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PHASE I ENVIRONMENTAL SITE ASSESSMENT

South of Beck Road and West of Nixon Road | Howell, Michigan
Parcel #'s 11-17-200-004, 11-17-200-005, and part of 11-17-200-008
PM Project Number 01-7525-0-0001

Prepared for:

Versa Development
25900 West Eleven Mile Road
Suite 250
Southfield, Michigan 48034

Prepared by:

PM Environmental, Inc.
3340 Ranger Road
Lansing, Michigan 48906

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Detroit
607 Shelby,
Suite 650
Detroit, MI 48226
f: 877.884.6775
t: 248.414.1416

Berkley
4080 W. 11 Mile Road
Berkley, MI 48072
f: 877.884.6775
t: 248.336.9988

Lansing
3340 Ranger Road
Lansing, MI 48906
f: 877.884.6775
t: 517.321.3331

Grand Rapids
560 5th Street NW,
Suite 301
Grand Rapids, MI 49504
f: 877.884.6775
t: 616.285.8857

September 7, 2016

Mr. Todd Wyett
Versa Development
25900 West Eleven Mile Road, Suite 250
Southfield, Michigan 48034

**Re: Phase I Environmental Site Assessment of the Vacant Land
Located South of Beck Road and West of Nixon Road, identified as parcel numbers
11-17-200-004, 11-17-200-005, and part of 11-17-200-008, Howell, Michigan
PM Environmental, Inc. Project No. 01-7525-0-0001**

Dear Mr. Wyett:

PM Environmental, Incorporated (PM) has completed the Phase I Environmental Site Assessment (ESA) of the above referenced property. This Phase I ESA was conducted in accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries {(AAI), 40 CFR Part 312} and (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E 1527-13* (ASTM Standard Practice E 1527-13).

The Phase I ESA for the above referenced property represents the product of PM's professional expertise and judgment in the environmental consulting industry, and it is reasonable for **LATSON FARM, LLC** to rely on PM's Phase I ESA report.

If you have any questions related to this report please do not hesitate to contact our office at (800) 313-2966.

Sincerely,
PM ENVIRONMENTAL, INC.

Carrie Donohoe
Staff Consultant

Kevin Kruszewski, P.G
VP Environmental Risk Management

EXECUTIVE SUMMARY

PM Environmental, Inc., (PM) was retained to conduct a Phase I Environmental Site Assessment (ESA) of the Vacant Land located South of Beck Road and West of Nixon Road, identified as parcel numbers 11-17-200-004, 11-17-200-005, and part of 11-17-200-008, Howell, Livingston County, Michigan (hereafter referred to as the “subject property”). This Phase I ESA was conducted in accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries {(AAI), 40 CFR Part 312} and (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E 1527-13* (ASTM Standard Practice E 1527-13).

THIS REPORT WAS PREPARED FOR THE EXCLUSIVE USE OF LATSON FARM, LLC, WHO MAY RELY ON THE REPORT’S CONTENTS.

Item	Comments
Number of Parcels and Acreage	Two parcels and a portion of a third parcel totaling approximately 156 acres
Number of Building(s) and Square Footage	Two small sheds
Current Property Use	Agricultural Land

Reasonably ascertainable records for the subject property extended back to approximately 1937. Data failure occurred prior to that date. PM did not identify any significant data gaps during the completion of this Phase I ESA.

Standard and other historical sources were able to document that the subject property has been agricultural land since at least 1937.

The following table summarizes the conditions identified as part of this assessment.

Type of Condition	Identified During the Course of this Assessment
De Minimis Condition	No
Significant Data Gap	No
Historical Recognized Environmental Condition (HREC)	No
Controlled Recognized Environmental Condition (CREC)	No
Recognized Environmental Condition (REC)	No

Recommendations

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the Vacant Land located South of Beck Road and West of Nixon Road, identified as parcel numbers 11-17-200-004, 11-17-200-005, and part of 11-17-200-008, Howell, Livingston County, Michigan, the property. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of recognized environmental conditions connected with the property. No further investigation is recommended.

The summary presented above is general in nature and should not be considered apart from the entire text of the report, which contains the qualifications, considerations and subject property details mentioned herein. Details of findings and conclusions are elaborated upon in this report.

This report has been reviewed for its completeness and accuracy. Please feel free to contact our office at (800) 313-2966 to discuss this report.

REPORT PREPARED BY:

PM Environmental, Inc.



Carrie Donohoe
Staff Consultant

REPORT REVIEWED BY:

PM Environmental, Inc.



Jackie Schafer
Project Consultant



Kevin Kruszewski, P.G.
VP Environmental Risk Management

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FIGURES

Figure 1: Site Location Map

Figure 2: Generalized Diagram of the Subject Property and Surrounding Area

APPENDICES

Appendix A: Property Photographs from Site Reconnaissance

Appendix B: Correspondence and Supporting Documentation

Appendix C: Previous Site Investigations

Appendix D: Regulatory Database and File Review Correspondence

Appendix E: Professional Resumes

Appendix F: Acronyms and Terminology, Scope of Work, ASTM Reference Document, and User's Continuing Obligations under CERCLA

1.0 INTRODUCTION

This Phase I ESA was conducted in accordance with (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries {(AAI), 40 CFR Part 312} and (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process / Designation E 1527-13* (ASTM Standard Practice E 1527-13).

THIS REPORT WAS PREPARED FOR THE EXCLUSIVE USE OF LATSON FARM, LLC WHO MAY RELY ON THE REPORT'S CONTENTS.

PM acknowledges that this party may rely on the contents and conclusions presented in this report. Unless stated otherwise in writing, PM makes no other warranty, representation, or extension of reliance upon the findings of this report to any other entity or third party.

1.1: Property Overview

Subject Property Location/Address	South of Beck Road and West of Nixon Road, identified as parcel numbers 11-17-200-004, 11-17-200-005, and part of 11-17-200-008, Howell, Livingston County, Michigan
Number of Parcels and Acreage	Two parcels and a portion of a third parcel totaling approximately 156 acres
Number of Building(s) and Square Footage	Two small sheds
Current Property Use	Agricultural Land
Current Zoning	CE: Country Estate

The subject property location is depicted on Figure 1, Site Location Map. A diagram of the subject property and adjoining properties is included as Figure 2, Generalized Diagram of the Subject Property and Surrounding Area.

1.2: Purpose and Scope of Services

The purpose of this Phase I ESA was to evaluate the current and historical conditions of the subject property in an effort to identify *recognized environmental conditions* (RECs), *controlled recognized environmental conditions* (CRECs), and *historical recognized environmental conditions* (HRECs) in connection with the subject property. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs, CRECs, and HRECs in connection with the subject property.

Acronyms and terms used in this report are described in Appendix F. Additionally, PM's scope of services is included in Appendix F.

1.3: Significant Assumptions

Pursuant to ASTM Standard Practice E 1527-13, PM assumes that the information provided by all sources and parties, including the User, is accurate and complete, except where obvious inconsistencies or inaccuracies were identified.

1.4: Limitations, Deviations, and Special Terms and Conditions

There are no deviations from the ASTM Standard. Non-ASTM Scope considerations are included in Section 11.0. Any physical limitations identified during the completion of this report are referenced in Section 7.0.

Due to changing environmental regulatory conditions and potential on-site or adjacent activities occurring after this assessment, the client may not presume the continuing applicability to the subject property of the conclusions in this assessment for more than 180 days after the report's issuance date, per ASTM Standard Practice E 1527-13.

To the best of PM's knowledge, no special terms or conditions apply to the preparation of this Phase I ESA that would deviate the scope of work from the ASTM Standard Practice E 1527-13.

2.0 USER PROVIDED INFORMATION

The ASTM Standard defines a User as "the party seeking to use Practice E 1527 to complete an environmental site assessment. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager." The User has specific obligations for completing a successful application of this practice as outlined in Section 6 of the ASTM Standard Practice E 1527-13.

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "Brownfield's Amendments") (if desired), the User must provide certain information (if available) identified in the User Questionnaire to the environmental professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

The following responses were provided by the User. A copy of the completed User Questionnaire is included in Appendix B.

Question	Response
Name of Preparer and User Entity	Todd Wyett, Latson Farm, LLC
Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?	No
Are you aware of any Activity and Use Limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?	No
As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	No
Does the purchase price being paid for this property reasonably reflect the fair market value of the property?	Yes

Question	Response
If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	Not applicable
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:	
Do you know the past uses of the property?	No
Do you know of specific chemicals that are present or once were present at the property?	No
Do you know of spills or other chemical releases that have taken place at the property?	No
Do you know of any environmental cleanups that have taken place at the property?	No
As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?	No

2.1: Recorded Land Title Records

A chain of title was not conducted for the subject property by PM. The User provided PM with a commitment of title insurance, which was completed for the subject property in 2016. The title documents indicate that the subject property has been owned by owned by The Charles G. Latson Revocable Living Trust since at least 2007. Title information contained documents associated with the former oil and gas well, which is summarized in Section 3.0.

2.2: Reason for Performing this Phase I ESA

According to the User, this Phase I ESA was conducted as part of environmental due diligence related to purchasing the subject property.

3.0 PHYSICAL SETTING

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY AND SURROUNDING AREA		SOURCE
Topography: Refer to Figure 1 for an excerpt of the Topographic Map		
<i>Site Elevation</i>	950 to 1,000 feet above mean sea level (msl)	United States Geological Survey Division (U.S.G.S.) 7.5-Minute Topographic Map of the Howell, Michigan Quadrangle, 1968 (photo revised in 1983)
<i>Topographic Gradient</i>	South	
<i>Closest Surface Water</i>	The Marion and Genoa Drain, located approximately 500 feet south.	
General Soil Characteristics: Refer to Appendix B for a copy of the soil survey map and soil type descriptions		
<i>Soil Type</i>	The subject property contains nine soil types.	

PHYSICAL SETTING INFORMATION FOR THE SUBJECT PROPERTY AND SURROUNDING AREA		SOURCE
<i>Description</i>	A general soil profile consists of loam, loamy sand, sand, sandy loam, clay loam, sandy clay loam, gravelly sand, and/or muck to 80 inches below ground surface (bgs). These soils range from poorly drained to well drained. The risk of corrosion for uncoated steel and for concrete ranges from low to high.	United States Department of Agriculture, Custom Soil Survey of Livingston County, Michigan (survey area data: September 2015)
Area Specific Geology/Hydrogeology Characteristics:		
<i>Geology</i>	Geology was documented as clay to 10.0 feet bgs, gravel and stones to 85.0 feet bgs, underlain by gravel to 90.0 feet bgs.	A water well record for the north adjoining property.
<i>Hydrogeology</i>	Static water grade was encountered at 55.0 feet bgs. No groundwater flow direction was calculated.	
Oil and Gas Wells:		
<i>Current Oil and Gas Wells on Subject Property</i>	None identified	MDEQ Geologic Survey Division (GSD) web site
<i>Historical Oil and Gas Wells On Subject property</i>	A test well was drilled in 1930, and plugged in 1932 as a dry hole. Documentation of the former well is included in Appendix B. Based on the lack of production from the test well, and being plugged, PM has not identified the former oil and gas well as a REC.	

4.0 RECORDS REVIEW

PM reviewed reasonably ascertainable records to identify obvious uses of the subject property from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. Reasonably ascertainable records reviewed as part of this Phase I ESA documented the use of the property. Reasonably ascertainable records for the subject property extended back to approximately 1937. Data failure occurred prior to that date. PM did not identify any significant data gaps during the completion of this Phase I ESA.

4.1: Aerial Photographs and Sanborn Maps

PM reviewed reasonably ascertainable aerial photographs for the subject property area. The sources and years reviewed are identified in the table below. Relevant aerial photographs are included in Appendix B.

PM attempted to review reasonably ascertainable Sanborn Fire Insurance Maps for the subject property. However, no Sanborn Fire Insurance Maps were available for the subject property (Appendix B).

The following table summarizes the sources reviewed and the information obtained about the subject property from these sources. Information obtained about the adjoining properties from these sources is summarized in Section 8.0.

Aerial Summary for the Subject Property

Year and Source	Summary of Information
1937 Aerial (MSU)	The majority of the property appears to be agricultural land based on the presence of well-defined field perimeters. Wooded areas are present in the southern and eastern portions of the property, similar to current layout.
1940 Aerial (MSU)	Appears similar to the previous aerial year.
1950 Aerial (MSU)	Appears similar to the previous aerial year.
1955 Aerial (MSU)	Appears similar to the previous aerial year.
1966 Aerial (Livingston County)	Appears similar to the previous aerial year.
1970 Aerial (SEMCOG)	Appears similar to the previous aerial year.
1975 Aerial (SEMCOG)	Appears similar to the previous aerial year.
1980 Aerial (Livingston County)	Appears similar to the previous aerial year.
1985 Aerial (Livingston County)	Appears similar to the previous aerial year.
1990 Aerial (Livingston County)	Appears similar to the previous aerial year.
1995 Aerial (Livingston County)	Appears similar to the previous aerial year.
2000 Aerial (Livingston County)	Appears similar to the previous aerial year.
2005 Aerial (Livingston County)	Appears similar to the previous aerial year.
2010 Aerial (Livingston County)	Appears similar to the previous aerial year.
2015 Aerial (Livingston County)	Appears similar to the previous aerial year.

A summary of this information along with other historical sources is included in Section 6.0.

4.2: Local Street Directories

Reasonably ascertainable local street directories for Howell, Michigan were researched. Directories were available from 1971 to 2014. Directories were researched in at least five-year increments, when available. It should not be construed that the earliest date represented is the initial date of occupancy.

PM also reviewed listings for adjoining commercial properties. Information from the listings reviewed is included in Section 8.0.

Historic Subject Property Address: 3684 Beck Road*

2014-2010 Not Listed
 2007-2006 No Phone
 2003-1972 Residential

*This address is associated with the current north adjoining property, which is a portion of the current northern parcel. The current parcel boundaries are in the process of being reconfigured.

A summary of this information along with other historical sources is included in Section 6.0.

4.3: Assessing Department

Reasonably ascertainable assessment information provided by the Genoa Township Assessing Department was obtained and reviewed. Assessing records document that the subject property consists of three parcels, totaling 220 acres of vacant and agricultural land and a farmhouse and

outbuildings. The subject actually consists of two parcels and a portion of a third parcel totaling approximately 156 acres which consists of vacant and agricultural land. According to the prospective purchaser, the subject property parcel boundaries are currently being reconfigured, and the subject property will contain two parcels. Historical assessing documents several buildings on the subject property; however, these are on the north adjoining property. Copies of available assessment records for the subject property and the current legal description are included in Appendix B.

4.4: Building Department

PM submitted a Freedom of Information Act (FOIA) request to the Livingston County Building Department to review Building Department records for the subject property. PM received a written response indicating that no records were available for the subject property.

4.5: Fire Department

PM submitted a FOIA request to the Brighton Area Fire Authority to review Fire Department records for the subject property. PM received a written response indicating that there are no records of incidents of fires, chemical spills, dumping, or HAZMAT responses to the subject property.

4.6: Health Department

PM submitted a request to the Livingston County Health Department. PM received copies of a water well installation diagram for the north adjoining property water well. No records were available for the subject property.

4.7: Utilities

4.7.1: Municipal Water/Water Wells

Given that the subject property is currently and has historically been vacant and agricultural land, and that the sheds are not currently nor have historically been connected to a water source, it is not connected to a water source. According to a representative of the Marion, Howell, Oceola, and Genoa Sewer and Water Authority, municipal water is not available in the subject property area. No records of private water wells have been identified through review of reasonably ascertainable information.

4.7.2: Sanitary Sewer/Septic System

Given that the subject property is currently and has historically been vacant and agricultural land, and that the sheds are not currently nor have historically been connected to a waste water source, it is not connected to a waste water source. According to a representative of the Marion, Howell, Oceola, and Genoa Sewer and Water Authority, municipal sewer is not available in the subject property area. No records of private septic fields have been identified through review of reasonably ascertainable information.

4.7.3: Heat Source

Given that the subject property is currently and has historically been vacant and agricultural land, and that the sheds are not currently nor have historically been connected to a heat source, it is not connected to a heat source. Review of the Consumers Energy SIMS website indicates natural gas has been available to the subject property area since at least 2014. No alternative heat sources have been identified through review of reasonably ascertainable information.

4.8: Underground Storage Tank (UST) Systems

Review of reasonably ascertainable standard and other historical sources, and site observations, have not identified the current and historical presence of USTs on the subject property. Specifically, no records of USTs were identified though review of reasonably ascertainable records and PM did not observe any evidence of USTs (i.e. fill ports, vent pipes, etc.) during the site reconnaissance. Additionally, the current owner indicated he had no knowledge of USTs associated with the subject property.

4.9: Previous Environmental Reports

No previous site investigations were identified by PM for the subject property. Previous reports may exist for the subject property, however, none were provided to PM by the client or owner of the property, and none were available with the appropriate state regulatory agencies.

4.10: Environmental Liens, Activity and Use Limitations, and Government Institutional and Engineering Controls

PM has not identified any record of environmental liens, activity and use limitations, or institutional controls or engineering controls associated with the subject property through review of reasonable ascertainable records.

5.0 INTERVIEWS

The objective of completing interviews with knowledgeable site contacts is to obtain information about the uses and physical characteristics of the property. In general, interviewees supported the information reviewed from other historical sources (i.e. aerial photos, city records, etc.).

Represents	Interviewed	Name and Title	Length of Time Associated with Subject Property	Comments
Current Property Owner	Yes	Mr. Jim Latson, owner	69 years. The property has been in the Latson family for roughly 135 years.	Mr. Latson indicated the property has been an active farm, for at least the past 135 years and has always been vacant and agricultural land.
Former Property Owner	No	Not applicable	Not applicable	Contact information for the former owner was not reasonably ascertainable or provided by the User

Represents	Interviewed	Name and Title	Length of Time Associated with Subject Property	Comments
Key Site Manager	Yes	Mr. Jim Latson, owner	See Above	See Above
Current Occupant(s)	No	Not applicable	Not applicable	Since the subject property is currently vacant and agricultural land, a current occupant was not available for interview.
Former Occupant(s)	No	Not applicable	Not applicable	Contact information for the former occupants was not reasonably ascertainable or provided by the User
Other(s)	No	Not applicable	Not applicable	No other relevant interviews were conducted as part of this Phase I ESA.

6.0 SUMMARY OF HISTORICAL USE

Standard and other historical sources were able to document that the subject property has been agricultural land since at least 1937.

7.0 SUBJECT PROPERTY RECONNAISSANCE

Reconnaissance Information	
PM Field Personnel:	Chris Johnstone
Site Reconnaissance Date:	August 23, 2016
Escort:	PM was not escorted during the site reconnaissance
Limitations:	Observations limited by overgrown vegetation/wooded areas in the southeastern and southwestern portions of the property.

7.1: Subject Property Observations

The subject property contains approximately 156 acres consisting of agricultural land and wooded/grassy areas. Two small unfinished wooden sheds with dirt floors are present in the north central portion of the property.

The following table summarizes the site observations.

Category	Feature	Observed
Interior Equipment	Elevators	No
	Air Compressors	No
	Incinerators	No
	Waste Treatment Systems	No
	Presses/Stamping Equipment	No
	Press Pits	No
	Hydraulic Lifts or In-ground hoists	No
	Paint Booth	No
	Plating Tanks	No
	Lathes, Screw Machines, etc.	No

Category	Feature	Observed
Aboveground Chemical or Other Waste Storage or Waste Streams	Aboveground Storage Tanks (ASTs)	No
	Drums, Barrels and/or Containers > 5 gallons	No
	Chip Hoppers	No
	Hazardous or Petroleum Waste Streams	No
Underground Chemical or Waste Storage, Drainage or Collection Systems	Underground Storage Tanks	No
	Fuel Dispensers	No
	Sumps or Cisterns	No
	Dry Wells	No
	Oil/Water Separators	No
	Floor Drains, Trench Drains, etc.	No
	Pipeline Markers	No
Exterior Observations	Stressed Vegetation	No
	Stained Soil or Pavement	No
	Monitoring Wells	No
	Pad or Pole Mounted Transformers and/or Capacitors	No
	Soil Piles of Unknown Origin	No
	Exterior Dumpsters with Staining	No
	Leachate or Other Waste Seeps	No
	Trash, Debris, and/or Other Waste Materials	No
	Uncontrolled Dumping or Disposal Areas	No
	Surface Water Discoloration, Sheen or Free Product	No
	Strong, Pungent or Noxious Odors	No
	Storm water retention or detention ponds	No
	Pits, Ponds, Lagoons	No

7.1.1: Current Operations

The subject property is currently agricultural land including grassy and wooded areas.

8.0 ADJOINING PROPERTIES

The following paragraphs provide information about the adjoining properties obtained during the site reconnaissance and through review of reasonably ascertainable information.

