distribution of the enclosed a Notice of Migration of Contamination form when there is evidence that environmental contamination at one property has or may have affected nearby properties. Hazardous substance(s) were identified in soil and/or groundwater sample(s) collected at the Site at concentration(s) that exceed Generic Residential Cleanup Criteria and Screening Levels established by the MDEQ.

At this time, it is not known if the subject properties have been affected by the environmental contamination at the Site. Also, the identification of hazardous substance(s) at the Site does not necessarily mean a hazardous situation or immediate danger currently exists. MSG, on behalf of the MDOT, is providing this notice to you as a precautionary measure and for your general awareness of environmental conditions at the Site.

Please review the enclosed document and if you have any questions regarding the Notice of Migration of Contamination please contact Karen Williams of the MDEQ at 586-753-3884. If you have general questions regarding the contents of this letter please contact Walter Bolt of MSG at 734-397-3100, extension 6025 or Jim Woodruff of the MDOT at 517-241-9115.

Sincerely,

Walter J. Bolt, CPG  
Project Manager  
Environmental Owners Representative Consultant  
Gordie Howe International Bridge Project

CC: Jim Woodruff – MDOT  
Karen Williams – MDEQ RRD Project Manager  
Paul Max – General Manager, Environmental Affairs, City of Detroit BSEED  
Anita Harrington – Environmental Specialist II, City of Detroit BSEED



For DEQ Use Only ITS # _____ Site ID # _____ Category Code: _____
--

**NOTICE OF MIGRATION OF CONTAMINATION (FORM EQP4482 REV. 4/16)**

*(Under the authority of Part 201, Natural Resources and Environmental Protection Act, 1994 Act 451, as amended, (NREPA) and the Rules promulgated thereunder)*

An owner or operator of property that is a facility, and/or who is subject to MCL324.20107a, and who has reason to believe that a hazardous substance is emanating from, has emanated from, or is likely to be emanating from the property and migrating beyond the boundaries of the property that he or she owns or operates is required under R 299.51017(1) and MCL 324.20114(1)(b)(ii) & (iii) to notify the Michigan Department of Environmental Quality (DEQ) and affected property owners. Submission of this notice does not fulfill the notification requirements of MCL 324.21309a.

The notice must be provided within 45 days (MCL 324.20107a) or within 30 days (MCL 324.20114) after the owner or operator has reason to believe that hazardous substances have migrated, or are likely to have migrated, to or beyond the boundary of his or her property (see R 299.51017 for exceptions that apply to parties subject to MCL 324.20107a).

Use of this form is mandatory for the notice required by R 299.51017(1) and may also be used by parties subject to MCL 324.20114(1)(b)(ii) & (iii). This form may also be used to provide notice to affected property owners as required by those rules.

If a person holds a permit for an oil and gas well under Part 615, Supervisor of Wells, of the NREPA and there is a release from the oil and gas exploration or production activities, that person shall give notice to the DEQ and to the owner of the surface rights of the property.

If a person holds an easement and there is a release from the easement holder's activities, that person shall provide notice to the DEQ and to the grantor of the easement, or the grantor's successor in interest, if any.

Completing this notice in no way relieves a person who is subject to MCL 324.20114 from the responsibility to undertake required response activities.

This notice must be sent to the DEQ office that serves the county in which the property is located. A list of DEQ offices is available at [www.michigan.gov/deqducare](http://www.michigan.gov/deqducare), or by calling the Remediation and Redevelopment Division's Lansing office at 517-284-5187. The DEQ will not prepare acknowledgement of receipt of these notices. The sender is responsible for sending the report using a method that provides proof of delivery if such proof is desired. Please label the outside of the envelope "Migration Notice." Additional guidelines for the compliance with the requirements of R 299.51017(1) or MCL 324.20114(1)(b)(ii) & (iii) are available at [www.michigan.gov/deqducare](http://www.michigan.gov/deqducare).

THIS NOTICE IS PROVIDED PURSUANT TO: R 299.51017  MCL 324.20114(1)   
*(check both, if applicable)*

Please provide the following information as completely as possible.