North Adjoining Property, across the railroad tracks

The north adjoining property, identified as 3684 Beck Road, is currently unoccupied residential and agricultural land. The property consists of barns and structures that were related to the agricultural activities at the subject property.

East, South, and West Adjoining Properties

The east adjoining properties are currently and have historically been agricultural, residential, a horse boarding stable, or vacant land.

9.0 REGULATORY RECORDS REVIEW

PM retained EDR to provide current regulatory database information compiled by a variety of federal and state regulatory agencies. A copy of the complete database is included in Appendix D. The following information was obtained:

Type	Regulatory Agency Database	Approximate Minimum Search Distance (AMSD)	Number of Sites within AMSD
Federal	National Priority List (NPL) Sites	1 mile	0
Federal	Delisted National Priority List (DNPL) Sites	½ mile	0
Federal	Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Sites	½ mile	0
Federal	CERCLIS No Further Remediation Action Planned (NFRAP) Sites	½ mile	0
Federal	Resource Conservation and Recovery Act (RCRA) Corrective Action Report (CORRACTS) Sites	1 mile	0
Federal	RCRA non-CORRACTS Treatment, Storage or Disposal (TSD) Sites	½ mile	0
Federal	RCRA Large Quantity Generators (LQG) Sites	subject property and adjoining properties	0
Federal	RCRA Small Quantity Generators (SQG) Sites	subject property and adjoining properties	0
Federal	RCRA Conditionally Exempt Small Quantity Generators (CESQG) Sites	subject property and adjoining properties	0
Federal	RCRA Non-Generators (NON-GEN) Sites	subject property and adjoining properties	0
Federal	Institutional Control / Engineering Control Registries	subject property	0
Federal	Environmental Response and Notification System (ERNS)	subject property	0
State & Tribal	Hazardous Waste Sites (HWS) (equivalents to NPL and CERCLIS)	1 mile	0
State & Tribal	Solid Waste Facilities/Landfill Sites (SWLF)	½ mile	0
State & Tribal	Leaking Underground Storage Tank (LUST) Sites	½ mile	0
State & Tribal	Registered Underground Storage Tank (UST) Sites	subject property and adjoining properties	0
State & Tribal	Institutional Control / Engineering Control Registries	subject property	0
State & Tribal	Brownfield Sites	½ mile	0
State & Tribal	Baseline Environmental Assessment (BEA) Sites	½ mile	0
Either	Unmappable Database Listings (a.k.a. Orphan Sites)	database-dependent	0

9.1: Subject Property and Occupant Listings

The subject property or its known occupants are not identified in the referenced databases.

9.2: Adjoining and Nearby Sites

PM's review of the referenced databases also considered the potential or likelihood of contamination from adjoining and nearby sites. To evaluate which of the adjoining and nearby sites identified in the regulatory database report present an environmental risk to the subject property, PM considered the following criteria:

- The type of database on which the site is identified.
- The topographic position of the identified site relative to the subject property.
- The direction and distance of the identified site from the subject property.
- Local soil conditions in the subject property area.
- The known or inferred groundwater flow direction in the subject property area.
- The status of the respective regulatory agency-required investigation(s) of the identified site, if any.
- Surface and subsurface obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines, rivers, lakes, and ditches) located between the identified site and the subject property.

Only those sites that are judged to present a potential environmental risk to the subject property and/or warrant additional clarification are further evaluated. Using the referenced criteria, and based upon a review of readily available information contained within the regulatory database report, PM did not identify adjoining (i.e., bordering) or nearby sites (e.g., properties within a ¼-mile radius) listed in the regulatory database report that were judged to present a potential environmental risk to the subject property.

10.0 FINDINGS, OPINIONS AND CONCLUSIONS

10.1: De Minimis Condition

A de minimis condition, as defined in the ASTM Standard, is a condition that generally does not present a threat to human health or the environment and generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not RECs or CRECs. No de minimis conditions were identified during this assessment.

10.2: Significant Data Gaps

A data gap, as defined in the ASTM Standard, is a lack of or inability to obtain information required by the ASTM Standard despite good faith efforts by the environmental professional to gather such information. The environmental professional must then determine whether these gaps are significant. PM did not identify or encounter any instances of significant data gaps during the course of this ESA.

10.3: Historical Recognized Environmental Conditions (HRECs)

An HREC, as defined in the ASTM Standard, is a past release of hazardous substances or petroleum products that has occurred in connection with the subject property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted residential use criteria established by a regulatory authority, without subjecting the subject

property to any required controls. PM has not identified any HRECs in association with the subject property.

10.4: Controlled Recognized Environmental Conditions (CRECs)

A CREC, as defined in the ASTM Standard, is a recognized environmental condition (REC) resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls. PM has not identified any CRECs in association with the subject property.

10.5: Recognized Environmental Conditions (RECs)

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the Vacant Land located South of Beck Road and West of Nixon Road, identified as parcel numbers 11-17-200-004, 11-17-200-005, and part of 11-17-200-008, Howell, Livingston County, Michigan, the property. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of recognized environmental conditions connected with the property.

10.6: Recommendations

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of the Vacant Land located South of Beck Road and West of Nixon Road, identified as parcel numbers 11-17-200-004, 11-17-200-005, and part of 11-17-200-008, Howell, Livingston County, Michigan, the property. Any exceptions to, or deletions from, this practice are described in Section 1.4 of this report. This assessment has revealed no evidence of recognized environmental conditions connected with the property. Therefore, no further investigation is recommended at this time.

11.0 NON-ASTM SCOPE CONSIDERATIONS/BUSINESS ENVIRONMENTAL RISKS

PM has included a discussion of Non-ASTM Scope Considerations based upon industry standards and lender requirements. A Business Environmental Risk is defined as a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated in this practice.

Non-ASTM Item	Observations or Information
Potential Asbestos Containing Building Materials (ACBM)	The sheds did not contain any suspect ACBM; therefore this section is not applicable.
Lead Based Paint	The sheds did not contain any painted surfaces, therefore this section is not applicable.
Visual Mold or Significant Moisture Damage	PM performed a limited visual assessment for the presence of mold, conditions conducive to mold, and evidence of moisture in readily accessible interior areas of the subject property. PM did not note obvious visual indications of the presence of mold, conditions conducive to mold, or evidence of moisture in readily accessible interior areas of the subject property.

Non-ASTM Item	Observations or Information
Wetlands	Based upon PM's visual observations during the site reconnaissance, low lying potential wetland type areas were observed in the eastern and north central portion of the property. Additionally, review of the U.S. Fish and Wildlife Service National Wetlands Inventory indicates that the eastern portion of the property is occupied by a freshwater forested/shrub wetland, and the north central portion of the property is occupied by a freshwater emergent wetland. In the event of any planned future development in potential wetland areas, PM recommends that a wetland survey be completed to identify regulated wetland areas and determine any development limitations/implications, if any.

12.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental professional* as defined in §312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquires in conformance with the standards and practices set forth in 40 CFR Part 312.



Jackie Schafer
 Project Consultant



Kevin Kruszewski, P.G
 VP Environmental Risk Management

13.0 REFERENCES

The following published sources were utilized during completion of this Phase I ESA:

- *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, ASTM, ASTM Designation E 1527-13, Published November 2013.
- Bresser's Cross-Index City Directories, Bresser's in Detroit, Michigan. City: Howell. Years: 1971-2014.
- United States Geological Survey Division (U.S.G.S.) 7.5 Minute Topographic Map Howell, Michigan Quadrangle, 1968 (photo-revised 1983).
- *Soil Survey of Livingston County, Michigan*, U.S. Department of Agriculture, Michigan (survey area data September 2015.)

Figures



Figure 1: Site Location Map

Vacant Land
 Located South of Beck Road and West of Nixon Road, Howell, Michigan
 PM Project No. 01-7525-0-0001

United States Geological Survey Division (U.S.G.S.) 7.5-Minute
 Topographic Map of the Howell, Michigan Quadrangle

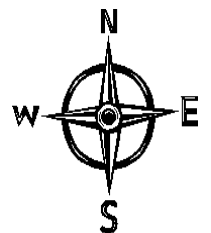
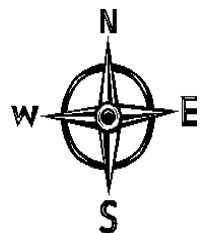




Figure 2: Generalized Diagram of the Subject Property and Surrounding Area

Vacant Land
 Located South of Beck Road and West of Nixon Road, Howell, Michigan
 PM Project No. 01-7525-0-0001



Appendix A



SITE PHOTOGRAPHS



Photographs From Site Reconnaissance
PM Project No. 01-7525-0-0001
Location: South of Beck Road and West of Nixon Road, Genoa Township, Michigan

Photograph 1



Subject property

Photograph 2



View of northern portion of subject property



Photographs From Site Reconnaissance
PM Project No. 01-7525-0-0001
Location: South of Beck Road and West of Nixon Road, Genoa Township, Michigan

Photograph 3



View of southern portion of subject property

Photograph 4



View of eastern portion of subject property



Photographs From Site Reconnaissance
PM Project No. 01-7525-0-0001
Location: South of Beck Road and West of Nixon Road, Genoa Township, Michigan

Photograph 5



View of western portion of subject property

Photograph 6



View of central portions of subject property



Photographs From Site Reconnaissance
PM Project No. 01-7525-0-0001
Location: South of Beck Road and West of Nixon Road, Genoa
Township, Michigan

Photograph 7



View of shed interior

Photograph 8



View of typical wooded areas around the
subject property



Photographs From Site Reconnaissance
PM Project No. 01-7525-0-0001
Location: South of Beck Road and West of Nixon Road, Genoa Township, Michigan

Photograph 9



View of north adjoining property 3684 Beck Road

Photograph 10



View of west adjoining residential property

Appendix B



USER QUESTIONNAIRE

Phase I ESA - ASTM User Questionnaire

Project Address:	Vacant Land South of Beck Road and West of Nixon Road, Genoa Township, Michigan
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The ASTM Standard defines a User as "the party seeking to use Practice E 1527 to complete an environmental site assessment. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "Brownfield's Amendments") the **User** must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

Please answer the following questions to the best of your knowledge and return to PM Environmental, Inc. (PM) with the signed copy of your proposal.

1. Environmental Clean-up liens that are filed or recorded against the site (40 CFR 312.25)

Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law? Yes No

If so, please describe the type of liens:

2. Activity and land use limitations that are in place on the site or that have been filed in a registry (40 CFR 312.26)

Are you aware of any Activity and Use Limitations (AULs), such as engineering controls, land use restrictions, or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law? Yes No

If yes, what type of AULs are you aware of?

3. Specialized knowledge or experience of the person seeking to qualify for a LLP (40 CFR 312.28)

As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and the processes used by this type of business? Yes No

If yes, what type of business are you associated with?

What types of chemicals are used in your business?

Phase I ESA - ASTM User Questionnaire

Project Address:	Vacant Land South of Beck Road and West of Nixon Road, Genoa Township, Michigan
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4. Relationship to the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29)

Does the purchase price being paid for this property reasonably reflect the fair market value of the property? Yes No

If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? Yes No

5. Commonly known or reasonably ascertainable information about the property (40 CFR 312.30)

Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example as a user:

a. Do you know of the past uses of the property? Yes No

If yes, please list what past uses you are aware of? _____

b. Do you know of specific chemicals that are present or once were present at the property? Yes No

If yes, please list what chemicals you are aware of? _____

c. Do you know of spills or other chemical releases that have taken place on the property? Yes No

d. Do you know of any environmental cleanups which have taken place on the property? Yes No

If yes, do you have copies of any of the reports documenting the work? Yes No

If you have any documentation of the previous environmental clean-up please provide copies to PM when you return this questionnaire.

Phase I ESA - ASTM User Questionnaire

Project Address:	Vacant Land South of Beck Road and West of Nixon Road, Genoa Township, Michigan
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6. The degree of the obviousness of the presence or likely presence of contamination at the property and the ability to detect the contamination by appropriate investigation (40CFR 312.31)

As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination on the property? Yes **No**

If yes, please comment on what those indicators are (i.e. lower purchase price, areas of staining, poor housekeeping, etc).:

User Name:

TODD WYATT

Company Name property is being purchased under:

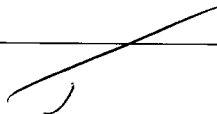
TBD

Street Address:

City, State, Zip code:

User Phone Number:

Signature of the User:



Date Questionnaire was completed on:

8/12/16

SOIL SURVEY INFORMATION



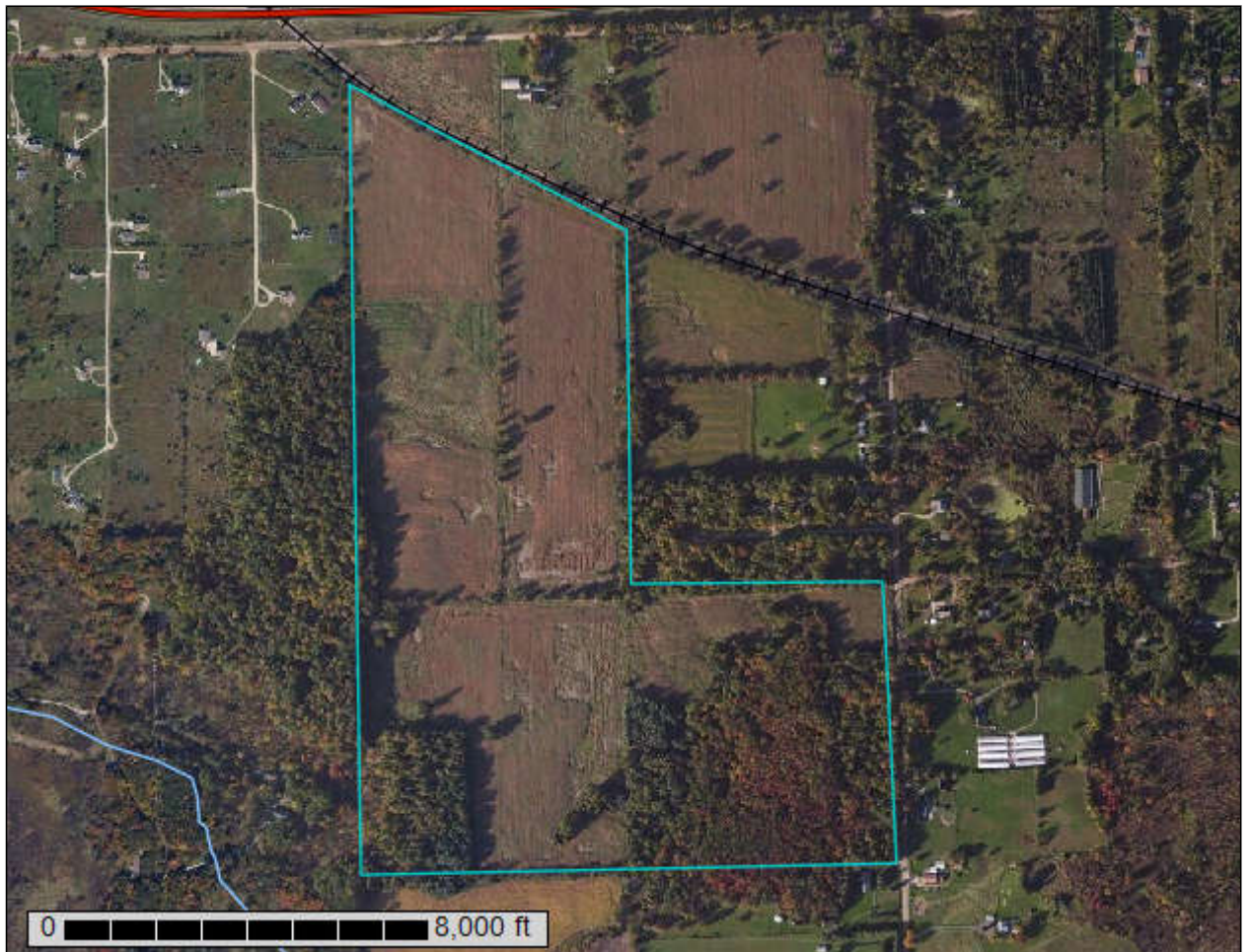
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Livingston County, Michigan**



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

Custom Soil Resource Report

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

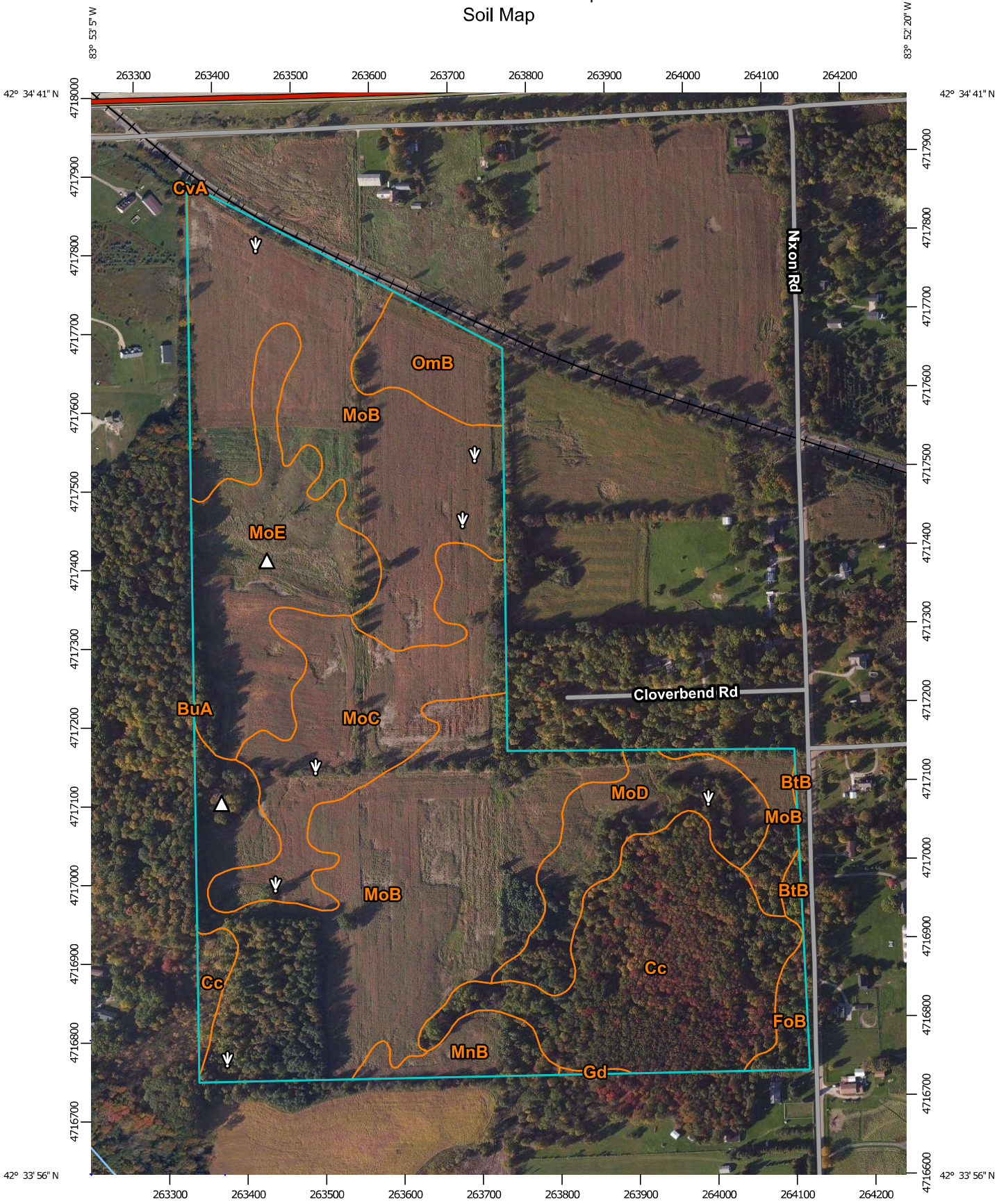
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:6,690 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters


0 300 600 1200 1800 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 17N WGS84




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils





 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Livingston County, Michigan
 Survey Area Data: Version 13, Sep 18, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 18, 2011—Mar 21, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map-unit boundaries may be evident.

Map Unit Legend

Livingston County, Michigan (MI093)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BtB	Boyer-Oshtemo loamy sands, 2 to 6 percent slopes	0.5	0.3%
BuA	Brady loamy sand, 0 to 2 percent slopes	0.0	0.0%
Cc	Carlisle muck	21.4	15.3%
CvA	Conover loam, 0 to 2 percent slopes	0.0	0.0%
FoB	Fox sandy loam, 2 to 6 percent slopes	1.6	1.1%
Gd	Gilford sandy loam, 0 to 2 percent slopes, gravelly subsoil	0.1	0.1%
MnB	Metea loamy sand, 2 to 6 percent slopes	3.2	2.3%
MoB	Miami loam, 2 to 6 percent slopes	66.6	47.5%
MoC	Miami loam, 6 to 12 percent slopes	16.5	11.8%
MoD	Miami loam, 12 to 18 percent slopes	9.1	6.5%
MoE	Miami loam, 18 to 25 percent slopes	16.1	11.4%
OmB	Owosso-Miami sandy loams, 2 to 6 percent slopes	5.0	3.6%
Totals for Area of Interest		140.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Custom Soil Resource Report

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be

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made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Livingston County, Michigan

BtB—Boyer-Oshtemo loamy sands, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 694p
Elevation: 830 to 1,090 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: Farmland of local importance

Map Unit Composition

Boyer and similar soils: 50 percent
Oshtemo and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Boyer

Setting

Landform: Moraines, outwash plains
Landform position (two-dimensional): Foothlope, toeslope, backslope, shoulder, summit
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Typical profile

Ap - 0 to 9 inches: loamy sand
A - 9 to 16 inches: loamy sand
Bt1 - 16 to 28 inches: gravelly sandy loam
Bt2 - 28 to 36 inches: gravelly sandy clay loam
2C - 36 to 80 inches: gravelly sand

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 25 percent
Available water storage in profile: Low (about 4.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Oshtemo

Setting

Landform: Moraines, outwash plains

Landform position (two-dimensional): Foothlope, toeslope, backslope, shoulder, summit

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loamy and/or sandy over stratified sandy and gravelly glaciofluvial deposits

Typical profile

Ap - 0 to 10 inches: loamy sand

E - 10 to 30 inches: sand

Bw - 30 to 39 inches: loamy sand

Bt1 - 39 to 45 inches: sandy loam

Bt2 - 45 to 50 inches: sandy clay loam

2C - 50 to 80 inches: gravelly sand

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: B

Hydric soil rating: No

Minor Components

Oakville

Percent of map unit: 3 percent

Landform: Deltas on till plains, knolls on outwash plains

Landform position (two-dimensional): Foothlope, backslope, shoulder, summit, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Miami

Percent of map unit: 3 percent

Landform: Moraines, till plains

Landform position (two-dimensional): Shoulder, summit, foothlope, backslope

Landform position (three-dimensional): Rise

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Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Fox

Percent of map unit: 3 percent
Landform: Outwash plains, valley trains, moraines
Landform position (two-dimensional): Shoulder, summit, footslope, toeslope, backslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Gilford

Percent of map unit: 2 percent
Landform: Depressions on outwash plains, glacial drainage channels, lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Spinks

Percent of map unit: 2 percent
Landform: Moraines, till plains, knolls on outwash plains
Landform position (two-dimensional): Footslope, shoulder, backslope, summit, toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Tawas

Percent of map unit: 2 percent
Landform: Depressions on outwash plains, depressions on lake plains, depressions on moraines, depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

BuA—Brady loamy sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 694v
Elevation: 850 to 1,030 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F

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Frost-free period: 136 to 173 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Brady and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brady

Setting

Landform: Swales on outwash deltas, swales on valley trains, swales on lake plains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loamy over sandy and gravelly glaciofluvial deposits

Typical profile

Ap - 0 to 8 inches: loamy sand

E - 8 to 17 inches: sand

Bw - 17 to 25 inches: loamy sand

Bt1 - 25 to 30 inches: sandy clay loam

Bt2 - 30 to 37 inches: sandy loam

Bt3 - 37 to 51 inches: loamy sand

2C - 51 to 80 inches: gravelly sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 6.00 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Available water storage in profile: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Hydric soil rating: No

Minor Components

Lamson

Percent of map unit: 2 percent

Landform: Depressions on outwash plains, depressions on lake plains, depressions on till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

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Bronson

Percent of map unit: 2 percent

Landform: Outwash plains, valley trains

Landform position (two-dimensional): Footslope, toeslope, backslope, shoulder, summit

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Minoa

Percent of map unit: 2 percent

Landform: Till plains, depressions on outwash plains, lake plains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Base slope, rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Gilford

Percent of map unit: 2 percent

Landform: Depressions on outwash plains, glacial drainage channels, lake plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Tawas

Percent of map unit: 2 percent

Landform: Depressions on outwash plains, depressions on lake plains, depressions on moraines, depressions on till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Cc—Carlisle muck

Map Unit Setting

National map unit symbol: 694z

Elevation: 830 to 1,050 feet

Mean annual precipitation: 31 to 33 inches

Mean annual air temperature: 47 to 48 degrees F

Frost-free period: 136 to 173 days

Farmland classification: Farmland of local importance

Map Unit Composition

Carlisle and similar soils: 90 percent

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Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Carlisle

Setting

Landform: Depressions on moraines, depressions on till plains, depressions on glacial drainage channels, depressions on lake plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Herbaceous organic material and/or woody organic material

Typical profile

Oa1 - 0 to 23 inches: muck

Oa2 - 23 to 80 inches: muck

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Very poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Available water storage in profile: Very high (about 23.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: A/D

Hydric soil rating: Yes

Minor Components

Tawas

Percent of map unit: 5 percent

Landform: Depressions on lake plains, depressions on moraines, depressions on till plains, depressions on outwash plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Linwood

Percent of map unit: 5 percent

Landform: Depressions on lake plains, depressions on moraines, depressions on till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

CvA—Conover loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 6951
Elevation: 830 to 1,090 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Conover and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Conover

Setting

Landform: Moraines, till plains
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 13 inches: loam
Bt1 - 13 to 25 inches: clay loam
Bt2 - 25 to 34 inches: clay loam
C1 - 34 to 41 inches: clay loam
C2 - 41 to 80 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

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Hydric soil rating: No

Minor Components

Metamora

Percent of map unit: 3 percent
Landform: Moraines, till plains
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Brookston

Percent of map unit: 3 percent
Landform: Depressions on moraines, depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Carlisle

Percent of map unit: 3 percent
Landform: Depressions on glacial drainage channels, depressions on lake plains, depressions on moraines, depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Metea

Percent of map unit: 1 percent
Landform: Moraines, till plains
Landform position (two-dimensional): Toeslope, backslope, shoulder, summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

FoB—Fox sandy loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 6956
Elevation: 830 to 1,070 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Fox and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fox

Setting

Landform: Outwash plains, valley trains, moraines

Landform position (two-dimensional): Footslope, toeslope, backslope, shoulder, summit

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loamy over stratified sandy and gravelly glaciofluvial deposits

Typical profile

A - 0 to 9 inches: sandy loam

E - 9 to 13 inches: sandy loam

Bt1 - 13 to 24 inches: sandy clay loam

Bt2 - 24 to 34 inches: sandy clay loam

Bt3 - 34 to 36 inches: gravelly loam

2C - 36 to 80 inches: gravelly sand

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Oshtemo

Percent of map unit: 3 percent

Landform: Outwash plains, moraines

Landform position (two-dimensional): Summit, shoulder, backslope, toeslope, footslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

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Boyer

Percent of map unit: 3 percent

Landform: Outwash plains, glacial drainage channels on moraines

Landform position (two-dimensional): Backslope, shoulder, summit, footslope, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Wasepi

Percent of map unit: 2 percent

Landform: Knolls on valley trains, knolls on glacial drainage channels, knolls on outwash plains

Landform position (two-dimensional): Footslope, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Miami

Percent of map unit: 2 percent

Landform: Moraines, till plains

Landform position (two-dimensional): Footslope, backslope, shoulder, summit

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Gd—Gilford sandy loam, 0 to 2 percent slopes, gravelly subsoil

Map Unit Setting

National map unit symbol: 2w5lx

Elevation: 660 to 990 feet

Mean annual precipitation: 30 to 41 inches

Mean annual air temperature: 43 to 52 degrees F

Frost-free period: 140 to 200 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Gilford, gravelly subsoil, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilford, Gravelly Subsoil

Setting

Landform: Glacial drainage channels, glacial drainage channels

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

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Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Coarse-loamy drift over sandy and gravelly outwash

Typical profile

Ap - 0 to 11 inches: sandy loam

Bg - 11 to 30 inches: sandy loam

BCg - 30 to 35 inches: loamy sand

Cg - 35 to 80 inches: gravelly sand

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Runoff class: Negligible

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 14.17 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum in profile: 26 percent

Salinity, maximum in profile: Nonsaline (0.0 to 0.3 mmhos/cm)

Sodium adsorption ratio, maximum in profile: 1.0

Available water storage in profile: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Hydric soil rating: Yes

Minor Components

Brady

Percent of map unit: 5 percent

Landform: Glacial drainage channels, glacial drainage channels

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

Sebewa

Percent of map unit: 5 percent

Landform: Glacial drainage channels, glacial drainage channels

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Adrian

Percent of map unit: 3 percent

Landform: Depressions on glacial drainage channels, depressions on glacial drainage channels

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

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Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

Granby

Percent of map unit: 2 percent
Landform: Glacial drainage channels, glacial drainage channels
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Mixed/Transitional (Mixed Native Vegetation)
Hydric soil rating: Yes

MnB—Metea loamy sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 6960
Elevation: 840 to 1,010 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: Farmland of local importance

Map Unit Composition

Metea and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Metea

Setting

Landform: Moraines, till plains
Landform position (two-dimensional): Shoulder, footslope, toeslope, backslope, summit
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Sandy glaciofluvial deposits over loamy till

Typical profile

Ap - 0 to 8 inches: loamy sand
E - 8 to 11 inches: loamy sand
Bw - 11 to 29 inches: loamy sand
2Bt1 - 29 to 42 inches: clay loam
2Bt2 - 42 to 48 inches: clay loam
2C - 48 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches

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Natural drainage class: Well drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Available water storage in profile: Moderate (about 8.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Owosso

Percent of map unit: 4 percent

Landform: Moraines, till plains

Landform position (two-dimensional): Foothlope, backslope, shoulder, summit

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Spinks

Percent of map unit: 3 percent

Landform: Knolls on outwash plains on moraines, knolls on outwash plains on till plains

Landform position (two-dimensional): Summit, shoulder, foothlope, backslope, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Oakville

Percent of map unit: 3 percent

Landform: Deltas on till plains, knolls on outwash plains on till plains

Landform position (two-dimensional): Toeslope, foothlope, backslope, shoulder, summit

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

MoB—Miami loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 6963
Elevation: 830 to 1,130 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Miami and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami

Setting

Landform: Moraines, till plains
Landform position (two-dimensional): Footslope, backslope, shoulder, summit
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 12 inches: loam
B/E - 12 to 17 inches: clay loam
Bt1 - 17 to 27 inches: clay loam
Bt2 - 27 to 31 inches: clay loam
C - 31 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

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Hydric soil rating: No

Minor Components

Spinks

Percent of map unit: 2 percent

Landform: Knolls on outwash plains on moraines, knolls on outwash plains on till plains

Landform position (two-dimensional): Footslope, backslope, shoulder, summit, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Brookston

Percent of map unit: 2 percent

Landform: Depressions on till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Conover

Percent of map unit: 2 percent

Landform: Moraines, till plains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Owosso

Percent of map unit: 2 percent

Landform: Moraines, till plains

Landform position (two-dimensional): Backslope, shoulder, summit, footslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Oakville

Percent of map unit: 1 percent

Landform: Deltas on till plains, knolls on outwash plains on till plains

Landform position (two-dimensional): Footslope, backslope, shoulder, summit, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Linwood

Percent of map unit: 1 percent

Landform: Depressions on moraines, depressions on till plains, depressions on lake plains

Landform position (two-dimensional): Toeslope

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Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MoC—Miami loam, 6 to 12 percent slopes

Map Unit Setting

National map unit symbol: 6964
Elevation: 830 to 1,110 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: Farmland of local importance

Map Unit Composition

Miami and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami

Setting

Landform: Moraines, till plains
Landform position (two-dimensional): Shoulder, summit, footslope, backslope
Landform position (three-dimensional): Base slope, side slope, nose slope, head slope, interfluvium, crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 12 inches: loam
B/E - 12 to 17 inches: clay loam
Bt1 - 17 to 27 inches: clay loam
Bt2 - 27 to 31 inches: clay loam
C - 31 to 80 inches: loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent

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Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Owosso

Percent of map unit: 2 percent

Landform: Moraines, till plains

Landform position (two-dimensional): Backslope, shoulder, summit, footslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Spinks

Percent of map unit: 2 percent

Landform: Knolls on outwash plains on moraines, knolls on outwash plains on till plains

Landform position (two-dimensional): Footslope, backslope, shoulder, summit, toeslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Conover

Percent of map unit: 2 percent

Landform: Moraines, till plains

Landform position (two-dimensional): Toeslope, footslope

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Brookston

Percent of map unit: 2 percent

Landform: Depressions on till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Oakville

Percent of map unit: 1 percent

Landform: Deltas on till plains, knolls on outwash plains on till plains

Landform position (two-dimensional): Summit, toeslope, footslope, backslope, shoulder

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Convex

Hydric soil rating: No

Carlisle

Percent of map unit: 1 percent
Landform: Depressions on till plains, depressions on glacial drainage channels, depressions on lake plains, depressions on moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MoD—Miami loam, 12 to 18 percent slopes

Map Unit Setting

National map unit symbol: 6965
Elevation: 830 to 1,100 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: Farmland of local importance

Map Unit Composition

Miami and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami

Setting

Landform: Moraines, till plains
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Head slope, nose slope, crest, side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 12 inches: loam
B/E - 12 to 17 inches: clay loam
Bt1 - 17 to 27 inches: clay loam
Bt2 - 27 to 31 inches: clay loam
C - 31 to 80 inches: loam

Properties and qualities

Slope: 12 to 18 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)

Custom Soil Resource Report

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Brookston

Percent of map unit: 7 percent
Landform: Depressions on till plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Carlisle

Percent of map unit: 3 percent
Landform: Depressions on moraines, depressions on till plains, depressions on glacial drainage channels, depressions on lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

MoE—Miami loam, 18 to 25 percent slopes

Map Unit Setting

National map unit symbol: 6966
Elevation: 840 to 1,090 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: Not prime farmland

Map Unit Composition

Miami and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami

Setting

Landform: Moraines, till plains

Landform position (two-dimensional): Backslope, shoulder

Landform position (three-dimensional): Side slope, nose slope, head slope

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Loamy till

Typical profile

Ap - 0 to 9 inches: loam

E - 9 to 12 inches: loam

B/E - 12 to 17 inches: clay loam

Bt1 - 17 to 27 inches: clay loam

Bt2 - 27 to 31 inches: clay loam

C - 31 to 80 inches: loam

Properties and qualities

Slope: 18 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 30 percent

Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Washtenaw

Percent of map unit: 3 percent

Landform: Depressions on till plains, drainageways on till plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Carlisle

Percent of map unit: 2 percent

Landform: Depressions on lake plains, depressions on moraines, depressions on till plains, depressions on glacial drainage channels

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Linear

Custom Soil Resource Report

Hydric soil rating: Yes

OmB—Owosso-Miami sandy loams, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 696h
Elevation: 840 to 1,160 feet
Mean annual precipitation: 31 to 33 inches
Mean annual air temperature: 47 to 48 degrees F
Frost-free period: 136 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Owosso and similar soils: 50 percent
Miami and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Owosso

Setting

Landform: Moraines, till plains
Landform position (two-dimensional): Backslope, shoulder, summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits over loamy till

Typical profile

Ap - 0 to 8 inches: sandy loam
E - 8 to 15 inches: sandy loam
Bw - 15 to 34 inches: sandy loam
Bt1 - 34 to 36 inches: sandy clay loam
2Bt2 - 36 to 43 inches: clay loam
2C - 43 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Miami

Setting

Landform: Moraines, till plains
Landform position (two-dimensional): Backslope, shoulder, summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy till

Typical profile

Ap - 0 to 9 inches: sandy loam
E - 9 to 12 inches: sandy loam
B/E - 12 to 17 inches: clay loam
Bt1 - 17 to 27 inches: clay loam
Bt2 - 27 to 31 inches: clay loam
C - 31 to 80 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 30 percent
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Conover

Percent of map unit: 5 percent
Landform: Moraines, till plains
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Metamora

Percent of map unit: 5 percent
Landform: Moraines, till plains
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Rise

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Down-slope shape: Linear
Across-slope shape: Convex
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Soil Features

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial

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subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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Soil Features—Livingston County, Michigan									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>Low-RV-High</i>	<i>Range</i>		<i>Low-High</i>	<i>Low-High</i>			
		<i>In</i>	<i>In</i>		<i>In</i>	<i>In</i>			
BtB—Boyer-Oshtemo loamy sands, 2 to 6 percent slopes									
Boyer		—	—		—	—	Moderate	Low	High
Oshtemo		—	—		—	—	Moderate	Low	Moderate
Fox		—	—		—	—	Moderate	High	Moderate
Miami		—	—		—	—	Moderate	Low	Low
Oakville		—	—		—	—	Low	Low	Moderate
Gilford		—	—		—	—	High	High	Moderate
Spinks		—	—		—	—	Low	Low	Low
Tawas		—	—		4-20	9-40	High	High	Low
BuA—Brady loamy sand, 0 to 2 percent slopes									
Brady		—	—		—	—	Moderate	High	Moderate
Bronson		—	—		—	—	Moderate	High	Moderate
Gilford		—	—		—	—	High	High	Moderate
Lamson		—	—		—	—	High	High	Low
Minoa		—	—		—	—	High	High	Low
Tawas		—	—		4-20	9-40	High	High	Low

Custom Soil Resource Report

Soil Features—Livingston County, Michigan									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>Low-RV-High</i>	<i>Range</i>		<i>Low-High</i>	<i>Low-High</i>			
Cc—Carlisle muck									
Carlisle		—	—		6-18	12-36	High	High	Low
Linwood		—	—		8-20	20-40	High	High	Moderate
Tawas		—	—		4-20	9-40	High	High	Low
CvA—Conover loam, 0 to 2 percent slopes									
Conover		—	—		—	—	High	High	Moderate
Brookston		—	—		—	—	High	High	Low
Carlisle		—	—		6-18	12-36	High	High	Low
Metamora		—	—		—	—	High	High	Moderate
Metea		—	—		—	—	Moderate	Low	Moderate
FoB—Fox sandy loam, 2 to 6 percent slopes									
Fox		—	—		—	—	Moderate	High	Moderate
Boyer		—	—		—	—	Moderate	Low	High
Oshtemo		—	—		—	—	Moderate	Low	Moderate
Miami		—	—		—	—	Moderate	Low	Low
Wasepi		—	—		—	—	Moderate	High	Moderate

Custom Soil Resource Report

Soil Features—Livingston County, Michigan									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>Low-RV-High</i>	<i>Range</i>		<i>Low-High</i>	<i>Low-High</i>			
Gd—Gilford sandy loam, 0 to 2 percent slopes, gravelly subsoil									
Gilford, gravelly subsoil		—	—		0	0	High	High	Moderate
Brady		—	—		0	0	Moderate	High	Moderate
Sebewa		—	—		0	0	High	High	Low
Adrian		—	—		8-17	17-34	High	High	High
Granby		—	—		0	0	Moderate	High	Low
MnB—Metea loamy sand, 2 to 6 percent slopes									
Metea		—	—		—	—	Moderate	Low	Moderate
Owosso		—	—		—	—	Moderate	Moderate	Low
Oakville		—	—		—	—	Low	Low	Moderate
Spinks		—	—		—	—	Low	Low	Low
MoB—Miami loam, 2 to 6 percent slopes									
Miami		—	—		—	—	Moderate	Low	Low
Brookston		—	—		—	—	High	High	Low
Conover		—	—		—	—	High	High	Moderate
Owosso		—	—		—	—	Moderate	Moderate	Low
Spinks		—	—		—	—	Low	Low	Low
Linwood		—	—		8-20	20-40	High	High	Moderate
Oakville		—	—		—	—	Low	Low	Moderate

Custom Soil Resource Report

Soil Features—Livingston County, Michigan									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>Low-RV-High</i>	<i>Range</i>		<i>Low-High</i>	<i>Low-High</i>			
MoC—Miami loam, 6 to 12 percent slopes									
Miami		—	—		—	—	Moderate	Low	Low
Brookston		—	—		—	—	High	High	Low
Conover		—	—		—	—	High	High	Moderate
Owosso		—	—		—	—	Moderate	Moderate	Low
Spinks		—	—		—	—	Low	Low	Low
Carlisle		—	—		6-18	12-36	High	High	Low
Oakville		—	—		—	—	Low	Low	Moderate
MoD—Miami loam, 12 to 18 percent slopes									
Miami		—	—		—	—	Moderate	Low	Low
Brookston		—	—		—	—	High	High	Low
Carlisle		—	—		6-18	12-36	High	High	Low
MoE—Miami loam, 18 to 25 percent slopes									
Miami		—	—		—	—	Moderate	Low	Low
Washtenaw		—	—		—	—	High	High	Moderate
Carlisle		—	—		6-18	12-36	High	High	Low