<p>1. Name and location of the property that hazardous substances are emanating from:</p> <p>Name: MI Dept. of Transportation (MDOT) Parcel 5322 Address: 276 S. Waterman Street Location: Michigan City/County: Detroit/Wayne Property Tax Identification Number, or if applicable, the ward and item number: 180002360</p> <p>Latitude (decimal degrees): 42.300466 °N</p> <p>Reference Point for Latitude and Longitude: Center of Site: <input checked="" type="checkbox"/> Main/front door: <input type="checkbox"/> Front gate/main entrance: <input type="checkbox"/> Other: <input type="checkbox"/></p> <p>Collection Method: Survey: <input type="checkbox"/> Interpolation: <input type="checkbox"/> GPS: <input checked="" type="checkbox"/></p>	<p>2. Status relative to the property: (Check one or both, as applicable.)</p> <p>Owner <input checked="" type="checkbox"/> Operator <input type="checkbox"/></p> <p>Longitude (decimal degrees): -83.107494 °W</p>
--	---



2. Provide any additional ID numbers associated with the property (e.g., EPA ID No., BEA No., Part 213 facility ID No., etc.):

GHIB MDOT Parcel 5322; BEA Numbers: 200402589LV & B99-00002-LV;  
MERA Site ID# 82002800; CNTS-RRD-16-001

3. Name, address, and telephone number of the property owner, operator, or other party submitting the notice:

Name: MDOT Bureau of Development, Environmental Services Section  
Address: 425 W. Ottawa Street, P.O. Box 30050  
City/State: Lansing, MI, 48909  
Telephone Number: 517-241-9115

4. Name, address and telephone number of a contact person familiar with the content of the notice:

Name: Walter Bolt of The Mannik & Smith Group, Inc. Environmental Owner's Rep Consultant to MDOT  
Address: 2365 Haggerty Road South  
City/State: Canton, MI 48188  
Telephone Number: 734-397-3100 x. 6025

5. If this Notice is provided pursuant to R 299.51017, provide the address and other location information for the adjacent property(s) onto which contamination is migrating, has migrated, or is likely to migrate.

If this Notice is provided pursuant to MCL Section 324.20114(1), provide the address and other location information for each property onto which contamination has migrated. Notice should be sent to the property owner of record. If the impacted property is owned by the State of Michigan, notice should be sent to the department managing the property (e.g., a prison, state park, etc.). Notices to the Michigan Department of Transportation (MDOT) for state owned roadways should be sent to Contaminated Site Specialist, Environmental Services Section, MDOT-Bureau of Development, 425 W. Ottawa Street, P.O. Box 30050, Lansing, MI 48909. If the impacted property is owned by the State of Michigan, notice should be sent to the department managing the property (i.e. a prison, state park, etc.).

Address: 274 S. Waterman St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 1800023600  
Other: Lafayette Properties, LLC

Address: 155 & 251 S. Waterman St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18008081-2  
Other: UR Properties LLC

Address: 507 S. Post Street Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18008642  
Other: Linda King

Address: 515 S. Waterman St. (6665 South St.) Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18000213.001  
Other: MDOT Parcel 5269

Address: 502 S. Waterman St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18008259  
Other: MDOT Parcel 5262



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
REMEDATION AND REDEVELOPMENT DIVISION

Address: 6741 South St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18000214  
Other: MDOT Parcel 5252

Address: 501 S. Schroeder St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18008311  
Other: MDOT Parcel 5251

Address: 504 S. Schroeder St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18008312  
Other: MDOT Parcel 5244

Address: 6918 W. Jefferson Ave. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18000108-9  
Other: MDOT Parcel 5030

Address: 6994 South St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18000235  
Other: MDOT Parcel 5321

Address: 245 S. Post St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18008643  
Other: MDOT Parcel 5722

Address: 201 S. Post St. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18008644.001  
Other: MDOT Parcel 5409

Address: 6952 W. Jefferson Ave. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18000107  
Other: DTE Electric Company

Address: 6952 W. Jefferson Ave. Notified? No  Yes  Date: November 3, 2017  
City/State: Detroit, MI  
Property Tax ID number: 18000107  
Other: Conrail (suspected easement holder)

Address: Unknown – an approximately 50' wide strip of Notified? No  Yes  Date: November 3, 2017  
land immediately north of 276 S. Waterman St./  
180002360; west of S. Waterman St.; east of S. Post St.;  
south of active Norfolk Southern railroad tracks  
City/State: Detroit, MI  
Property Tax ID number: Unavailable  
Other: Toledo, Canada Southern & Detroit Railway  
Company & Michigan Central Railroad Co (now Conrail)



Address: Unknown – an approximately 60' wide strip of land 50' north of 276 S. Waterman St./180002360; west of S. Waterman St.; east of S. Post St.; occupied by active Norfolk Southern railroad tracks  
City/State: Detroit, MI  
Property Tax ID number: Unavailable  
Other: Norfolk Southern Corp.      Notified? No  Yes       Date: November 3, 2017

Address: 276 S. Waterman St. (subject property)  
City/State: Detroit, MI  
Property Tax ID number: 180002360  
Other: Potential easement holders: Conrail, DTE Electric Company      Notified? No  Yes       Date: November 3, 2017