Custom Soil Resource Report

Soil Features—Livingston County, Michigan									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		<i>Low-RV-High</i>	<i>Range</i>		<i>Low-High</i>	<i>Low-High</i>			
OmB—Owosso-Miami sandy loams, 2 to 6 percent slopes									
Owosso		—	—		—	—	Moderate	Moderate	Low
Miami		—	—		—	—	Moderate	Low	Low
Conover		—	—		—	—	High	High	Moderate
Metamora		—	—		—	—	High	High	Moderate

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AERIAL PHOTOGRAPHS



Subject Property

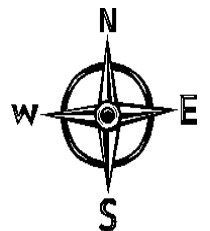


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1937

Source: Michigan State University Aerial Archive





Subject Property

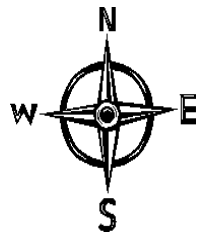


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1940

Source: Michigan State University Aerial Archive



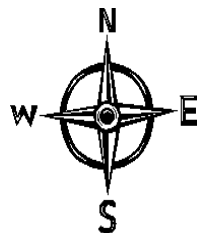


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1950

Source: Michigan State University Aerial Archive





Subject Property

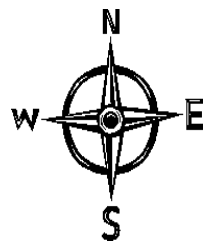


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1955

Source: Michigan State University Aerial Archive



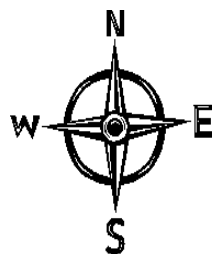


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1966

Source: Livingston County





Subject Property

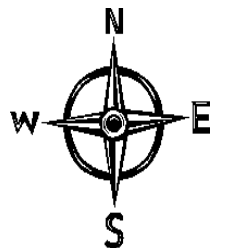


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1970

Source: SEMCOG





Subject
Property

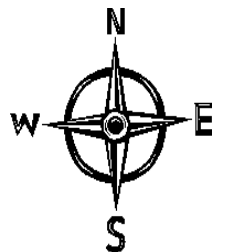


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1975

Source: SEMCOG





Subject Property

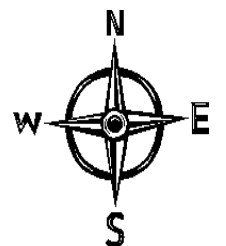


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1980

Source: Livingston County





Subject Property



Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1985

Source: Livingston County



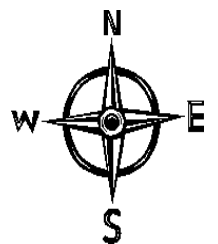


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1990

Source: Livingston County





Subject Property

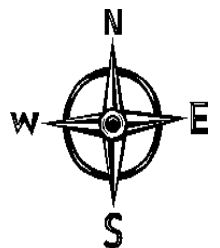


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 1995

Source: Livingston County





Subject Property

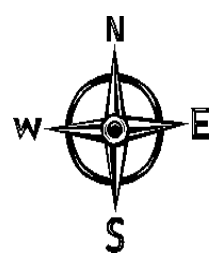


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 2000

Source: Livingston County



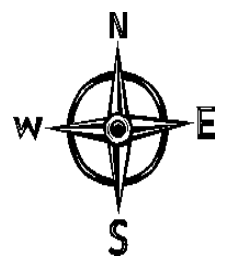


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 2005

Source: Livingston County





Subject Property

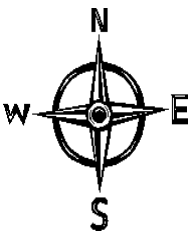


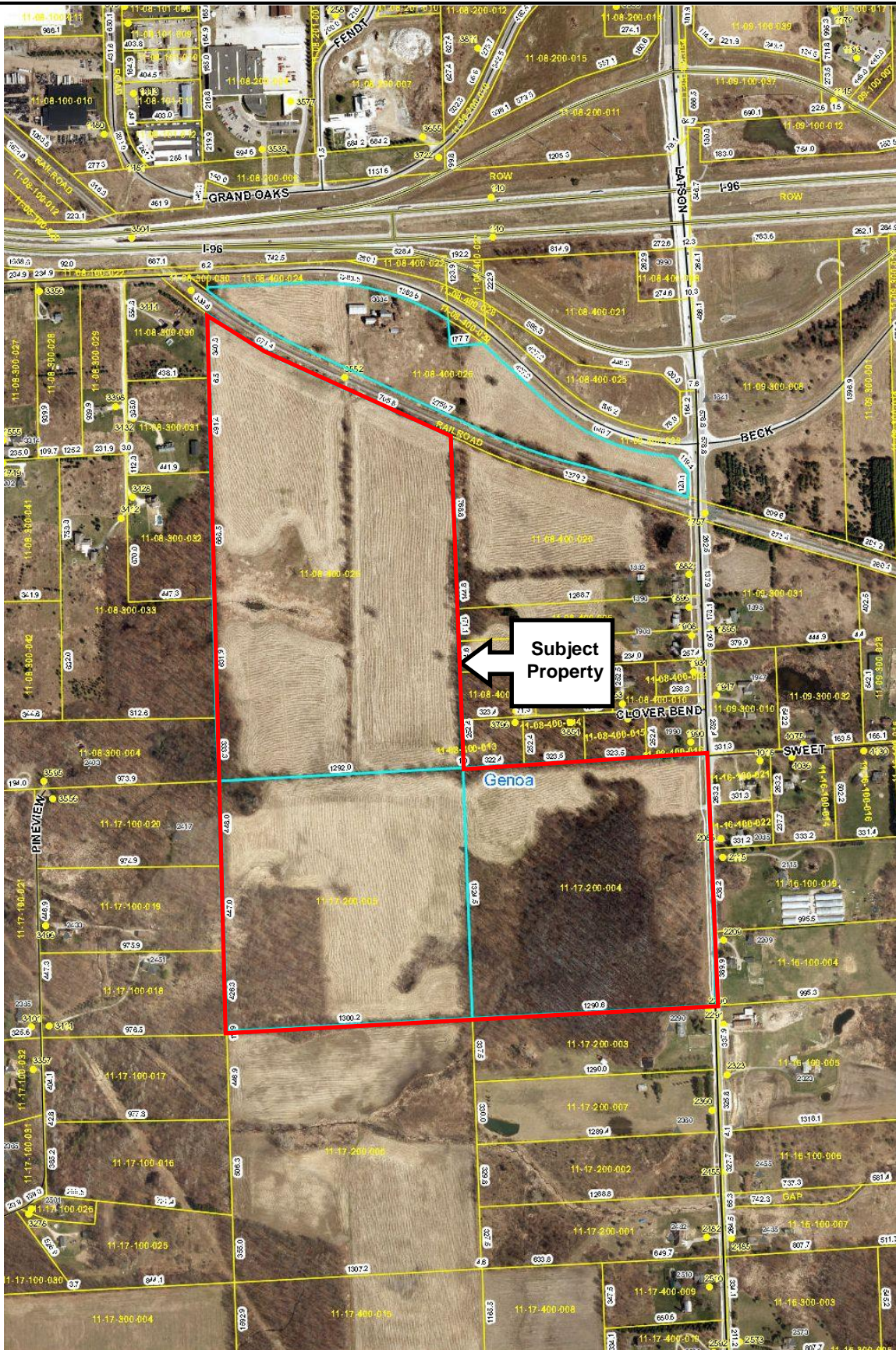
Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 2010

Source: Livingston County



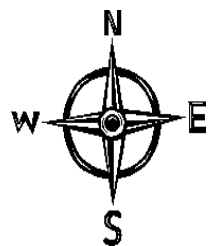


Location: South of Beck Road and West of Nixon Road, Howell, Michigan

PM Project No. 01-7525-0-0001

Aerial Year: 2015

Source: Livingston County

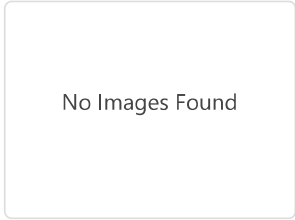


NO SANBORN FIRE INSURANCE MAPS

ASSESSING DEPARTMENT RECORDS

BECK RD HOWELL, MI 48843 (Property Address)

Parcel Number: 4711-17-200-004



Property Owner: LATSON, CHARLES G. & LOIS E.

Summary Information

> Assessed Value: \$210,000 | Taxable Value: \$38,255 > Property Tax Information found

Important Message

+ Attention FireFox Users

Owner and Taxpayer Information

Owner LATSON, CHARLES G. & LOIS E. **Taxpayer** SEE OWNER INFORMATION
 1754 S FOWLERVILLE
 FOWLERVILLE, MI 48836

General Information for Tax Year 2016

Property Class	102-AG-VACANT	Unit	4711 GENOA CHARTER TOWNSHIP
School District	HOWELL	Assessed Value	\$210,000
MAP #	LATSON	Taxable Value	\$38,255
USER NUM IDX	0	State Equalized Value	\$210,000
USER ALPHA 1	Not Available	Date of Last Name Change	12/30/2013
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	Not Available	Census Block Group	Not Available
USER ALPHA 2	Not Available		

Principal Residence Exemption Information

Homestead Date Not Available

Qualified Agricultural	June 1st	Final
2016	100.0000 %	100.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2015	\$210,000	\$210,000	\$38,141
2014	\$210,000	\$210,000	\$37,541
2013	\$108,000	\$108,000	\$36,950

Land Information

Zoning Code	CE	Total Acres	40.000
Land Value	\$420,000	Land Improvements	\$0
Renaissance Zone	No	Renaissance Zone Expiration Date	Not Available
ECF Neighborhood	1010 AG PARCELS IN TWP	Mortgage Code	00000
Lot Dimensions/Comments	Not Available	Neighborhood Enterprise Zone	No

Lot(s)	Frontage	Depth
No lots found.		
Total Frontage: 0.00 ft		Average Depth: 0.00 ft

Legal Description

SEC. 17 T2N, R5E, NE 1/4 OF NE 1/4 40A Split on 08/12/2016 with 4711-08-400-026, 4711-17-200-005 into 4711-08-400-031, 4711-17-200-008;

Land Division Act Information

Date of Last Split/Combine	08/12/2016	Number of Splits Left	2
Date Form Filed	<i>Not Available</i>	Unallocated Div.s of Parent	0
Date Created	08/12/2016	Unallocated Div.s Transferred	0
Acreage of Parent	0.00	Rights Were Transferred	<i>Not Available</i>
Split Number	81	Courtesy Split	<i>Not Available</i>
Parent Parcel	<i>Not Available</i>		

Sale History

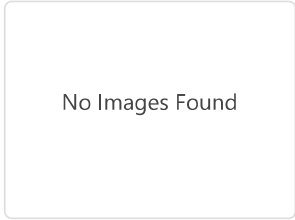
Sale Date	Sale Price	Instrument	Grantor	Grantee	Terms of Sale	Liber/Page
No sales history found.						

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BECK RD BRIGHTON, MI 48116 (Property Address)

Parcel Number: 4711-17-200-005



Property Owner: LATSON, CHARLES G. & LOIS E.

Summary Information

> Assessed Value: \$210,000 | Taxable Value: \$45,908 > Property Tax Information found

Important Message

+ Attention FireFox Users

Owner and Taxpayer Information

Owner LATSON, CHARLES G. & LOIS E. **Taxpayer** SEE OWNER INFORMATION
 1754 S. FOWLERVILLE
 FOWLERVILLE, MI 48836

General Information for Tax Year 2016

Property Class	102-AG-VACANT	Unit	4711 GENOA CHARTER TOWNSHIP
School District	HOWELL	Assessed Value	\$210,000
MAP #	LATSON	Taxable Value	\$45,908
USER NUM IDX	0	State Equalized Value	\$210,000
USER ALPHA 1	Not Available	Date of Last Name Change	02/25/2011
USER ALPHA 3	Not Available	Notes	Not Available
Historical District	Not Available	Census Block Group	Not Available
USER ALPHA 2	Not Available		

Principal Residence Exemption Information

Homestead Date Not Available

Qualified Agricultural	June 1st	Final
2016	100.0000 %	100.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2015	\$210,000	\$210,000	\$45,771
2014	\$210,000	\$210,000	\$45,051
2013	\$108,000	\$108,000	\$44,342

Land Information

Zoning Code	CE	Total Acres	40.000
Land Value	\$420,000	Land Improvements	\$0
Renaissance Zone	No	Renaissance Zone Expiration Date	Not Available
ECF Neighborhood	1010 AG PARCELS IN TWP	Mortgage Code	00000
Lot Dimensions/Comments	Not Available	Neighborhood Enterprise Zone	No

Lot(s)	Frontage	Depth
No lots found.		
Total Frontage: 0.00 ft		Average Depth: 0.00 ft

Legal Description

SEC. 17 T2N, R5E, NW 1/4 OF NE 1/4 40A Split on 08/12/2016 with 4711-08-400-026, 4711-17-200-004 into 4711-08-400-031, 4711-17-200-008;

Land Division Act Information

Date of Last Split/Combine	08/12/2016	Number of Splits Left	2
Date Form Filed	<i>Not Available</i>	Unallocated Div.s of Parent	0
Date Created	08/12/2016	Unallocated Div.s Transferred	0
Acreage of Parent	0.00	Rights Were Transferred	<i>Not Available</i>
Split Number	81	Courtesy Split	<i>Not Available</i>
Parent Parcel	<i>Not Available</i>		

Sale History

Sale Date	Sale Price	Instrument	Grantor	Grantee	Terms of Sale	Liber/Page
No sales history found.						

****Disclaimer:** BS&A Software provides AccessMyGov.com as a way for municipalities to display information online and is not responsible for the content or accuracy of the data herein. This data is provided for reference only and WITHOUT WARRANTY of any kind, expressed or inferred. Please contact your local municipality if you believe there are errors in the data.

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3684 BECK RD BRIGHTON, MI 48116 (Property Address)

Parcel Number: 4711-17-200-008



Property Owner: LATSON, CHARLES G. & LOIS E.

Summary Information

> Assessed Value: \$0 | Taxable Value: \$0

Item 1 of 2 [2 Images / 0 Sketches](#)

Important Message

+ Attention FireFox Users

Owner and Taxpayer Information

Owner	LATSON, CHARLES G. & LOIS E. Taxpayer	SEE OWNER INFORMATION
	1754 S. FOWLerville FOWLerville, MI 48836	

General Information for Tax Year 2016

Property Class	102-AG-VACANT	Unit	4711 GENOA CHARTER TOWNSHIP
School District	HOWELL	Assessed Value	\$0
MAP #	LATSON	Taxable Value	\$0
USER NUM IDX	0	State Equalized Value	\$0
USER ALPHA 1	<i>Not Available</i>	Date of Last Name Change	08/12/2016
USER ALPHA 3	<i>Not Available</i>	Notes	<i>Not Available</i>
Historical District	<i>Not Available</i>	Census Block Group	<i>Not Available</i>
USER ALPHA 2	<i>Not Available</i>		

Principal Residence Exemption Information

Homestead Date *Not Available*

Qualified Agricultural	June 1st	Final
2016	100.0000 %	100.0000 %

Previous Year Information

Year	MBOR Assessed	Final SEV	Final Taxable
2015	\$0	\$0	\$0
2014	\$0	\$0	\$0
2013	\$0	\$0	\$0

Land Information

Zoning Code	CE	Total Acres	140.000
Land Value	\$0	Land Improvements	\$0
Renaissance Zone	No	Renaissance Zone Expiration Date	<i>Not Available</i>
ECF Neighborhood	47070 HOWELL M & B	Mortgage Code	00000
Lot Dimensions/Comments	<i>Not Available</i>	Neighborhood Enterprise Zone	No

Lot(s)	Frontage	Depth
No lots found.		
Total Frontage: 0.00 ft		Average Depth: 0.00 ft

Legal Description

SEC. 8 T2N, R5E, THE N 1/2 OF NE 1/4 AND ALSO SEC 8 T2N R5E THE W 1/2 OF THE SE 1/4 LYING SOUTH OF C & O RR CONT 140.79 AC SPLIT/COMBINED ON 08/12/2016 FROM 4711-08-400-026, 4711-17-200-004, 4711-17-200-005;

Land Division Act Information

Date of Last Split/Combine	08/12/2016	Number of Splits Left	6
Date Form Filed	<i>Not Available</i>	Unallocated Div.s of Parent	0
Date Created	08/12/2016	Unallocated Div.s Transferred	0
Acreage of Parent	159.35	Rights Were Transferred	<i>Not Available</i>
Split Number	81	Courtesy Split	<i>Not Available</i>
Parent Parcel	4711-08-400-026		

Sale History

Sale Date	Sale Price	Instrument	Grantor	Grantee	Terms of Sale	Liber/Page
No sales history found.						

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Parcel Number: 4711-17-200-008

Jurisdiction: GENOA CHARTER TOWNSHIP

County: LIVINGSTON

Printed on

08/23/2016

Grantor	Grantee	Sale Price	Sale Date	Inst. Type	Terms of Sale	Liber & Page	Verified By	Prct. Trans.		
Property Address		Class: 102-AG-VACANT		Zoning: CE	Building Permit(s)	Date	Number	Status		
3684 BECK RD		School: HOWELL		P.R.E. 100% / / Qual. Ag.		MAP #: LATSON				
Owner's Name/Address		2017 Est TCV 1,470,000								
LATSON, CHARLES G. & LOIS E.		Improved		X	Vacant	Land Value Estimates for Land Table 124.HOWELL M& B				
1754 S. FOWLERVILLE		Public		* Factors *						
FOWLERVILLE MI 48436		Improvements		Description	Frontage	Depth	Rate	Adj. Reason	Value	
Tax Description		Dirt Road		LAND TABLE A		140.000 Acres		10,500	100	1,470,000
SEC. 8 T2N, R5E, THE N 1/2 OF NE 1/4 AND ALSO SEC 6 T2N R5E THE W 1/2 OF THE SE 1/4 LYING SOUTH OF C & O RR CONT 140.79 AC SPLIT/COMBINED ON 08/12/2016 FROM 4711-08-400-026, 4711-17-200-004, 4711-17-200-005;		Gravel Road				140.00		Total Acres	Total Est. Land Value =	1,470,000
Comments/Influences		Paved Road								
Split/Comb. on 08/12/2016 completed 08/12/2016 Duffy ; Parent Parcel(s): 4711-08-400-026, 4711-17-200-004, 4711-17-200-005; Child Parcel(s): 4711-08-400-031, 4711-17-200-008;		Storm Sewer								
		Sidewalk								
		Water								
		Sewer								
		Electric								
		Gas								
		Curb								
		Street Lights								
		Standard Utilities								
		Underground Utils.								
		Topography of Site								
		Level								
		Rolling								
		Low								
		High								
		Landscaped								
		Swamp								
		Wooded								
		Pond								
		Waterfront								
		Ravine								
		Wetland								
		Flood Plain								
		Year	Land Value	Building Value	Assessed Value	Board of Review	Tribunal/Other	Taxable Value		
Who		When	What	2017	735,000	0	735,000	159,839C		
				2016	0	0	0	0		
				2015	0	0	0	0		
				2014	0	0	0	0		

The Equalizer. Copyright (c) 1999 - 2009. Licensed To: Township of Genoa, County of Livingston, Michigan

*** Information herein deemed reliable but not guaranteed***

Grantor	Grantee	Sale Price	Sale Date	Inst. Type	Terms of Sale	Liber & Page	Verified By	Prcnt. Trans.													
Property Address 3684 BECK RD		Class: 101 AG-IMPROVED Zoning: CE		Building Permit(s)		Date	Number	Status													
Owner's Name/Address LATSON, CHARLES G. & LOIS E. 1754 S. FOWLERVILLE FOWLERVILLE MI 48836		School: HOWELL		P.R.E. 1000 / / Qual. Ag.		MAP #: LATSON															
Tax Description SEC. 8 T2N, R5E, CCM AT E 1/4 COR TH S87*13'35"W 29.54 FT TH S04*24'29"E 401.69 FT TH SE'LY ON AN ARC OF A CURVE RIGHT CHORD BEARING S03*24'51"E 346.84 FT TH S87*34'45"W 80 FT TH S01*59'03"E 164.22 FT TH S47*46'28"W 75.64 FT TH S07*17'47"W 60 FT TH S82*42'13"E 19.09 FT TH S07*17'47"W 60 FT TO POB TH S42*13'21"E 119.40 FT TH S01*44'25"E 137.98 FT TH N73*07'27"W 668.33 FT TH NW'LY ON AN ARC OF A CURVE RIGHT CHORD BEARING N69*22'37"W 517.16 FT TH N65*37'47"W 623.28 FT TH NW'LY ON AN ARC OF A CURVE RIGHT CHORD BEARING N65*05'07"W 373.19 FT TH ON AN ARC OF A CURVE RIGHT CHORD BEARING N58*43'21"W 615.62 FT TH N01*35'01"W 9.21 FT TH N37*13'35"E 526.85 FT TH ON AN ARC OF A CURVE RIGHT CHORD BEARING S75*37'02"E 790.54 FT TH S01*44'25"E 143.75 FT TH N87*13'35"E 178.94 FT TH SE'LY ON AN ARC ***BALANCE OF DESCRIPTION ON FILE*** Comments/Influences Split/Comb. on 08/12/2016 completed 08/12/2016 Duffy ; Parent Parcel(s): 4711-08-400-026, 4711-17-200-004, 4711-17-200-005; Child Parcel(s): 4711-08-400-031, 4711-17-200-008; The Equalizer. Copyright (c) 1999 - 2009. Licensed To: Township of Genoa, County of Livingston, Michigan		2017 Est TCV 227,173		X Improved		Vacant		Land Value Estimates for Land Table 124.HOWELL M& B													
		Public Improvements		Description		Frontage		Depth		* Factors *		Rate		Adj.		Reason		Value			
		Dirt Road		LAND TABLE A		18.56		Acres		10,500		100						194,880			
		Gravel Road				18.56		Total Acres		Total Est.		Land Value =						194,680			
		Paved Road																			
		Storm Sewer																			
		Sidewalk																			
		Water																			
		Sewer																			
		Electric																			
		Gas																			
		Curb																			
		Street Lights																			
		Standard Utilities																			
		Underground Utils.																			
		Topography of Site																			
		Level																			
		Rolling																			
		Low																			
		High																			
		Landscaped																			
		Swamp																			
		Wooded																			
		Pond																			
		Waterfront																			
		Ravine																			
		Wetland																			
		Flood Plain																			
		Who		When		What		Year		Land Value		Building Value		Assessed Value		Board of Review		Tribunal/Other		Taxable Value	
								2017		97,400		16,200		113,600						25,150C	
								2016		0		0		0						0	
								2015		0		0		0						0	
								2014		0		0		0						0	

*** Information herein deemed reliable but not guaranteed***

Building Type	Barn, General Purpose	Barn, General Purpose	Poultry, Flock, Breede
Year Built			
Class/Construction	D, Pole	D, Pole	D, Pole
Quality/Exterior	Low Cost	Low Cost	Cheap
Base Rate/SF	10.10	10.10	4.90
# of Walls, Perimeter	4 Wall, 260	4 Wall, 160	4 Wall, 80
Perimeter Mult.	X 0.958 = 9.68	X 1.051 = 10.62	X 1.324 = 6.49
Height	12	12	10
Story Height Mult.	X 1.038 = 10.04	X 1.038 = 11.02	X 1.000 = 6.49
Heating System	No Heating/Cooling	No Heating/Cooling	No Heating/Cooling
Heat Adj./SF			
Misc. Adjustment			
Misc. Adj./SF			
County Multiplier	X 1.52 = 15.27	X 1.52 = 16.75	X 1.52 = 7.86
Final Rate/SF	\$15.27	\$16.75	\$9.86
Length/Width/Area	86 x 44 = 3784	48 x 32 = 1536	24 x 16 = 384
Cost New	\$ 57,767	\$ 25,725	\$ 3,787
Phy./Func./Econ. %Good	37/100/100 37.0	37/100/100 37.0	37/100/100 37.0
Depreciated Cost	\$ 21,374	\$ 9,518	\$ 1,401
+ Unit-In-Place Items	\$ 0	\$ 0	\$ 0
Description, Size X Rate X %Good = Cost			
Itemized ->			
Unit-In-Place ->			
Items ->			
E.C.F.	X 1.00	X 1.00	X 1.00
% Good	37	37	37
Est. True Cash Value	\$ 21,374	\$ 9,518	\$ 1,401
Comments:			
Total Estimated True Cash Value of Agricultural Improvements / This Card: 32293 / All Cards: 32293			

*** Information herein deemed reliable but not guaranteed***

BUILDING DEPARTMENT RECORDS

County: Keep original and provide copy of both sides, along with Public Summary, to Requestor at no charge.



Livingston County
200 E Grand River Ave, Howell, MI 48843
Phone: 517-546-4354

Request Form

Note: Requestors are not required to use this form. The County may complete one for recordkeeping if not used.

Notice of Denial of FOIA Request
Michigan Freedom of Information Act, Public Act 442 of 1976, MCL 15.231, et seq.

Request No.: 2016-0052 Date Received: 08/18/16 Check if received via: X Email [] Fax [] Other Electronic Method
Date of This Notice: 08/22/16 Date delivered to junk/spam folder: _____

Table with contact information for Erica Smith, PM Environmental, including phone, fax, email, and address.

(Please Print or Type)

Date discovered in junk/spam folder: _____

Request for: X Copy [] Certified copy X Record inspection [] Subscription to record issued on regular basis

Delivery Method: [] Will pick up [] Will make own copies onsite [] Mail to address above X Email to address above
[] Deliver on digital media provided by the County: _____

Record(s) You Requested: (Listed here or see attached copy of original request See Attached

X All OR [] Part of your request for records has been denied. Please refer to this form for an explanation. If you have any questions regarding this denial, contact Vicky Atkinson at (517) 546-9858

Reason for Denial:

[] 1. Exempt from Disclosure: This item is exempt from disclosure under FOIA Section 13, Subsection _____ (insert number), because: _____

X 2. Record Does Not Exist: It is hereby certified, pursuant to Section 5(5)(b) of the FOIA, that your FOIA request is denied because, to the best of my knowledge, information and belief, no public records exist as of July 14, 2015, under the name(s) set forth in your request, nor under another name reasonably known to the County. If you believe this record does exist, provide a description that will enable us to locate the record: _____

[] 3. Redaction: A portion of the requested record had to be separated or deleted (redacted) as it is exempt under FOIA Section 13, Subsection _____ (insert number), because: _____

A brief description of the information that had to be separated or deleted: _____

Notice of Requestor's Right to Seek Judicial Review

You are entitled under Section 10 of the Michigan Freedom of Information Act, MCL 15.240, to appeal this denial to the County Board of Commissioners or to commence an action in the Circuit Court to compel disclosure of the requested records if you believe they were wrongfully withheld from disclosure. If, after judicial review, the Court determines that the County has not complied with MCL 15.235 in making this denial and orders disclosure of all or a portion of a public record, you have the right to receive attorneys' fees and damages as provided in MCL 15.240. (See back of this form for additional information on your rights.)

Signature of FOIA Coordinator:

Date:

FREEDOM OF INFORMATION ACT (EXCERPT)

Act 442 of 1976

15.240.amended Options by requesting person; appeal; actions by public body; receipt of written appeal; judicial review; civil action; venue; de novo proceeding; burden of proof; private view of public record; contempt; assignment of action or appeal for hearing, trial, or argument; attorneys' fees, costs, and disbursements; assessment of award; damages.

Sec. 10.

- (1) If a public body makes a final determination to deny all or a portion of a request, the requesting person may do 1 of the following at his or her option:
- (a) Submit to the head of the public body a written appeal that specifically states the word "appeal" and identifies the reason or reasons for reversal of the denial.
 - (b) Commence a civil action in the circuit court, or if the decision of a state public body is at issue, the court of claims, to compel the public body's disclosure of the public records within 180 days after a public body's final determination to deny a request.
- (2) Within 10 business days after receiving a written appeal pursuant to subsection (1)(a), the head of a public body shall do 1 of the following:
- (a) Reverse the disclosure denial.
 - (b) Issue a written notice to the requesting person upholding the disclosure denial.
 - (c) Reverse the disclosure denial in part and issue a written notice to the requesting person upholding the disclosure denial in part.
 - (d) Under unusual circumstances, issue a notice extending for not more than 10 business days the period during which the head of the public body shall respond to the written appeal. The head of a public body shall not issue more than 1 notice of extension for a particular written appeal.
- (3) A board or commission that is the head of a public body is not considered to have received a written appeal under subsection (2) until the first regularly scheduled meeting of that board or commission following submission of the written appeal under subsection (1)(a). If the head of the public body fails to respond to a written appeal pursuant to subsection (2), or if the head of the public body upholds all or a portion of the disclosure denial that is the subject of the written appeal, the requesting person may seek judicial review of the nondisclosure by commencing a civil action under subsection (1)(b).
- (4) In an action commenced under subsection (1)(b), a court that determines a public record is not exempt from disclosure shall order the public body to cease withholding or to produce all or a portion of a public record wrongfully withheld, regardless of the location of the public record. Venue for an action against a local public body is proper in the circuit court for the county in which the public record or an office of the public body is located has venue over the action. The court shall determine the matter de novo and the burden is on the public body to sustain its denial. The court, on its own motion, may view the public record in controversy in private before reaching a decision. Failure to comply with an order of the court may be punished as contempt of court.
- (5) An action commenced under this section and an appeal from an action commenced under this section shall be assigned for hearing and trial or for argument at the earliest practicable date and expedited in every way.
- (6) If a person asserting the right to inspect, copy, or receive a copy of all or a portion of a public record prevails in an action commenced under this section, the court shall award reasonable attorneys' fees, costs, and disbursements. If the person or public body prevails in part, the court may, in its discretion, award all or an appropriate portion of reasonable attorneys' fees, costs, and disbursements. The award shall be assessed against the public body liable for damages under subsection (7).
- (7) If the court determines in an action commenced under this section that the public body has arbitrarily and capriciously violated this act by refusal or delay in disclosing or providing copies of a public record, the court shall order the public body to pay a civil fine of \$1,000.00, which shall be deposited into the general fund of the state treasury. The court shall award, in addition to any actual or compensatory damages, punitive damages in the amount of \$1,000.00 to the person seeking the right to inspect or receive a copy of a public record. The damages shall not be assessed against an individual, but shall be assessed against the next succeeding public body that is not an individual and that kept or maintained the public record as part of its public function.

History: 1976, Act 442, Eff. Apr. 13, 1977 ;-- Am. 1978, Act 329, Imd. Eff. July 11, 1978 ;-- Am. 1996, Act 553, Eff. Mar. 31, 1997 ;-- Am. 2014, Act 563, Eff. July 1, 2015

County: Keep original and provide copy of both sides, along with Public Summary, to Requestor at no charge.



Livingston County
200 E Grand River Ave, Howell, MI 48843
Phone: 517-546-0500

Submit to: County Clerk
<mailto:countyclerk@livgov.com> OR
Fax: 517.546.4354

Request Form
Note: Requestors are not required to use this form. The County may complete one for recordkeeping if not used.

nothing sent

The LIVINGSTON COUNTY COURTS, as well as the COUNTY CLERK and EMPLOYEES when acting as the Clerk of the Circuit Court, are EXEMPT from requests for information made under FOIA.

FOIA Request for Public Records
Michigan Freedom of Information Act, Public Act 442 of 1976, MCL 15.231, et seq.

<i>For Office Use Only</i>		
Request No.: <i>2016-59</i> <small>(Please Print or Type)</small>	Date Received: <i>8-18-16</i>	Check if received via: <input type="checkbox"/> Email <input type="checkbox"/> Fax <input type="checkbox"/> Other Electronic Method Date delivered to junk/spam folder: Date discovered in junk/spam folder:

Name	Erica Smith	Phone	(704) 315-6240		
Firm/Organization	PM Environmental, Inc.	Fax	(877) 884-6775		
Street	8320 University Executive Park Drive Suite 106		Email	esmith@pmenv.com	
City	Charlotte	State	NC	Zip	28262

Request for: Copy Certified copy Record inspection Subscription to record issued on regular basis
Delivery Method: Will pick up Will make own copies onsite Mail to address above Email to address above
 Deliver on digital media provided by the County:

Note: The County is not required to provide records in a digital format or on digital media if the County does not already have the technological capability to do so.

Describe the public record(s) as specifically as possible. You may use this form or attach additional sheets:

For the property located: vacant land located south of Beck Road and west of Latson Road in Genoa Twp (Parcel IDs: 11-17-200-004, 11-17-200-005, 11-17-200-008). See attached map.
11-08-400-026

Any records or permits pertaining to new construction, demolition activities, building renovation, utility tap permits, underground storage tanks, chemical use or storage, or records of code violations. Any available building sketches/dimensions, land sketches/dimensions.

NO CONTAMINATION FILE!
- TL 8/19/16

Consent to Non-Statutory Extension of County's Response Time

I have requested a copy of records or a subscription to records or the opportunity to inspect records, pursuant to the Michigan Freedom of Information Act, Public Act 442 of 1976, MCL 15.231, et seq. I understand that the County must respond to this request within five (5) business days after receiving it, and that response may include taking a 10-business day extension. However, I hereby agree and stipulate to extend the County's response time for this request until: _____ (month, day, year).

Requestor's Signature	Date
	08/18/2016

County: Keep original and provide copy of both sides, along with Public Summary, to Requestor at no charge.



Livingston County
200 E Grand River Ave, Howell, MI 48843
Phone: 517-546-0500

Submit to: County Clerk
<mailto:countyclerk@livgov.com> OR
Fax: 517.546.4354

Request Form
Note: Requestors are not required to use this form. The County may complete one for recordkeeping if not used.

The LIVINGSTON COUNTY COURTS, as well as the COUNTY CLERK and EMPLOYEES when acting as the Clerk of the Circuit Court, are EXEMPT from requests for information made under FOIA.

FOIA Request for Public Records
Michigan Freedom of Information Act, Public Act 442 of 1976, MCL 15.231, et seq.

<i>For Office Use Only</i>					
Request No.:	Date Received:	Check if received via:	Email	Fax	Other Electronic Method
		Date <u>delivered</u> to junk/spam folder:			
		Date <u>discovered</u> in junk/spam folder:			
Name			Phone		
Firm/Organization			Fax		
Street			Email		
City		State	Zip		

Request for: Copy Certified copy Record inspection Subscription to record issued on regular basis
Delivery Method : Will pick up Will make own copies onsite Mail to address above Email to address above
Deliver on digital media provided by the County:

Note: *The County is not required to provide records in a digital format or on digital media if the County does not already have the technological capability to do so.*

Describe the public record(s) as specifically as possible. You may use this form or attach additional sheets:

Consent to Non-Statutory Extension of County's Response Time

I have requested a copy of records or a subscription to records or the opportunity to inspect records, pursuant to the Michigan Freedom of Information Act, Public Act 442 of 1976, MCL 15.231, et seq. I understand that the County must respond to this request within five (5) business days after receiving it, and that response may include taking a 10-business day extension. However, I hereby agree and stipulate to extend the County's response time for this request until: (month, day, year).

Requestor's Signature	Date
-----------------------	------

Records Located on Website

If the County directly or indirectly administers or maintains an official internet presence, any public records available to the general public on that internet site at the time the request is made are exempt from any labor charges to redact (*separate exempt information from non-exempt information*).

If the FOIA coordinator knows or has reason to know that all or a portion of the requested information is available on its website, the County must notify the Requestor in its written response that all or a portion of the requested information is available on its website. The written response, to the degree practicable in the specific instance, must include a specific webpage address where the requested information is available. On the detailed cost itemization form, the County must separate the requested public records that are available on its website from those that are not available on the website and must inform the requestor of the additional charge to receive copies of the public records that are available on its website.

If the County has included the website address for a record in its written response to the Requestor and the Requestor thereafter stipulates that the public record be provided to him or her in a paper format or other form, including digital media, the County must provide the public records in the specified format (if the County has the technological capability) but may use a fringe benefit multiplier greater than the 50%, not to exceed the actual costs of providing the information in the specified format.

Request for Copies/Duplication of Records on County Website

I hereby stipulate that, even if some or all of the records are located on the County website, I am requesting that the County make copies of those records on the website and deliver them to me in the format I have requested above. I understand that some FOIA fees may apply.

Requestor's Signature _____ Date _____

Overtime Labor Costs

Overtime wages shall not be included in the calculation of labor costs unless overtime is specifically stipulated by the requestor and clearly noted on the detailed cost itemization form.

Consent to Overtime Labor Costs

I hereby agree and stipulate to the County using overtime wages in calculating the following labor costs as itemized in the following categories:

- 1. Labor to copy/duplicate 2. Labor to locate 3a. Labor to redact 3b. Contract labor to redact
- 6b. Labor to copy/duplicate records already on County's website

Requestor's Signature _____ Date _____

Request for Discount: Indigence

A public record search **must** be made and a copy of a public record **must** be furnished **without charge for the first \$20.00 of the fee** for each request by an individual who is entitled to information under this act and who:

- 1) Submits an affidavit stating that the individual is indigent and receiving specific public assistance, **OR**
- 2) If not receiving public assistance, stating facts showing inability to pay the cost because of indigence.

If a Requestor is ineligible for the discount, the public body shall inform the requestor specifically of the reason for ineligibility in the public body's written response. An individual is ineligible for this fee reduction if **ANY** of the following apply:

- (i) The individual has previously received discounted copies of public records from the same public body twice during that calendar year,
- (ii) The individual requests the information in conjunction with outside parties who are offering or providing payment or other remuneration to the individual to make the request. A public body may require a statement by the requestor in the affidavit that the request is not being made in conjunction with outside parties in exchange for payment or other remuneration.

Office Use: Affidavit Received Eligible for Discount Ineligible for Discount

I am submitting an affidavit and requesting that I receive the discount for indigence for this FOIA request: _____ Date: _____
Requestor's Signature: _____

Request for Discount: Nonprofit Organization

A public record search **must** be made and a copy of a public record **must** be furnished **without charge for the first \$20.00 of the fee** for each request by a nonprofit organization formally designated by the state to carry out activities under subtitle C of the Developmental Disabilities Assistance and Bill of Rights Act of 2000 and the Protection and Advocacy for Individuals with Mental Illness Act, if the request meets **ALL** of the following requirements:

- (i) Is made directly on behalf of the organization or its clients.
- (ii) Is made for a reason wholly consistent with the mission and provisions of those laws under section 931 of the Mental Health Code, 1974 PA 258, MCL 330.1931.
- (iii) Is accompanied by documentation of its designation by the state, if requested by the County.

Office Use: Documentation of State Designation Received Eligible for Discount Ineligible for Discount

I stipulate that I am a designated agent for the nonprofit organization making this FOIA request and that this request is made directly on behalf of the organization or its clients and is made for a reason wholly consistent with the mission and provisions of those laws under section 931 of the Mental Health Code, 1974 PA 258, MCL 330.1931: _____ Date: _____
Requestor's Signature: _____

FIRE DEPARTMENT RECORDS



Detroit
4080 W. 11 Mile Road
Berkley, MI 48072
f: 877.884.6775
t: 248.336.9988

Lansing
3340 Ranger Road
Lansing, MI 48906
f: 877.884.6775
t: 517.321.3331

Grand Rapids
560 5th Street NW,
Suite 301
Grand Rapids, MI 49504
f: 877.884.6775
t: 616.285.8857

VIA FACSIMILE 810-229-1619

August 18, 2016

Attn.: Records Coordinator
Brighton Area Fire Department
Brighton, MI
Phone: 810-229-6640

Please accept this as a request for file information regarding the following property:

**Vacant Land located south of Beck Road and West of Latson Road
Parcel IDs: 11-17-200-004, 11-17-200-005, 11-17-200-008
(see attached map)**

We are particularly interested in

- Any current or historical records of fires, spills, or chemical storage;
- Violations that may indicate the site is contaminated or has some sort of environmental concern associated with it;
- Historical sketches / layouts of the building and property or any indication of under ground or above ground storage tanks

I sincerely appreciate your assistance in this matter and look forward to a timely response that you may be able to offer within your current work load. Please fax your response to me at (877) 884-6775. If file information is available for this property, please contact me at 517-325-9876 regarding costs associated with copies and the potential of reviewing the information. Thank you.

Sincerely,
PM Environmental, Inc.,

Erica Smith
Staff Consultant
8320 University Executive Park Drive Suite 106
Charlotte, NC 28262
PME Project #: 01-7525-0-0001



Detroit
4080 W. 11 Mile Road
Berkley, MI 48072
f: 877.884.6775
t: 248.336.9988

Lansing
3340 Ranger Road
Lansing, MI 48906
f: 877.884.6775
t: 517.321.3331

Grand Rapids
560 5th Street NW,
Suite 301
Grand Rapids, MI 49504
f: 877.884.6775
t: 616.285.8857

VIA FACSIMILE (517) 546-6011

August 18, 2016

Attn.: Barb
Howell Area Fire Department
Howell, MI

Please accept this as a request for file information regarding the following property:

**Vacant Land located south of Beck Road and West of Latson Road, Genoa Twp.
Parcel IDs: 11-17-200-004, 11-17-200-005, 11-17-200-008
(see attached map)**

We are particularly interested in

- Any current or historical records of fires, spills, or chemical storage;
- Violations that may indicate the site is contaminated or has some sort of environmental concern associated with it;
- Historical sketches / layouts of the building and property or any indication of under ground or above ground storage tanks

I sincerely appreciate your assistance in this matter and look forward to a timely response that you may be able to offer within your current work load. Please fax your response to me at (877) 884-6775. If file information is available for this property, please contact me at 813-915-6441 regarding costs associated with copies and the potential of reviewing the information. Thank you.