Address: One Energy Plaza, Ste. 1935  
City/State: Detroit, MI, 48226  
Property Tax ID number: NA  
Other: Detroit Edison, DTE (utility holder)      Notified? No  Yes       Date: November 3, 2017

Address: 2 Woodward Avenue, Ste. 611  
City/State: Detroit, MI, 48226  
Property Tax ID number: NA  
Other: City of Detroit (S. Waterman Street, South Street, S. Schroeder Street, and alleys adjacent to 276 S. Waterman Street / 180002360)      Notified? No  Yes       Date: November 3, 2017

Address: 735 Randolph  
City/State: Detroit, MI, 48226  
Property Tax ID number: NA  
Other: Detroit Water & Sewerage Department (utility holder)      Notified? No  Yes       Date: November 3, 2017

Address: 27175 Energy Way  
City/State: Novi, MI, 48377  
Property Tax ID number: NA  
Other: International Transmission Company (ITC) (utility holder)      Notified? No  Yes       Date: November 3, 2017

Address: 735 Randolph Street, Ste. 1900  
City/State: Detroit, MI, 48226  
Property Tax ID number: NA  
Other: Great Lakes Water Authority (utility holder)      Notified? No  Yes       Date: November 3, 2017

Address: 12775 Lydon Street  
City/State: Detroit, MI, 48227  
Property Tax ID number: NA  
Other: Comcast/Xfinity (utility holder)      Notified? No  Yes       Date: November 3, 2017

Address: 208 S. Akard Street  
City/State: Dallas, TX, 75202  
Property Tax ID number: NA  
Other: AT&T Headquarters (utility holder)      Notified? No  Yes       Date: November 3, 2017

(Attach additional pages as needed) **PLEASE SEE ATTACHED MAP OF PROPERTY TAX ID NUMBERS.**



# MAP OF PROPERTY TAX ID NUMBERS

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

All locations approximate. Not a legal survey.

Coordinate System: UTM Zone 17 N IntFt  
 Projection: Transverse Mercator  
 Datum: NAD 1983 CORS96

ACTIVE RR TRACKS



ADDRESS	TAX ID	MDOT PARCEL #
A S WATERMAN	UNKNOWN	5715
B 6952 W JEFFERSON	18000107	5714
C 201 S POST	18008644.001	5409
D 245 S POST	18008643	5722
E 6994 SOUTH	18000235	5321
F 507 S POST	18008642	5239
G 6918 W JEFFERSON	18000108-9	5030
H 504 S SCHROEDER	18008312	5244
I 501 S SCHROEDER	18008311	5251
J 6741 SOUTH	1800214	5252
K 502 S WATERMAN	18008259	5262
L 6665 SOUTH	18000213.003L	5269
M 251 S WATERMAN	18008081	5323
N 155 S WATERMAN	18008082	5323
P 274 S WATERMAN	1800023600	5410

**5322**  
 18000236-0  
 276 S WATERMAN

Date Saved: 11/2/2017 11:51:12 AM  
 Path: S:\Projects\Project K-OMDOT0070\ENG\APPS\GIS\Map\_Files\Notification Maps\5322\ver2\_TaxID\_Landscape.mxd



**Mannik Smith GROUP**  
 TECHNICAL SKILL. CREATIVE SPIRIT.  
 www.MannikSmithGroup.com

**FIGURE 1**  
 PROPERTY TAX ID NUMBERS  
 ADJACENT TO MDOT 5322  
 Gordie Howe International Bridge  
 Detroit, Michigan

DATE 11/2/2017	DRAWN BY AMK	DESIGNED BY LHK	PROJECT NO. MDOT0070
-------------------	-----------------	--------------------	-------------------------

5322
  ADJACENT MDOT PARCELS
  MDOT PARCELS
  PARCEL BOUNDARIES





6. Complete the Table on Page 7 of this Form for each hazardous substance which has migrated, or is likely to have migrated, beyond the property boundary at a concentration that exceeds a Generic Residential Cleanup Criterion developed by the DEQ pursuant to MCL 324.20120a(1). Complete and attach additional copies of Page 7, if necessary, to list all hazardous substances that must be reported. Include a scaled map or drawing that shows the location of sampling points identified on the Table on Page 7, the property boundaries, and the adjacent property owners if providing notice pursuant to R 299.1017(1) or all impacted property owners if providing notice pursuant to MCL 324.20114(1).
7. Provide a summary of the information which shows that contamination is emanating from, or has emanated from, and is present beyond the boundary of the source property at a concentration which exceeds the generic residential criteria developed by the DEQ pursuant to MCL 324.20120a(1)(a). This summary shall identify the environmental media affected, specific hazardous substances, and the concentrations of those hazardous substances in all affected environmental media at the property boundary and in any sample locations beyond the property boundary. The summary shall also describe the basis for the conclusion that the contamination is emanating, has emanated, or is present beyond the boundary of the source property, including whether the conclusion is based on groundwater analytical data or fate and transport modeling, both, or neither.
8. If the person making this notice has reason to believe that a migrating hazardous substance has affected, or is likely to affect, a private or public water supply, then that water supply must be identified here:

NA

- |   | YES                                 | NO                                  |
|---|-------------------------------------|-------------------------------------|
| 9. Is this notice being submitted within the timeframes established under R 299.51017 and/or MCL 324.20114(1), as applicable? | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 10. Is this notice in addition to a notice that was submitted prior to December 21, 2002? (R 299.51017(4)(c))                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11. Is this notice related to an oil and gas well permit (R 299.51017(2))? Permit #:  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12. Is this notice related to an easement (R 299.51017(3))? (NOTE: All easement grantors <i>must</i> receive this notice.)    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 13. Has surface water been affected (R 299.51017(1))? (If yes, please identify the affected surface water body.)              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**CERTIFICATION:**

With my signature below, I certify that I am the owner of the facility or that I am legally authorized to execute this notice on behalf of the owner or operator named on this form, and that to the best of my knowledge and belief the above representations are complete and accurate. I understand that intentionally submitting false information to the DEQ is a felony and may result in fines up to \$25,000 for each violation.

Signature Walter J. Bolt Date 11/3/2017  
(Owner or person legally authorized to bind the person making this report)

Name (Typed or Printed) Walter J. Bolt

Title (Typed or Printed) Project Manager, Environmental Owners Representative Consultant, Gordie Howe International Bridge Project



See Item 6 on Page 6 of this Form for instructions to be used in completing this table. Attach additional pages if necessary. The information to be included in each column of the table is:

- Column A Name of hazardous substance.
- Column B Chemical Abstract Service (CAS) Number for the hazardous substance.
- Column C Maximum hazardous substance concentration measured on the property, expressed in parts per billion (e.g., ug/L or ug/Kg). Report maximum concentration separately for each environmental medium.
- Column D Sample location for Column C (relate to label on map).
- Column E Environmental medium in which concentration reported in Column C was measured (e.g., soil or groundwater).
- Column F Distance from point of maximum measured concentration (Column D) to property boundary, in direction of contaminant migration, if direction is known or can reasonably be inferred. If direction is unknown, list distance to nearest property boundary.
- Column G Direction of contaminant migration, if known.
- Column H Concentration closest to property boundary, if known. If a concentration lower than the maximum concentration reported in Column C has been measured at a point closer to the property boundary in the direction of contaminant migration, use Column I to list the concentration that was measured closest to the property boundary in the direction of contaminant migration.
- Column I Sample location for Column H (relate to label on map).
- Column J Environmental medium for measurement reported in Column H, if applicable.

**PLEASE SEE ATTACHED TABLE 1**

A Hazardous Substance	B CAS Number	C Maximum Concentration	D Sample Location for "C"	E Environmental Medium for "C"	F Distance to Property Boundary	G Direction of Migration	H Boundary Concentration	I Sample Location for "H"	J Environmental Medium for "H"

Total Number Samples Collected: \_\_\_\_\_ Total Number of Samples Exceeding Criteria: \_\_\_\_\_