Sincerely,
PM Environmental, Inc.,

Erica Smith
Staff Consultant
8320 University Executive Park Drive Suite 106
Charlotte, NC 28262
PME Project #: 01-7525-0-0001

NATURAL GAS CONNECTION RECORDS

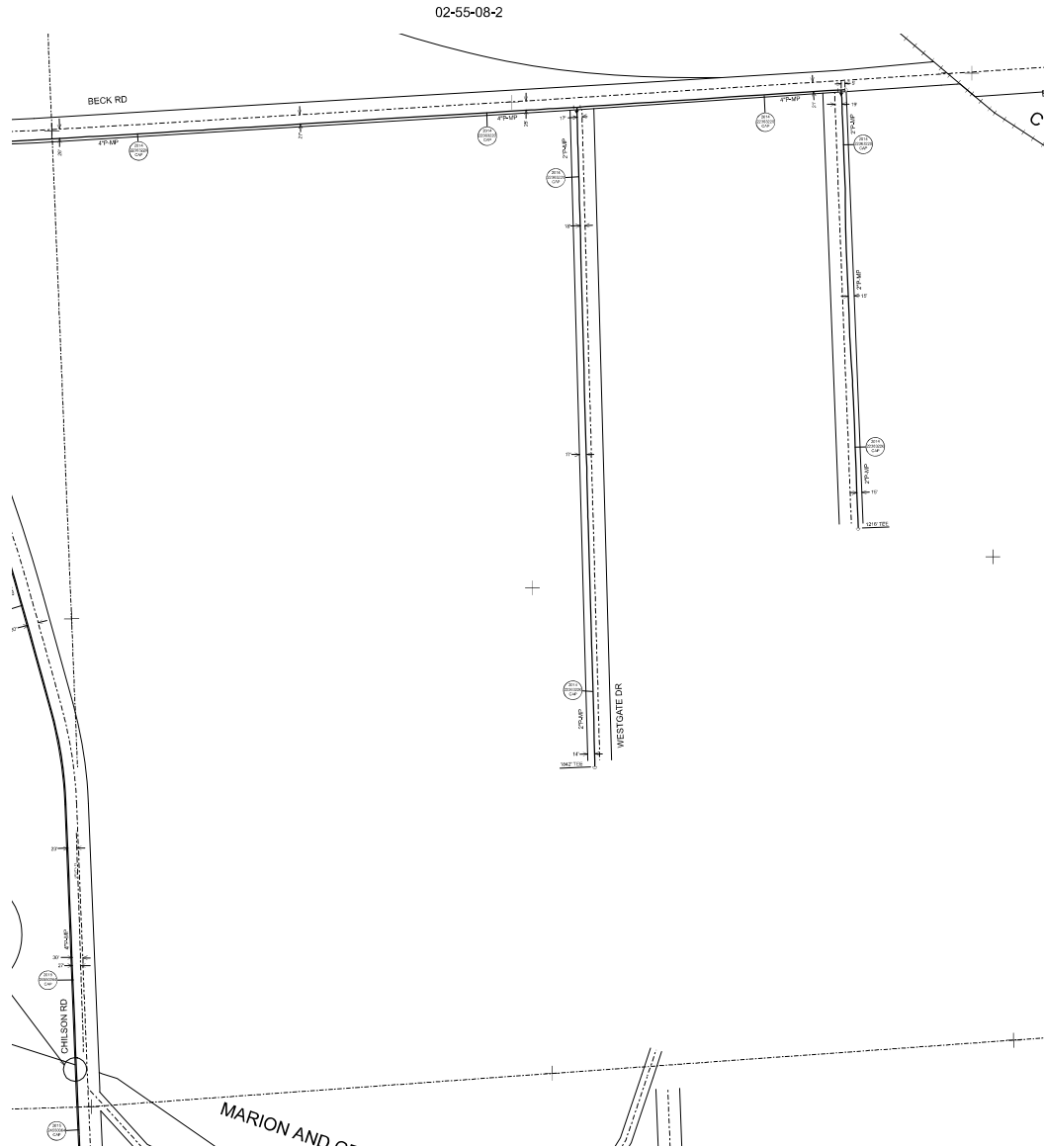


ISSUED BY Gas Information Management
 ON 10-12-15, FACILITIES MAY HAVE BEEN ADDED
 AFTER MAP PRINTED DATE THEREFORE,
 CONSUMERS ENERGY RECOMMENDS YOU
 VERIFY LOCATIONS BEFORE ANY CONSTRUCTION TAKEN ON THE BASIS
 OF THIS MAP. THIS MAP TO BE DESTROYED
 WHEN NO LONGER NEEDED.

CONSUMERS ENERGY
 UNDERGROUND PLANT
 ALL LOCATIONS ARE APPROXIMATE,
 LOCATIONS ARE NOT SHOWN. LOCATIONS
 WILL BE VERIFIED BY STAKING UPON REQUEST.

02-55-07-4

ALL MEASUREMENTS ARE TAKEN FROM ACTUAL PROPERTY LINES UNLESS OTHERWISE NOTED.
 CENTERLINE MEASUREMENTS ARE TAKEN FROM CENTERLINE OF EXISTING ROADWAY, UNLESS
 OTHERWISE NOTED, AND MAY NOT BE CENTERLINE OF ROAD.



02-55-08-2

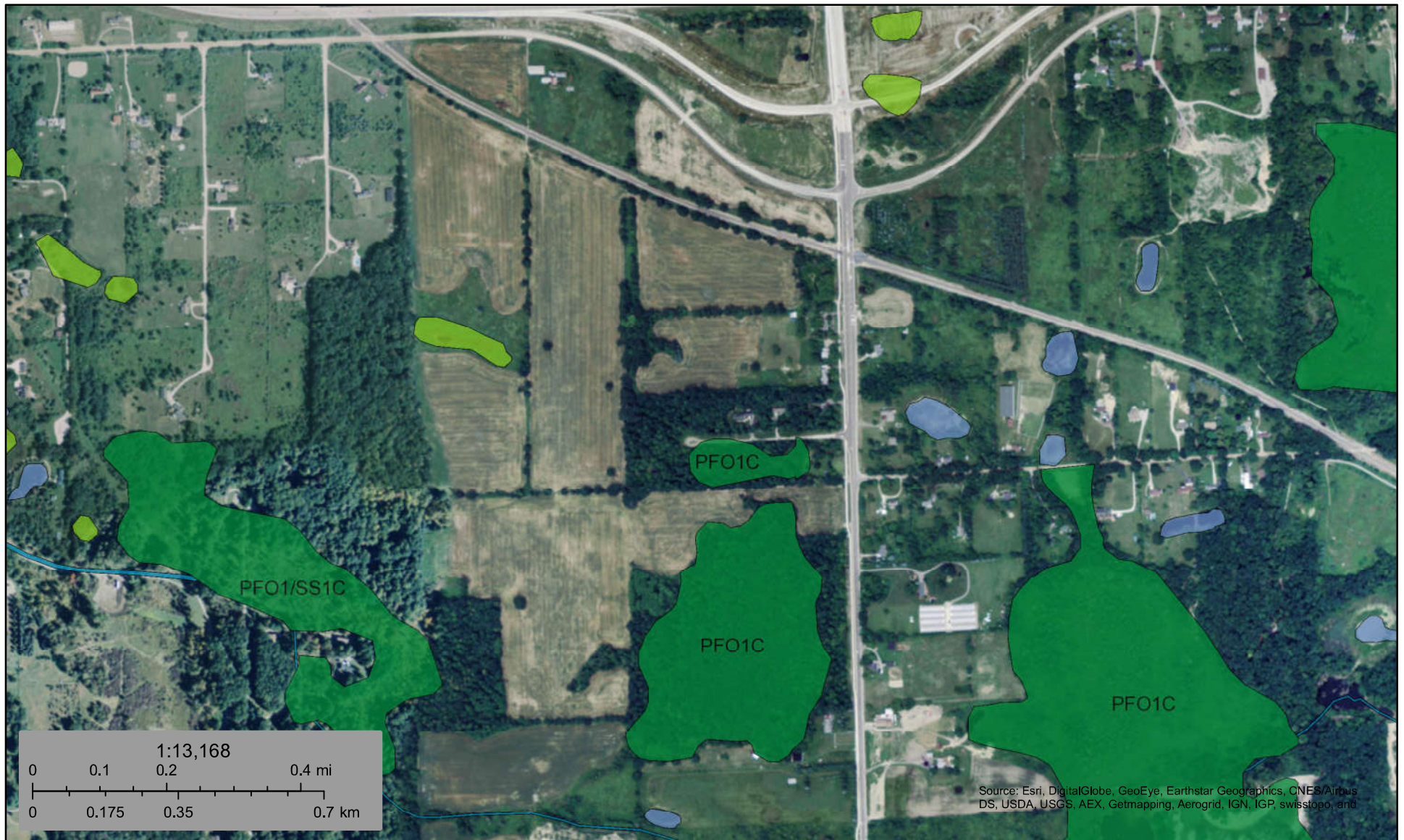
02-55-17-2

Subject Property

02-55-08-4

				Gas Information Management				QUARTER SECTION MAP <small>CONSUMER SERVICE CENTER</small>							
01	02	03	04	05	06	07	08	09	10	11	12	02-55-08-3			
13	14	15	16	17	18	19	20	21	22	23	24	<small>SCALE: 1"=40'</small>			
25	26	27	28	29	30	31	32	TOWNSHIP: GENOA COUNTY: LINCOLN HEADQUARTERS: HOWELL				<small>REQUEST DATE: 10-30-14</small> <small>REQUESTED BY: RCB</small>			
<small>EXCEPT FOR DETAILS</small>												<small>This map has been plotted and approved by the GIM Conversion Team.</small>			

WETLANDS



August 30, 2016

- | | | |
|--------------------------------|-----------------------------------|-----------------|
| Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland | Other |
| Estuarine and Marine Wetland | Freshwater Emergent Wetland | Freshwater Pond |
| Freshwater Emergent Wetland | Lake | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix C



NO PREVIOUS SITE INVESTIGATION

Appendix D



ENVIRONMENTAL DATABASE SEARCH

Vacant Land

South of Beck Road and West of Nixon Road
Genoa Township, MI 48843

Inquiry Number: 04704331.2r
August 18, 2016

The EDR Radius Map™ Report



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	14
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

SOUTH OF BECK ROAD AND WEST OF NIXON ROAD
GENOA TOWNSHIP, MI 48843

COORDINATES

Latitude (North): 42.5704770 - 42° 34' 13.71"
Longitude (West): 83.8806330 - 83° 52' 50.27"
Universal Transverse Mercator: Zone 17
UTM X (Meters): 263560.3
UTM Y (Meters): 4716927.0
Elevation: 961 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 6066288 HOWELL, MI
Version Date: 2014

East Map: 6066252 BRIGHTON, MI
Version Date: 2014

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140803, 20140923, 20140705
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
 SOUTH OF BECK ROAD AND WEST OF NIXON ROAD
 GENOA TOWNSHIP, MI 48843

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	EASY ACCESS MINI STO	1481 GRAND OAKS DR	UST	Higher	952, 0.180, NNW
A2	COLD FORM DEVELOPING	1480 GRAND OAKS DR	SWRCY, SPILLS, WDS	Higher	1285, 0.243, NNW
A3	COLD FORM DEVELOPING	1480 GRAND OAKS DR	RCRA NonGen / NLR, FINDS, ECHO	Higher	1285, 0.243, NNW
4	BRADHART PRODUCTS, I	1100 GRAND OAKS DRIV	DEL PART 201, WDS	Higher	3023, 0.573, NNW
5	RES WELL, E. GRAND R	4030 EAST GRAND RIVE	INVENTORY, PART 201	Higher	4298, 0.814, NNE
6	G AND G PAINT DEVELO	4030 GRAND RIVER RD	INVENTORY, PART 201	Higher	4321, 0.818, NNE
7	GALLERIA FURNITURE	3500 E. GRAND RIVER	DEL PART 201	Higher	4654, 0.881, North

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS..... This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities Database

State and tribal leaking storage tank lists

LUST..... Leaking Underground Storage Tank Sites
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
AST..... Aboveground Tanks
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

AUL..... Engineering and Institutional Controls

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields and UST Site Database

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF..... Inactive Solid Waste Facilities
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

EXECUTIVE SUMMARY

INVENTORY..... Inventory of Facilities
CDL..... Clandestine Drug Lab Listing
US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS..... Lien List
LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... Pollution Emergency Alerting System

Other Ascertainable Records

FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
FINDS..... Facility Index System/Facility Registry System
DOCKET HWC..... Hazardous Waste Compliance Docket Listing
UXO..... Unexploded Ordnance Sites
AIRS..... Permit and Emissions Inventory Data
BEA..... Baseline Environmental Assessment Database
COAL ASH..... Coal Ash Disposal Sites
DRYCLEANERS..... Drycleaning Establishments
LEAD..... Lead Safe Housing Registry

EXECUTIVE SUMMARY

NPDES.....	List of Active NPDES Permits
UIC.....	Underground Injection Wells Database
WDS.....	Waste Data System
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
ECHO.....	Enforcement & Compliance History Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historic Gas Stations
EDR Hist Cleaner.....	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201.....	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Michigan UST database.

A review of the UST list, as provided by EDR, has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
EASY ACCESS MINI STO Database: UST, Date of Government Version: 04/13/2016 Tank Status: Removed from Ground	1481 GRAND OAKS DR	NNW 1/8 - 1/4 (0.180 mi.)	1	8

EXECUTIVE SUMMARY

Facility Type: CLOSED
Facility Id: 00037610

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling center locations.

A review of the SWRCY list, as provided by EDR, and dated 03/31/2016 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
COLD FORM DEVELOPING	1480 GRAND OAKS DR	NNW 1/8 - 1/4 (0.243 mi.)	A2	8

Local Lists of Hazardous waste / Contaminated Sites

PART 201: A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

A review of the PART 201 list, as provided by EDR, and dated 10/01/2013 has revealed that there are 2 PART 201 sites within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
RES WELL, E. GRAND R Facility Status: Interim Response conducted - No further activities anticipated Facility ID: 47000106	4030 EAST GRAND RIVE	NNE 1/2 - 1 (0.814 mi.)	5	12
G AND G PAINT DEVELO Facility Status: Interim Response conducted - No further activities anticipated Facility ID: 47000010	4030 GRAND RIVER RD	NNE 1/2 - 1 (0.818 mi.)	6	12

DEL PART 201: A deleted site has been removed from the Part 201 List because information known to the DEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion. A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

A review of the DEL PART 201 list, as provided by EDR, and dated 08/01/2013 has revealed that there are 2 DEL PART 201 sites within approximately 1 mile of the target property.

EXECUTIVE SUMMARY

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
BRADHART PRODUCTS, I Facility Id: 47000232	1100 GRAND OAKS DRIV	NNW 1/2 - 1 (0.573 mi.)	4	11
GALLERIA FURNITURE Facility Id: 47000170	3500 E. GRAND RIVER	N 1/2 - 1 (0.881 mi.)	7	13

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/09/2015 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

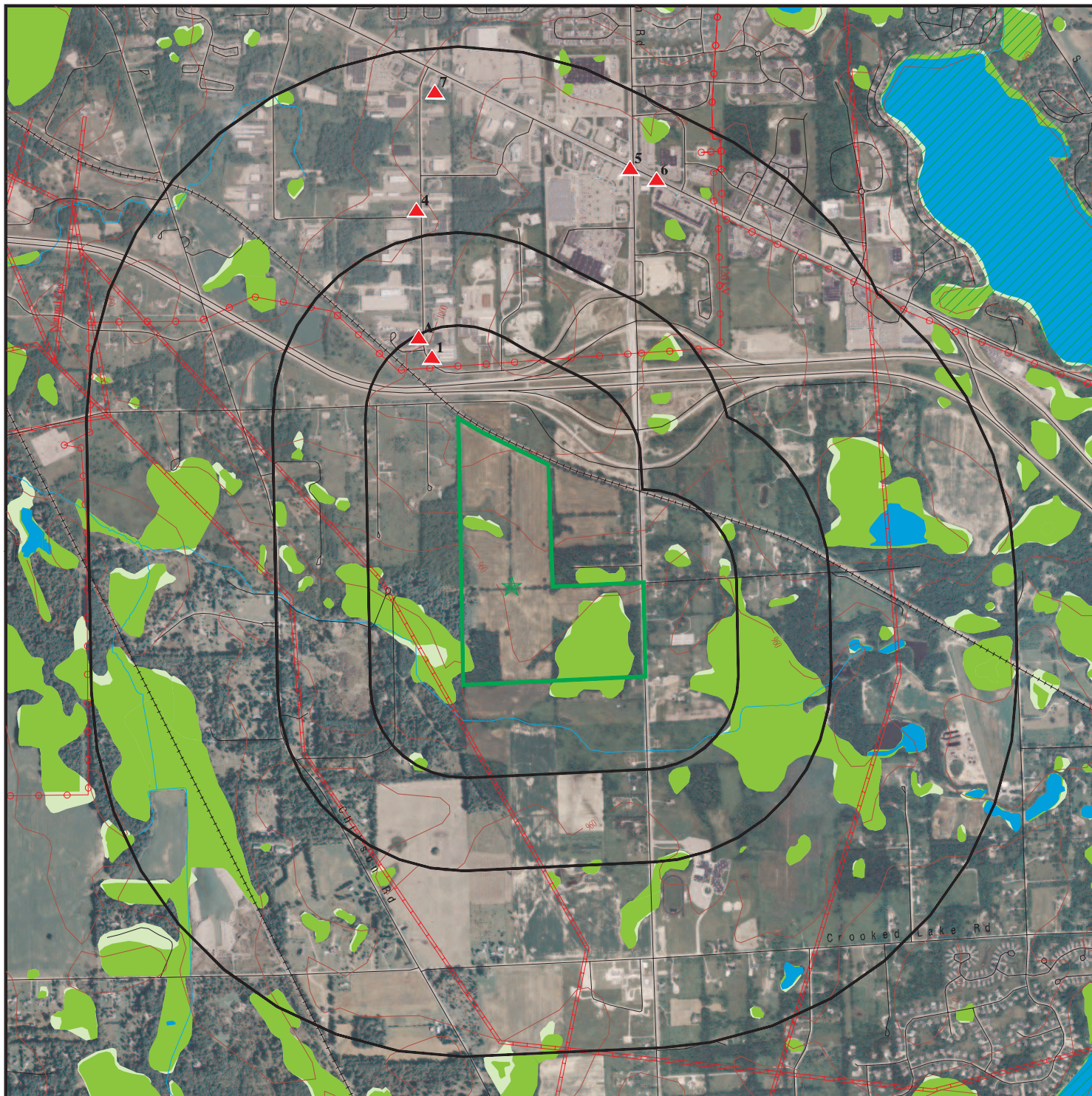
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
COLD FORM DEVELOPING	1480 GRAND OAKS DR	NNW 1/8 - 1/4 (0.243 mi.)	A3	10

EXECUTIVE SUMMARY


Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.