**A scaled map or drawing showing these locations and the property boundaries must be submitted with this Notice**

**PLEASE SEE ATTACHED FIGURES 2, 3, & 4**



TABLE 1

## DEQ NOTICE OF MIGRATION ATTACHMENT

A	B	C	D	E	F	G	H	I	J
Hazardous Substance	CAS Number	Maximum Concentration	Sample Location for "C"	Environmental Medium for "C"	Distance to Property Boundary	Direction of Migration	Boundary Concentration	Sample Location for "H"	Environmental Medium for "H"
Benzo(a)pyrene	50-32-8	4,300	5322_SB-06_0-2_S_SME_20170104	Soil	75 feet	Unknown	-	-	-
Naphthalene	91-20-3	1,800	5322_SB-02_0-1_S_SME_20170105	Soil	200 feet	Unknown	-	-	-
Phenanthrene	85-01-8	3,900	5322_SB-06_3-4_S_SME_20170104	Soil	75 feet	Unknown	-	-	-
Arsenic	7440-38-2	110,000	5322_SB-05_1-2_S_SME_20170105	Soil	130 feet	Unknown	-	-	-
Lead - Total (calculated)	7439-92-1	410,000	5322_SB-05_1-2_S_SME_20170105	Soil	130 feet	Unknown	-	-	-
Lead - Fine Fraction	7439-92-1	520,000	5322_SB-05_1-2_S_SME_20170105	Soil	130 feet	Unknown	-	-	-
Selenium	7782-49-2	4,400	5322_SB-01_0-1_S_SME_20170105	Soil	125 feet	Unknown	-	-	-
Cyanide (total)	57-12-5	1,000	5322_SB-04_0-1_S_SME_20170104	Soil	45 feet	Unknown	-	-	-
Cyanide (available)	57-12-5	300	5322_SB-06_5-6_S_SME_20170104	Soil	75 feet	Unknown	-	-	-
Cyanide (total)	57-12-5	3,500	5322_SS-03_S_SME_20170105 (0-0.05)	Surface soil <sup>†</sup>	40 feet	Unknown	-	-	-
Cyanide (available)	57-12-5	240	5322_SS-04_S_SME_20170105 (0-0.05)	Surface soil <sup>†</sup>	45 feet	Unknown	-	-	-
Arsenic	7440-38-2	12	5322_SB-04_10-14_GW_SME_20170104	Groundwater	45 feet	Unknown	-	-	-
Selenium	7782-49-2	17	5322_Dup-01_GW_SME_20170105 <sup>‡</sup>	Groundwater	125 feet	Unknown	-	-	-
Benzo(a)pyrene	50-32-8	5,400	5322_DP-01_S_SME_20170105	Debris pile	85 feet	Unknown	-	-	-
Naphthalene	91-20-3	930	5322_DP-01_S_SME_20170105	Debris pile	85 feet	Unknown	-	-	-
Arsenic	7440-38-2	69,000	5322_DP-01_S_SME_20170105	Debris pile	85 feet	Unknown	-	-	-
Selenium	7782-49-2	2,400	5322_DP-01_S_SME_20170105	Debris pile	85 feet	Unknown	-	-	-
Cyanide (total)	57-12-5	430	5322_DP-01_S_SME_20170105	Debris pile	85 feet	Unknown	-	-	-
Cyanide (available)	57-12-5	230	5322_DP-01_S_SME_20170105	Debris pile	85 feet	Unknown	-	-	-

Total Number of Samples Collected: 19 soil, 4 surface soil, 3 groundwater, 2 debris pile

Total Number of Samples Exceeding Criteria: 11 soil, 3 surface soil, 3 groundwater, 2 debris pile

## Footnotes:

<sup>†</sup> Analyzed for cyanide only

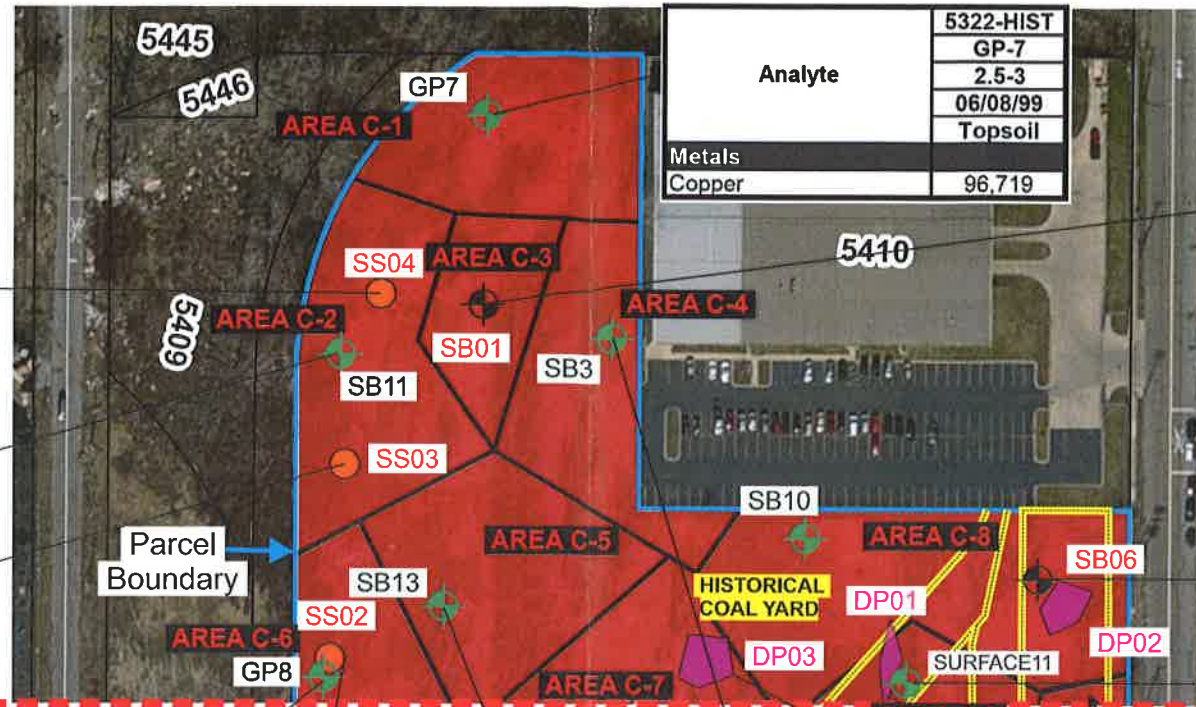
<sup>‡</sup> Duplicate sample corresponding to 5322\_SB-01\_4-9\_GW\_SME\_20170105



Shaded area indicates estimated horizontal extent of impact. Refer to report for area/quantity estimate assumptions and qualifications.

**MDOT Parcel 5322**  
**SME Project No. 073213.04**  
**Soil Residential and Nonresidential**  
**Contamination Estimation Diagram**  
**Figure No. 2 - Northern Portion**

\* Basemap provided by MSG.



Analyte	5322
	SS-04
	0-0.5
	01/05/17
	Topsoil
Cyanide	
Available Cyanide	240
Total Cyanide	740

Analyte	5322-HIST
	SB-11
	0-2
	03/18/98
	Unknown
Metals	
Arsenic	32,000
Barium	450,000
Selenium	600

Analyte	5322
	SS-03
	0-0.5
	01/05/17
	Topsoil
Cyanide	
Available Cyanide	220
Total Cyanide	3,500

**MATCH LINE**  
**(SEE FIGURE 4B**  
**FOR SOUTHERN**  
**PORTION)**

Analyte	5322-HIST
	GP-8
	1-1.5
	06/08/99
	Topsoil
VOCs	
Ethylbenzene	490
Xylenes	3,800
PAHs	
Naphthalene	1,640
Metals	
Copper	97,122
Analyte	5322-HIST
	GP-8
	11.5-12
	06/08/99
	Clay
Metals	
Selenium	2,957

Analyte	5322
	SS-02
	0-0.5
	01/05/17
	Topsoil
Cyanide	
Available Cyanide	140
Total Cyanide	780

Analyte	5322-HIST
	SB-13
	Surface
	03/18/98
	Unknown
Metals	
Arsenic	70,000
Selenium	2,300
Analyte	5322-HIST
	SB-13
	4-6
	03/18/98
	Sand
Metals	
Selenium	700

Analyte	5322-HIST
	SB-3
	Surface
	03/18/98
	Unknown
Metals	
Arsenic	23,000
Copper	380,000
Analyte	5322-HIST
	SB-3
	1-3
	03/18/98
	Topsoil
Metals	
Arsenic	22,000

Analyte	5322
	SB-01
	0-1
	01/05/17
	Sand
PAHs	
Naphthalene	1,700
Phenanthrene	2,900
Metals	
Arsenic	57,000
Selenium	4,400
Analyte	5322
	SB-01
	3.25-4.25
	01/05/17
	Sand
Metals	
Arsenic	52,000
Selenium	2,700
Analyte	5322
	SB-01
	6-7
	01/05/17
	Sand
Metals	
Selenium	1,200

Analyte	5322-HIST
	SURFACE-11
	Surface
	06/08/99
	Unknown
Metals	
Arsenic	16,162
Selenium	763

Analyte	5322
	SB-06
	0-2
	01/04/17
	Topsoil/Sand
PAHs	
Benzo(a)pyrene	4,300
Naphthalene	890
Metals	
Arsenic	88,000
Selenium	1,300
Analyte	5322
	SB-06
	3-4
	01/04/17
	Sand
PAHs	
Benzo(a)pyrene	2,800
Naphthalene	1,700
Phenanthrene	3,900
Metals	
Arsenic	61,000
Selenium	2,500
Analyte	5322
	SB-06
	5-6
	01/04/17
	Sand
Metals	
Selenium	1,500
Cyanide	
Available Cyanide	220
Total Cyanide	610

Analyte	5322
	DP-01
	NA
	01/05/17
	NA
PAHs	
Benzo(a)pyrene	5,400
Naphthalene	930
Metals	
Arsenic	69,000
Selenium	2,400
Cyanide	
Available Cyanide	230
Total Cyanide	430

Analyte	5322
	DP-03
	NA
	01/05/17
	NA
PAHs	
Naphthalene	920
Metals	
Arsenic	48,000
Selenium	1,700

**Legend**

- Historical Features
  - PSI Soil Boring Location
  - Debris Pile Location
  - 1998-1999 Sample Location
  - Surface Sample Location
  - Concentration Exceeds Residential and Nonresidential Criteria
- Concentrations are µg/kg (ppb)



Notes:

Historical feature locations are approximate and based on review of available Sanborn® maps provided by MSG.