<u>Site Name</u>	<u>Database(s)</u>
2.19 ACRES VACANT PARCEL	INVENTORY

OVERVIEW MAP - 04704331.2R



 Target Property

 Sites at elevations higher than or equal to the target property

 Sites at elevations lower than the target property

 Manufactured Gas Plants

 National Priority List Sites

 Dept. Defense Sites

 Indian Reservations BIA

 Power transmission lines

 Pipelines

 100-year flood zone

 500-year flood zone

 National Wetland Inventory

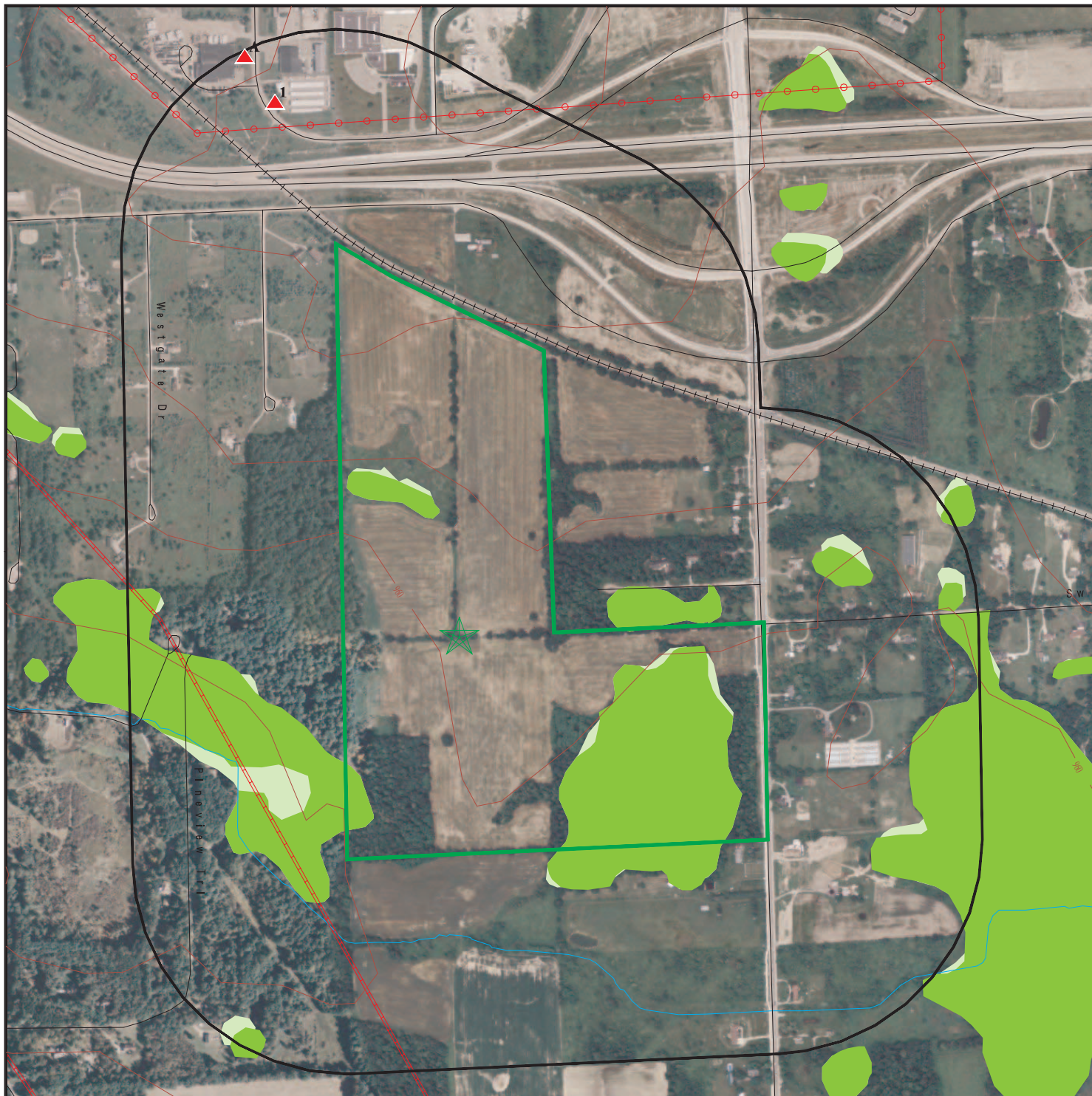
 State Wetlands















This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vacant Land
 ADDRESS: South of Beck Road and West of Nixon Road
 Genoa Township MI 48843
 LAT/LONG: 42.570477 / 83.880633

CLIENT: PM Environmental, Inc.
 CONTACT: Erica Smith
 INQUIRY #: 04704331.2r
 DATE: August 18, 2016 11:31 am

DETAIL MAP - 04704331.2R



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Power transmission lines
-  Pipelines
-  100-year flood zone
-  500-year flood zone
-  National Wetland Inventory
-  State Wetlands



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Vacant Land
 ADDRESS: South of Beck Road and West of Nixon Road
 Genoa Township MI 48843
 LAT/LONG: 42.570477 / 83.880633

CLIENT: PM Environmental, Inc.
 CONTACT: Erica Smith
 INQUIRY #: 04704331.2r
 DATE: August 18, 2016 11:32 am

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	1	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
HIST LF	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	1	0	NR	NR	1
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL INVENTORY	TP		NR	NR	NR	NR	NR	0
PART 201	0.500		0	0	0	NR	NR	0
CDL	1.000		0	0	0	2	NR	2
DEL PART 201	TP		NR	NR	NR	NR	NR	0
US CDL	1.000		0	0	0	2	NR	2
	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
BEA	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
LEAD	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201	TP		NR	NR	NR	NR	NR	0
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MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	3	0	4	0	7

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

1
NNW
1/8-1/4
0.180 mi.
952 ft.

EASY ACCESS MINI STORAGE
1481 GRAND OAKS DR
HOWELL, MI 48843

UST **U001777348**
N/A

Relative:
Higher

UST:
 Facility ID: 00037610
 Facility Type: CLOSED
 Owner Name: ROBERT & CAROL GREEN
 Owner Address: 2332 PINE HOLLOW TRL
 Owner City,St,Zip: BRIGHTON, MI 48114-4900
 Owner Country: USA
 Owner Contact: Not reported
 Owner Phone: (313) 227-3500
 Contact: CAROL GREEN
 Contact Phone: (313) 227-3500
 Date of Collection: 01/11/2001
 Accuracy: 100
 Accuracy Value Unit: FEET
 Horizontal Datum: NAD83
 Source: STATE OF MICHIGAN
 Point Line Area: POINT
 Desc Category: Plant Entrance (Freight)
 Method of Collection: Address Matching-House Number
 Latitude: 42.57894
 Longitude: -83.88417

Tank ID: 1
Tank Status: Removed from Ground
 Capacity: Not reported
 Product: Gasoline
 Install Date: 01/01/1980
 Remove Date: 09/02/1993
 Tank Release Detection: Not reported
 Pipe Release Detection: Not reported
 Piping Material: Bare Steel,Unknown
 Piping Type: Suction: No Valve At Tank
 Construction Material: Asphalt Coated or Bare Steel,Unknown
 Impressed Device: No

A2
NNW
1/8-1/4
0.243 mi.
1285 ft.

COLD FORM DEVELOPING CO
1480 GRAND OAKS DR
HOWELL, MI 48843
Site 1 of 2 in cluster A

SWRCY **S109417258**
SPILLS **N/A**
WDS

Relative:
Higher

SWRCY:
 SR No: 21
 Contact Phone1: 517-548-4140
 Location Description: about 36 miles away
 Materials Accepted: ABS Plastic, HDPE (2), Nylon, Polypropylene (5), PVC (3)
 Services: Not reported
 Collection: Not reported

SWRCY:
 SR No 2: 21
 Material: Metals - Carbide
 Service: Collector
 Drop Off/Pick Up: Both

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

COLD FORM DEVELOPING CO (Continued)

S109417258

Minimum Quantity: None
Unit: None
Service Area: None

SR No 2: 21
Material: Metals - Cobalt/Cobalt Alloys
Service: Collector
Drop Off/Pick Up: Both
Minimum Quantity: None
Unit: None
Service Area: None

SR No 2: 21
Material: Metals - Nickel Alloy
Service: Collector
Drop Off/Pick Up: Both
Minimum Quantity: None
Unit: None
Service Area: None

PEAS:

Incident Date: 08/15/2008
Office Status: Not reported
Initials of Incoming Operator: Not reported
Time Received by DNRE Staff: Not reported
Time Occur: Not reported
Date Of PEAS Call: Not reported
Complainant / Company: ANONYMOUS
Complainant Address: Not reported
Company Involved: INDUSTRIAL RESIN RECYCLING
DEQ Division Involved: RRD
Incident Description: Not reported
Description: SPECTRUS NX 108, FERRIC CHLORIDE SOLUTION (CORROSIVE), LIQUID RINSE CONDITIONER, CONTINUUM A AEC 3100, FLOCCULANT, PPG MZD 7330 (MORE)
Date Discovered: Not reported
Time Discovered: Not reported
Office/After Hours: Not reported
Party Involved - Phone 1: Not reported
Party Involved - Phone 2: Not reported
Ongoing?: Not reported
Release Secured: Not reported
Source: Not reported
Lead Division 2: Not reported

WDS:

Site Id: MID069842003
WMD Id: 396994
Site Specific Name: COLD FORM DEVELOPING CO
Mailing Address: 18450 15 MILE RD
Mailing City/State/Zip: 48026
Mailing County: MACOMB

Site Id: Not reported
WMD Id: 471499
Site Specific Name: TRUCK TIRE BANDAG SALES

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

COLD FORM DEVELOPING CO (Continued)

S109417258

Mailing Address: 1480 GRAND OAKS DR
Mailing City/State/Zip: 48843
Mailing County: LIVINGSTON

**A3
NNW
1/8-1/4
0.243 mi.
1285 ft.**

**COLD FORM DEVELOPING CO
1480 GRAND OAKS DR
HOWELL, MI 48843
Site 2 of 2 in cluster A**

**RCRA NonGen / NLR
FINDS
ECHO**

**1000183159
MID069842003**

**Relative:
Higher**

RCRA NonGen / NLR:
Date form received by agency: 08/18/1980
Facility name: COLD FORM DEVELOPING CO
Facility address: 1480 GRAND OAKS DR
HOWELL, MI 48843

**Actual:
998 ft.**

EPA ID: MID069842003
Mailing address: 18450 15 MILE RD
FRASER, MI 48026
Contact: FRED SLACK
Contact address: 1480 GRAND OAKS DR
HOWELL, MI 48843
Contact country: US
Contact telephone: (313) 293-9000
Contact email: Not reported
EPA Region: 05
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: NO ACTIVE O/OP AS NOT GENERATING WASTE
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/03/1970
Owner/Op end date: Not reported

Owner/operator name: NO ACTIVE O/OP AS NOT GENERATING WASTE
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/03/1970
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

COLD FORM DEVELOPING CO (Continued)

1000183159

Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
Used oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Violation Status: No violations found

FINDS:

Registry ID: 110003602664

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:

Envid: 1000183159
Registry ID: 110003602664
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110003602664

4
NNW
1/2-1
0.573 mi.
3023 ft.

BRADHART PRODUCTS, INC.
1100 GRAND OAKS DRIVE
HOWELL, MI 48843

DEL PART 201 **S108488283**
WDS **N/A**

Relative:
Higher

DEL_PART201:
Facility ID: 47000232
Status: Delisted - no longer meets criteria specified in rules

Actual:
971 ft.

WDS:
Site Id: MID985618198
WMD Id: 405698
Site Specific Name: SKILLTECH AUTOMOTIVE TECHNOLOGIES
Mailing Address: 1100 GRAND OAKS DR
Mailing City/State/Zip: 48843
Mailing County: LIVINGSTON

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

5
NNE
1/2-1
0.814 mi.
4298 ft.

RES WELL, E. GRAND RIVER (ASS.G&G PAINT)
4030 EAST GRAND RIVER ROAD
BRIGHTON, MI

INVENTORY S110126704
PART 201 N/A

Relative:
Higher

INVENTORY:
Bea Number: Not reported
Township: Howell
District: Lansing
Data Source: Part 201
Latitude: 42.586830
Longitude: -83.874390

Actual:
1007 ft.

PART 201:
Facility ID: 47000106
Facility Status: Interim Response conducted - No further activities anticipated
Source: Not reported
SAM Score: Not reported
SAM Score Date: Not reported
Township: 02N
Range: 05E
Section: 5
Quarter: Not reported
Quarter/Quarter: Not reported
Pollutants: Not reported

6
NNE
1/2-1
0.818 mi.
4321 ft.

G AND G PAINT DEVELOPERS
4030 GRAND RIVER RD
HOWELL, MI 48843

INVENTORY S103085694
PART 201 N/A

Relative:
Higher

INVENTORY:
Bea Number: Not reported
Township: Howell Township
District: Lansing
Data Source: Part 201
Latitude: 42.585940
Longitude: -83.873840

Actual:
1011 ft.

PART 201:
Facility ID: 47000010
Facility Status: Interim Response conducted - No further activities anticipated
Source: Paints & Allied Products
SAM Score: 28
SAM Score Date: 07/14/2004
Township: 02N
Range: 05E
Section: 4
Quarter: SW
Quarter/Quarter: SW
Pollutants: Benzene; Chlorobenzene; Ethylbenzene; Toluene; Xylenes

MAP FINDINGS

Map ID
Direction
Distance
Elevation

Site

Database(s)

EDR ID Number
EPA ID Number

7
North
1/2-1
0.881 mi.
4654 ft.

GALLERIA FURNITURE
3500 E. GRAND RIVER
HOWELL, MI 48843

DEL PART 201

S105965966
N/A

Relative:
Higher

DEL_PART201:

Facility ID: 47000170

Status: Delisted - no longer meets criteria specified in rules

Actual:
983 ft.

Count: 1 records.

ORPHAN SUMMARY

<u>City</u>	<u>EDR ID</u>	<u>Site Name</u>	<u>Site Address</u>	<u>Zip</u>	<u>Database(s)</u>
LIVINGSTON COUNTY	S114023504	2.19 ACRES VACANT PARCEL	S OF STRAWBERRY LAKE RD & W OF		INVENTORY

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: N/A
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/07/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/13/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/06/2016	Telephone: 703-603-8704
Date Made Active in Reports: 05/20/2016	Last EDR Contact: 07/06/2016
Number of Days to Update: 135	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016	Source: EPA
Date Data Arrived at EDR: 04/05/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2015	Source: EPA
Date Data Arrived at EDR: 03/02/2016	Telephone: 800-424-9346
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/02/2016	Telephone: 312-886-6186
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/02/2016	Telephone: 312-886-6186
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/02/2016	Telephone: 312-886-6186
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/02/2016	Telephone: 312-886-6186
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 06/30/2016
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015	Source: Department of the Navy
Date Data Arrived at EDR: 05/29/2015	Telephone: 843-820-7326
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 08/12/2016
Number of Days to Update: 13	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/10/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/11/2015	Telephone: 703-603-0695
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 05/25/2016
Number of Days to Update: 53	Next Scheduled EDR Contact: 09/12/2016
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/10/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/11/2015	Telephone: 703-603-0695
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 05/25/2016
Number of Days to Update: 53	Next Scheduled EDR Contact: 09/12/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/28/2016

Source: National Response Center, United States Coast Guard

Date Data Arrived at EDR: 03/30/2016

Telephone: 202-267-2180

Date Made Active in Reports: 05/20/2016

Last EDR Contact: 06/28/2016

Number of Days to Update: 51

Next Scheduled EDR Contact: 10/10/2016

Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

Date of Government Version: N/A

Source: Dept of Environmental Quality

Date Data Arrived at EDR: 10/31/2013

Telephone: 517-284-5103

Date Made Active in Reports: 11/20/2013

Last EDR Contact: 07/22/2016

Number of Days to Update: 20

Next Scheduled EDR Contact: 11/07/2016

Data Release Frequency: No Update Planned

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities Database

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/28/2016

Source: Dept of Environmental Quality

Date Data Arrived at EDR: 03/30/2016

Telephone: 517-335-4035

Date Made Active in Reports: 05/05/2016

Last EDR Contact: 06/30/2016

Number of Days to Update: 36

Next Scheduled EDR Contact: 10/10/2016

Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 04/27/2016

Source: Dept of Environmental Quality

Date Data Arrived at EDR: 05/18/2016

Telephone: 517-373-9837

Date Made Active in Reports: 07/05/2016

Last EDR Contact: 08/17/2016

Number of Days to Update: 48

Next Scheduled EDR Contact: 11/28/2016

Data Release Frequency: Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016

Source: EPA, Region 5

Date Data Arrived at EDR: 04/27/2016

Telephone: 312-886-7439

Date Made Active in Reports: 06/03/2016

Last EDR Contact: 07/27/2016

Number of Days to Update: 37

Next Scheduled EDR Contact: 11/07/2016

Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Semi-Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 105

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

State and tribal registered storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010	Source: FEMA
Date Data Arrived at EDR: 02/16/2010	Telephone: 202-646-5797
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 07/07/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Varies

UST: Underground Storage Tank Facility List

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 04/13/2016	Source: Dept of Environmental Quality
Date Data Arrived at EDR: 05/18/2016	Telephone: 517-241-8847
Date Made Active in Reports: 07/05/2016	Last EDR Contact: 08/17/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: Annually

UST 2: Underground Storage Tank Listing

A listing of underground storage tank site locations that have unknown owner information.

Date of Government Version: 05/18/2016	Source: Dept of Environmental Quality
Date Data Arrived at EDR: 05/24/2016	Telephone: 517-241-8847
Date Made Active in Reports: 07/19/2016	Last EDR Contact: 07/15/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 10/31/2016
	Data Release Frequency: Annually

AST: Aboveground Tanks

Registered Aboveground Storage Tanks.

Date of Government Version: 05/02/2016	Source: Dept of Environmental Quality
Date Data Arrived at EDR: 05/18/2016	Telephone: 517-241-8847
Date Made Active in Reports: 07/05/2016	Last EDR Contact: 09/12/2016
Number of Days to Update: 48	Next Scheduled EDR Contact: 11/28/2016
	Data Release Frequency: No Update Planned

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 10/29/2015	Telephone: 617-918-1313
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/29/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016	Source: EPA Region 9
Date Data Arrived at EDR: 04/27/2016	Telephone: 415-972-3368
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 37	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016	Source: EPA Region 10
Date Data Arrived at EDR: 01/08/2016	Telephone: 206-553-2857
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 41	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016	Source: EPA Region 8
Date Data Arrived at EDR: 02/05/2016	Telephone: 303-312-6137
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 119	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014	Source: EPA Region 7
Date Data Arrived at EDR: 11/25/2014	Telephone: 913-551-7003
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 07/27/2016
Number of Days to Update: 65	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015	Source: EPA Region 6
Date Data Arrived at EDR: 02/04/2016	Telephone: 214-665-7591
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 120	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016	Source: EPA Region 4
Date Data Arrived at EDR: 04/29/2016	Telephone: 404-562-9424
Date Made Active in Reports: 06/03/2016	Last EDR Contact: 07/26/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015	Source: EPA Region 5
Date Data Arrived at EDR: 11/13/2015	Telephone: 312-886-6136
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 07/27/2016
Number of Days to Update: 52	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal institutional control / engineering control registries

AUL: Engineering and Institutional Controls

A listing of sites with institutional and/or engineering controls in place.

Date of Government Version: 03/07/2016	Source: Dept of Environmental Quality
Date Data Arrived at EDR: 03/08/2016	Telephone: 517-373-4828
Date Made Active in Reports: 05/05/2016	Last EDR Contact: 05/31/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 09/12/2016
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 07/01/2016
Number of Days to Update: 142	Next Scheduled EDR Contact: 10/10/2016
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields and USTfield Site Database

All state funded Part 201 and 213 sites, as well as LUST sites that have been redeveloped by private entities using the BEA process. Be aware that this is not a list of all of the potential brownfield sites in Michigan.

Date of Government Version: 01/15/2016	Source: Dept of Environmental Quality
Date Data Arrived at EDR: 02/02/2016	Telephone: 517-373-4805
Date Made Active in Reports: 04/04/2016	Last EDR Contact: 07/22/2016
Number of Days to Update: 62	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

BROWNFIELDS 2: Brownfields Building and Land Site Locations

A listing of brownfield building and land site locations. The listing is a collaborative effort of Michigan Economic Development Corporation, Michigan Economic Developers Association, Detroit Edison, Detroit Area Commercial Board of Realtors

Date of Government Version: 04/09/2007	Source: Economic Development Corporation
Date Data Arrived at EDR: 04/10/2007	Telephone: 888-522-0103
Date Made Active in Reports: 05/01/2007	Last EDR Contact: 07/27/2016
Number of Days to Update: 21	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/21/2016
Date Data Arrived at EDR: 03/22/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Inactive Solid Waste Facilities

The database contains historical information and is no longer updated.

Date of Government Version: 03/01/1997
Date Data Arrived at EDR: 02/28/2003
Date Made Active in Reports: 03/06/2003
Number of Days to Update: 6

Source: Dept of Environmental Quality
Telephone: 517-335-4034
Last EDR Contact: 02/28/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycling Facilities

A listing of recycling center locations.

Date of Government Version: 03/31/2016
Date Data Arrived at EDR: 04/01/2016
Date Made Active in Reports: 05/05/2016
Number of Days to Update: 34

Source: Dept of Environmental Quality
Telephone: 517-241-5719
Last EDR Contact: 06/24/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/05/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/04/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 40

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

PART 201: Part 201 Site List

A Part 201 Listed site is a location that has been evaluated and scored by the DEQ using the Part 201 scoring model. The location is or includes a "facility" as defined by Part 201, where there has been a release of a hazardous substance(s) in excess of the Part 201 residential criteria, and/or where corrective actions have not been completed under Part 201 to meet the applicable cleanup criteria for unrestricted residential use. The Part 201 List does not include all of the sites of contamination that are subject to regulation under Part 201 because owners are not required to inform the DEQ about the sites and can pursue cleanup independently. Sites of environmental contamination that are not known to DEQ are not on the list, nor are sites with releases that resulted in low environmental impact.