Refer to the geophysical report appended to the PSI report for information about and figures depicting inferred buried utilities and other features, as applicable.

Groundwater Surface Water Interface Protection and Drinking Water Protection Criteria do not represent exposure concerns, but are relevant for Due Care for preconstruction and construction activities.

\*\*Sample CS-1 is a composite surficial debris sample collected from locations throughout the parcel, from the 0 - 2 inch depth interval. Sample RRT01 is a composite sample of railroad ties in Debris Pile 1 (DPO1); the sample is considered representative of ties seen throughout the parcel. These sample locations are not shown on the diagram.

Debris pile sample analytical results are not included in the extent of impact estimates.





**MDOT Parcel 5322**  
**SME Project No. 073213.04**  
**Soil Residential and Nonresidential**  
**Contamination Estimation Diagram**  
**Figure No. 3 - Southern Portion**

\* Basemap provided by MSG.

**Shaded area indicates estimated horizontal extent of impact. Refer to report for area/quantity estimate assumptions and qualifications.**

Analyte	5322 SB-02 0-1 01/05/17 Sand
<b>PAHs</b>	
Naphthalene	1,800
Phenanthrene	2,500
<b>Metals</b>	
Arsenic	40,000
Selenium	3,100

Analyte	5322-HIST SB-4 1-3 03/18/98 Topsoil
<b>Metals</b>	
Arsenic	20,000

Analyte	5322 SB-05 1-2 01/05/17 Sand
<b>Metals</b>	
Arsenic	110,000
Fine Fraction Lead	520,000
Total Lead (Calculated)	410,000
Selenium	4,300
<b>Cyanide</b>	
Total Cyanide	800

Analyte	5322 SB-04 0-1 01/05/17 Sand
<b>Metals</b>	
Arsenic	110,000
Selenium	890
<b>Cyanide</b>	
Available Cyanide	220
Total Cyanide	1,000

Analyte	5322-HIST SB-1 Surface 03/18/98 Unknown
<b>Metals</b>	
Selenium	900

Analyte	5322-HIST SB-6 1-3 03/18/98 Topsoil
<b>Metals</b>	
Arsenic	52,000
Selenium	1,400

Analyte	5322 CS-1** 0-0.2 01/04/17 Topsoil
<b>PAHs</b>	
Naphthalene	5,800
Phenanthrene	5,900
<b>SVOCs</b>	
2-Methylnaphthalene	8,400
Dibenzofuran	2,700
<b>Metals</b>	
Arsenic	24,000
Selenium	1,500
Zinc	220,000
<b>Cyanide</b>	
Available Cyanide	240
Total Cyanide	620

Analyte	5322-HIST GP-9 1-1.5 06/08/99 Topsoil
<b>VOCs</b>	
Xylenes	1,880
<b>Metals</b>	
Arsenic	101,610
Selenium	1,576

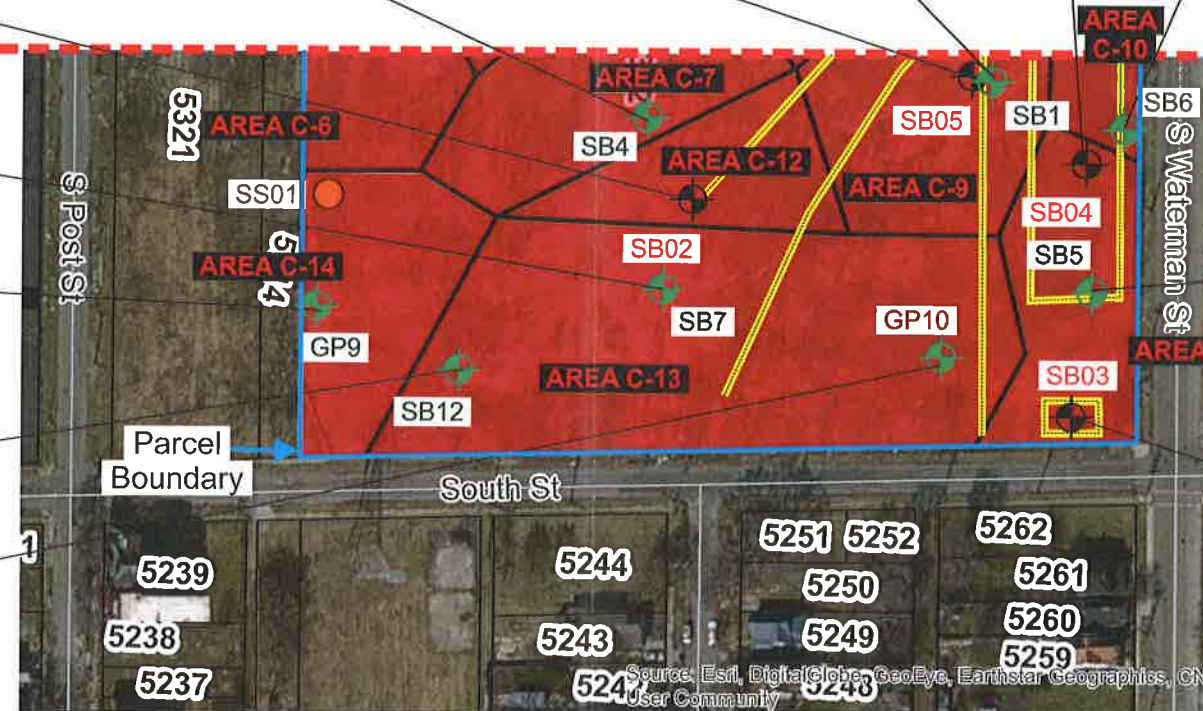
Analyte	5322-HIST SB-7 0-2 03/18/98 Unknown
<b>Metals</b>	
Selenium	2,100

Analyte	5322-HIST GP-10 0.5-1 06/08/99 Topsoil
<b>VOCs</b>	
Ethylbenzene	780
Xylenes	9,400
<b>PAHs</b>	
Naphthalene	940

Analyte	5322-HIST SB-12 Surface 03/18/98 Unknown
<b>Metals</b>	
Arsenic	32,000
Selenium	3,300

Analyte	5322-HIST SB-5 Surface 03/18/98 Unknown
<b>Metals</b>	
Arsenic	84,000
Selenium	4,400

Analyte	5322 SB-03 0-1 01/05/17 Topsoil
<b>Metals</b>	
Arsenic	28,000
Selenium	2,100



**MATCH LINE (SEE FIGURE 4A FOR NORTHERN PORTION)**

**Legend**

- Historical Features
  - PSI Soil Boring Location
  - Debris Pile Location
  - 1998-1999 Sample Location
  - Surface Sample Location
  - Concentration Exceeds Residential and Nonresidential Criteria
- Concentrations are µg/kg (ppb)



**Notes:**

Historical feature locations are approximate and based on review of available Sanborn® maps provided by MSG. Refer to the geophysical report appended to the PSI report for information about and figures depicting inferred buried utilities and other features, as applicable.

Groundwater Surface Water Interface Protection and Drinking Water Protection Criteria do not represent exposure concerns, but are relevant for Due Care for preconstruction and construction activities.

\*\*Sample CS-1 is a composite surficial debris sample collected from locations throughout the parcel, from the 0 - 2 inch depth interval. Sample RRT01 is a composite sample of railroad ties in Debris Pile 1 (DPO1); the sample is considered representative of ties seen throughout the parcel. These sample locations are not shown on the diagram.





MDOT Parcel 5322  
 SME Project No. 073213.04  
 Groundwater Nonhazardous  
 Contamination Estimation Diagram  
 Figure No. 4

\* Basemap provided by MSG.

Analyte	5322
	SB-01
	4-9
	01/05/17
Metals	
Dissolved Selenium	17



Shaded area indicates estimated horizontal extent of impact. Refer to report for area/ quantity estimate assumptions and qualifications.

Analyte	5322
	SB-04
	10-14
	01/04/17
Dissolved Arsenic	12

**Legend**

- Historical Features
- PSI Soil Boring Location
- Surface Sample Location
- Debris Pile Location
- 1998-1999 Sample Location



Coordinate System: UTM Zone 17 N  
 (NAD83)(CORS96)(Epoch:2002)  
 Using Geoid Model Geoid12A



Notes:  
 Historical feature locations are approximate and based on review of available Sanborn® maps provided by MSG.  
 Refer to the geophysical report appended to the PSI report for information about and figures depicting inferred buried utilities and other features, as applicable.

Groundwater Surface Water Interface and Drinking Water Criteria do not represent exposure concerns, but are relevant for Due Care for preconstruction and construction activities.

Concentrations are µg/L (ppb)