Date of Government Version: 10/01/2013
Date Data Arrived at EDR: 10/03/2014
Date Made Active in Reports: 10/03/2014
Number of Days to Update: 0

Source: Department of Environmental Quality
Telephone: 517-284-5103
Last EDR Contact: 07/22/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: No Update Planned

INVENTORY: Inventory of Facilities

The Inventory of Facilities has three data sources: Facilities under Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) identified through state funded or private party response activities (Projects); Facilities under Part 213, Leaking Underground Storage Tanks of the NREPA; and Facilities identified through submittals of Baseline Environmental Assessments (BEA) submitted pursuant to Part 201 or Part 213 of the NREPA. The Part 201 Projects Inventory does not include all of the facilities that are subject to regulation under Part 201 because owners are not required to inform the Department of Environmental Quality (DEQ) about the facilities and can pursue cleanup independently. Facilities that are not known to DEQ are not on the Inventory, nor are locations with releases that resulted in low environmental impact. Part 213 facilities listed here may have more than one release; a list of releases for which corrective actions have been completed and list of releases for which corrective action has not been completed is located on the Leaking Underground Storage Tanks Site Search webpage. The DEQ may or may not have reviewed and concurred with the conclusion that the corrective actions described in a closure report meets criteria. A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

Date of Government Version: 04/26/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 57

Source: Department of Environmental Quality
Telephone: 517-284-5136
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

CDL: Clandestine Drug Lab Listing

A listing of clandestine drug lab locations.

Date of Government Version: 05/11/2016
Date Data Arrived at EDR: 05/24/2016
Date Made Active in Reports: 07/05/2016
Number of Days to Update: 42

Source: Department of Community Health
Telephone: 517-373-3740
Last EDR Contact: 07/22/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

DEL PART 201: Delisted List of Contaminated Sites

A deleted site has been removed from the Part 201 List because information known to the DEQ at the time of the evaluation does not support inclusion on the Part 201 List. This designation is often applied to sites where changes in cleanup criteria resulted in a determination that the site no longer exceeds any applicable cleanup criterion. A delisted site has been removed from the Part 201 List because response actions have reduced the levels of contaminants to concentrations which meet or are below the criteria for unrestricted residential use.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/01/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 09/11/2013
Number of Days to Update: 41

Source: Dept of Environmental Quality
Telephone: 517-373-9541
Last EDR Contact: 07/22/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/04/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 40

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Quarterly

Local Land Records

LIENS: Lien List

An Environmental Lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC * 9607(1) and similar state or local laws. In other words: a lien placed upon a property's title due to an environmental condition

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/05/2015
Number of Days to Update: 12

Source: Dept of Environmental Quality
Telephone: 517-241-7603
Last EDR Contact: 04/22/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

PEAS: Pollution Emergency Alerting System

Environmental pollution emergencies reported to the Department of Environmental Quality such as tanker accidents, pipeline breaks, and release of reportable quantities of hazardous substances.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2016
Date Data Arrived at EDR: 05/03/2016
Date Made Active in Reports: 07/05/2016
Number of Days to Update: 63

Source: Dept of Environmental Quality
Telephone: 517-373-8427
Last EDR Contact: 07/22/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/10/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/15/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/24/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/24/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/25/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/07/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/25/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 08/12/2016
Number of Days to Update: 3	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014	Source: EPA
Date Data Arrived at EDR: 10/15/2014	Telephone: 202-566-0500
Date Made Active in Reports: 11/17/2014	Last EDR Contact: 07/15/2016
Number of Days to Update: 33	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/06/2015	Telephone: 202-564-5088
Date Made Active in Reports: 03/09/2015	Last EDR Contact: 07/07/2016
Number of Days to Update: 31	Next Scheduled EDR Contact: 10/24/2016
	Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/17/2016
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/17/2016
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/05/2016
	Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/07/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 03/18/2016	Telephone: 301-415-7169
Date Made Active in Reports: 04/15/2016	Last EDR Contact: 09/05/2016
Number of Days to Update: 28	Next Scheduled EDR Contact: 11/21/2016
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 06/09/2016
Number of Days to Update: 76	Next Scheduled EDR Contact: 09/19/2016
	Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 06/10/2016
Number of Days to Update: 40	Next Scheduled EDR Contact: 09/19/2016
	Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/19/2011	Telephone: 202-566-0517
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 07/29/2016
Number of Days to Update: 83	Next Scheduled EDR Contact: 11/07/2016
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/09/2015	Telephone: 202-343-9775
Date Made Active in Reports: 09/16/2015	Last EDR Contact: 07/07/2016
Number of Days to Update: 69	Next Scheduled EDR Contact: 10/17/2016
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/27/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/11/2016
Date Data Arrived at EDR: 03/15/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 80

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/08/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/09/2016
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/05/2005	Source: USGS
Date Data Arrived at EDR: 02/29/2008	Telephone: 703-648-7709
Date Made Active in Reports: 04/18/2008	Last EDR Contact: 06/03/2016
Number of Days to Update: 49	Next Scheduled EDR Contact: 09/12/2016
	Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011	Source: USGS
Date Data Arrived at EDR: 06/08/2011	Telephone: 703-648-7709
Date Made Active in Reports: 09/13/2011	Last EDR Contact: 06/03/2016
Number of Days to Update: 97	Next Scheduled EDR Contact: 09/12/2016
	Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015	Source: EPA
Date Data Arrived at EDR: 09/09/2015	Telephone: (312) 353-2000
Date Made Active in Reports: 11/03/2015	Last EDR Contact: 06/08/2016
Number of Days to Update: 55	Next Scheduled EDR Contact: 09/19/2016
	Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 03/01/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/03/2016	Telephone: 202-564-0527
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 05/25/2016
Number of Days to Update: 33	Next Scheduled EDR Contact: 09/12/2016
	Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015	Source: Department of Defense
Date Data Arrived at EDR: 01/29/2016	Telephone: 571-373-0407
Date Made Active in Reports: 04/05/2016	Last EDR Contact: 06/20/2016
Number of Days to Update: 67	Next Scheduled EDR Contact: 10/03/2016
	Data Release Frequency: Varies

AIRS: Permit and Emissions Inventory Data

Permit and emissions inventory data.

Date of Government Version: 03/23/2016	Source: Dept of Environmental Quality
Date Data Arrived at EDR: 03/24/2016	Telephone: 517-373-7074
Date Made Active in Reports: 04/20/2016	Last EDR Contact: 06/16/2016
Number of Days to Update: 27	Next Scheduled EDR Contact: 10/03/2016
	Data Release Frequency: Varies

BEA: Baseline Environmental Assessment Database

A BEA is a document that new or prospective property owners/operations disclose to the DEQ identifying the property as a facility pursuant to Part 201 and Part 213. The Inventory of BEA Facilities overlaps in part with the Part 201 Projects facilities and Part 213 facilities. There may be more than one BEA for each facility.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/21/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 09/12/2013
Number of Days to Update: 20

Source: Dept of Environmental Quality
Telephone: 517-373-9541
Last EDR Contact: 08/10/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: No Update Planned

COAL ASH: Coal Ash Disposal Sites

Coal fired power plants in Southeast Michigan that have coal ash handling on site.

Date of Government Version: 10/15/2014
Date Data Arrived at EDR: 10/16/2014
Date Made Active in Reports: 11/26/2014
Number of Days to Update: 41

Source: Dept of Environmental Quality
Telephone: 586-753-3754
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

DRYCLEANERS: Drycleaning Establishments

A listing of drycleaning facilities in Michigan.

Date of Government Version: 04/25/2016
Date Data Arrived at EDR: 04/26/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 58

Source: Dept of Environmental Quality
Telephone: 517-335-4586
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Annually

LEAD CERT: Lead Safe Housing Registry

A listing of Michigan properties included in the Lead Safe Housing Registry.

Date of Government Version: 09/15/2015
Date Data Arrived at EDR: 09/16/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 14

Source: Department of Community Health
Telephone: 517-335-9699
Last EDR Contact: 08/10/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

NPDES: List of Active NPDES Permits

General information regarding NPDES (National Pollutant Discharge Elimination System) permits and NPDES Storm Water permits.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/07/2016
Date Made Active in Reports: 05/05/2016
Number of Days to Update: 28

Source: Dept of Environmental Quality
Telephone: 517-241-1300
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

UIC: Underground Injection Wells Database

A listing of underground injection well locations. The UIC Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

Date of Government Version: 05/09/2016
Date Data Arrived at EDR: 05/11/2016
Date Made Active in Reports: 08/02/2016
Number of Days to Update: 83

Source: Dept of Environmental Quality
Telephone: 517-241-1515
Last EDR Contact: 07/22/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

WDS: Waste Data System

The Waste Data System (WDS) tracks activities at facilities regulated by the Solid Waste, Scrap Tire, Hazardous Waste, and Liquid Industrial Waste programs.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/27/2016
Date Made Active in Reports: 07/05/2016
Number of Days to Update: 39

Source: Dept of Environmental Quality
Telephone: 517-284-6562
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/23/2015	Telephone: 202-564-2280
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 06/22/2016
Number of Days to Update: 103	Next Scheduled EDR Contact: 10/03/2016
	Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/24/2016	Source: EPA
Date Data Arrived at EDR: 05/25/2016	Telephone: 800-385-6164
Date Made Active in Reports: 07/13/2016	Last EDR Contact: 05/25/2016
Number of Days to Update: 49	Next Scheduled EDR Contact: 09/05/2016
	Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA PART 201: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Michigan.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/10/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/11/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 05/01/2016
Date Data Arrived at EDR: 05/06/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 42

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/03/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/18/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/01/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/13/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Day Care Centers, Group & Family Homes

Source: Bureau of REgulatory Services

Telephone: 517-373-8300

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory

Source: Department of Natural Resources

Telephone: 517-241-2254

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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Appendix E



PM PROFESSIONAL RESUMES

CARRIE DONOHOE

STAFF CONSULTANT

1.800.313.2966

www.pmenv.com

donohoe@pmenv.com

AREAS OF EXPERTISE

- Staff researcher for Phase I Environmental Site Assessments (ESAs)
- Assist with site investigation for Phase I ESAs.
- Assist with data collection and evaluation for Transaction Screen Assessments, Phase I ESAs and other due diligence reports



EDUCATION

- Michigan State University—Bachelor of Science in Environmental Science and Sustainability

JACLYN S. SCHAFFER

PROJECT CONSULTANT

1.800.313.2966 www.pmenv.com schafer@pmenv.com

Jaclyn Schaffer has over five years of professional environmental experience conducting Phase I Environmental Site Assessments (ESAs), Transaction Screen and customized environmental assessments to support all forms of real estate transactions.

AREAS OF EXPERTISE

- Data collection, site investigation, and preparation of Phase I ESA, Transaction Screen reports, and customized environmental assessments projects.
- Experience in implementation and completion of various site assessment standards, professional protocol, and commercial lending requirements (ASTM E-1527).
- Peer Technical Review of Phase I ESA, Transaction Screen, and other due diligence Projects using ASTM Standard 1527.



EDUCATION

- Michigan State University B.S.
Environmental Geosciences

CERTIFICATIONS

- Certified Asbestos Building Inspector Accreditation #A44306
- Successfully completed EDR Environmental Due Diligence 101 Course
- Meets the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312

KEVIN M. KRUSZEWSKI, P.G., Q.C.

SENIOR ENVIRONMENTAL RISK MANAGER

1.800.313.2966 www.pmenv.com kruszewski@pmenv.com

Kevin Kruszewski is Senior Environmental Risk Manager at PM Environmental, Inc. and has served clients in over 48 states since 1988. He specializes in Phase I and Phase II Environmental Site Assessments (ESAs), Baseline Environmental Assessments (BEAs), and due care plans, Underground Storage Tank (UST) closures, and lender risk management. Kruszewski has been involved in thousands of transactions, including typical Environmental Due Diligence for purchase and refinance transactions, and participations and foreclosures. His recent focus includes serving financial clients based in the Midwest with investment interests across the country.

AREAS OF EXPERTISE

- Real estate portfolio analysis for evaluation of environmental risk associated with single and multi property transactions for the lending industry
- Collateral and exposure analysis for over 3,000 real estate transactions, including single and multi commercial, industrial, and multi state properties
- Management of environmental due diligence associates with foreclosed properties
- Peer/senior technical review for Baseline Environmental Assessment (BEA) Projects
- Peer/senior technical review for due care analysis for BEAs in accordance with the Natural Resources and Environmental Protection Act, P.A. 451 of 1994, Parts 201 and 213
- Peer/senior technical review of Phase I, Phase II, Phase III ESA projects
- Peer/senior technical review for Leaking Underground Storage Tank (LUST) projects, including risk evaluation for the lending industry
- Technical review of land use based corrective action plans
- Experience with local, state, and federal regulatory acts
- Technical review of feasibility studies for the remediation of soil and groundwater
- Technical review of generic and site-specific risk assessments
- On-site management of the containment and recovery of dense non-aqueous phase liquids (DNAPLs)



EDUCATION

- Michigan State University B.S. Geology

REGISTRATION

- Professional Geologist—
State of Indiana
- Certified UST Professional—
State of Michigan

CERTIFICATIONS

- OSHA 1910.120 Hazardous Waste Training
- American Red Cross Standard First Aid and Adult CPR
- Meets the definition of Environmental Professional as defined in § 312.10 of 40 CFR 312

PROFESSIONAL ACTIVITIES

- Michigan Association of Environmental Professionals
- Environmental Bankers Association

Appendix F



COMMON ACRONYMS AND TERMINOLOGY USED IN THE COURSE OF THIS PHASE I ESA

The following is a list of common acronyms:

All Appropriate Inquiry	AAI
Asbestos Containing Materials	ACM
Aboveground Storage Tank	AST
American Society for Testing Materials	ASTM
Approximate Minimum Search Distance	ASMD
Comprehensive Environmental Response, Compensation and Liability Act	CERCLA
Environmental Data Resources	EDR
Environmental Site Assessment	ESA
Federal Emergency Response Notification System	ERNS
Large Quantity Generator	LQG
Leaking Underground Storage Tank	LUST
National Priority List	NPL
No Further Remedial Action Planned	NFRAP
PM Environmental, Inc.	PME
Polychlorinated Biphenyls	PCBs
Resource Conservation and Recovery Act	RCRA
Small Quantity Generator	SQG
Treatment Storage and Disposal Facility	TSD
Underground Storage Tank	UST
United States Environmental Protection Agency	USEPA

TERMINOLOGY

The following provides definitions and descriptions of certain terms that may be used in this report. Several terms are defined by ASTM Standard Practice E 1527. The Standard Practice should be referenced for further detail (such as the precise wording), related definitions, or additional explanation regarding the meaning of terms.

Asbestos containing material (ACM): Any material found to contain greater than 1% asbestos using an analytical method that is approved by the USEPA for asbestos analysis.

De minimis conditions: Conditions that generally do not present a material risk or harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

Friable material: Defined in the National Emission Standards for Hazardous Air Pollutants (NESHAP) as a material that can be pulverized or reduced to dust using hand pressure only.

General risk of enforcement action: The likelihood that an environmental condition would be subject to enforcement action if brought to the attention of appropriate

governmental agencies. If the circumstances suggest an enforcement action would be more likely than not, then the condition is considered a general risk of enforcement action.

Historical recognized environmental condition (HREC): Environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently. The final decision rests with the environmental professional and will be influenced by the current impact of the historical recognized environmental condition on the subject property. If a past release of any hazardous substances or petroleum products has occurred in connection with the subject property, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered a historical recognized environmental condition.

Non-friable material: Defined by National Emission Standards for Hazardous Air Pollutants (NESHAP) as a material that cannot be pulverized or reduced to dust using hand pressure only. According to NESHAP, non-friable building materials include those in Category I (packings, gaskets, resilient floor coverings/adhesives, and asphalt roofing materials) and those in Category II (all other materials).

Recognized environmental condition (REC): The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the subject property or into the ground, ground water, or surface water of the subject property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

Subject property: The area that is the focus of a Phase I Environmental Site Assessment. The boundaries are not necessarily consistent with recorded legal descriptions of real estate, and are defined by the User.

Suspect ACM of concern: Defined as “(I) all friable suspect ACMs (II) any non-friable suspect ACMs expected to be disturbed by renovation or demolition activities planned for the subject property.”

General Scope of Services for Phase I ESA

The purpose of the Phase I ESA is to gather sufficient information to develop an independent professional opinion about the environmental condition of the subject property. The ESA will be conducted in an attempt to satisfy the ASTM Standard (E-1527-13) and the U.S. EPA Standards and Practices for All Appropriate Inquiry as defined in the Small Business Liability Relief and Brownfields Revitalization Act. The Phase I ESA will encompass the following scope of work:

Records Review

- Federal and State database search for sites within the ASTM approximate minimum search distances.
- Review of one or more additional state environmental record sources (e.g., fire department, health department, published local or state site contamination lists, etc.). PM is typically exhaustive in inquiry with these resources.
- Utilization of as many of the ASTM standard historical sources as necessary and as reasonably ascertainable and likely to be useful to document all obvious uses of the subject property from the present, back to the subject property's first developed usage (agricultural or the placement of fill) or 1940, whichever is earlier (e.g., aerial photographs, fire insurance maps, topographic maps, street directories, building record and other sources including knowledgeable interviewees). PM is typically exhaustive in usage of these resources to document subject property historical usages. **Chain of title is not typically consulted by PM unless all other standard and historical sources cannot adequately document subject property usages or if required by a lender. A separate fee to the lump sum quoted will be assessed for obtainment of chain of title.**
- A records review in accordance with the requirements for a Vapor Intrusion Assessment per ASTM E-2600-08 is not included in this scope of work.

Site Reconnaissance

- The objective of the site reconnaissance is to obtain information regarding the likelihood of recognized environmental conditions in connection with the subject property.
- The exterior of the subject property and any structures, as well as, pathways, roads, etc., will be visually and physically observed.
- The interior of the structures on the subject property will be visually and physically observed. This includes all common areas, maintenance and repair rooms, boiler rooms and representative number of occupant spaces. Observations under floors, above ceilings or behind walls are not required unless specified by requirements other than the ASTM standard.
- PM will evaluate non-ASTM scope issues with a visual inspection, and comment on asbestos containing building materials, lead based paint, and water intrusion associated with mold. Sampling is not included within this scope of work, but can be completed under a separate proposal.
- Current and past uses of the subject property and adjoining properties, and general uses of surrounding properties, to the extent visually and physically observed will be recorded. Emphasis is placed on subject property or adjoining property usages involving use, treatment, storage, disposal or generation of hazardous substances or petroleum products. These observations may include process details on raw material and waste management practices.
- General description of structures and improvements on the subject property (number and age of buildings, ancillary structures, utilities, storage tanks, hazardous substance and petroleum product usage, general chemical or raw material usage, heating and cooling, stains, solid waste, waste water, etc.).

Interviews with Owners and Occupants

- Interviews with owners, occupants, key site manager and user (person on behalf Phase I ESA conducted), typically with regard to information about current and historical uses, general site setting information, site specific documents, litigation, administrative orders, notices of violations with regard to environmental issues, etc.

Interviews with Local Government Officials

- A reasonable attempt will be made to interview at least one staff member of any of the following: the local fire department, the local agency or state agency having jurisdiction over environmental matters in the area in which the subject property is located, and/or the local health department. PM is typically exhaustive in its inquiry of these sources, unless professional experience has indicated the resource is not beneficial.

Evaluation and Report Preparation

- The report of the Phase I ESA findings will generally follow the ASTM format unless otherwise requested by the client or as outlined in any applicable lender requirements. The report will include documentation of sources, methodology, limitations, and credentials. *Liability/risk evaluations, recommendations for Phase II ESA testing and remediation techniques are not provided within the scope of an ASTM performed assessment.* Phase I ESA reports are kept in the strictest client confidence and are issued directly to the client. Issuance or reliance on the Phase I ESA report for purposes of making loan decisions by a private lender may be included in the Phase I ESA report if specified by the client.

USER'S CONTINUING OBLIGATIONS UNDER CERCLA

Conducting a Phase I ESA alone does not provide a landowner with protection against CERCLA liability. Landowners who want to maintain a bona Fide Prospective Purchaser, an Innocent Landowner, or a Contiguous Property Owner Defense must also comply with other pre-acquisition and post-acquisition requirements in the CERCLA regulations and AAI standards. The responsibilities for each defense are summarized below.

Bona Fide Prospective Purchaser Responsibilities

The Bona Fide Prospective Purchaser defense is intended for individuals or entities purchasing a property known to be contaminated. To obtain and maintain the defense, the individual or entity seeking the defense must also satisfy the following requirements (AAI, Section II D.1.):

- Have acquired a property after all disposal activities involving hazardous substances ceased at the property;
- Provide all legally required notices with respect to the discovery or release of any hazardous substances at the property;
- Exercise appropriate care by taking reasonable steps to stop continuing releases, prevent any threatened future releases, and prevent or limit human, environmental, or natural resources exposure to any previously released hazardous substance;
- Provide full cooperation, assistance, and access to persons authorized to conduct response actions or natural resource restorations;
- Comply with land use restrictions established or relied on in connection with a response action;
- Not impede the effectiveness or integrity of any institutional controls;
- Comply with any CERCLA request for information or administrative subpoena; and
- Not be potentially liable, or affiliated with any other person who is potentially liable for response costs for addressing releases at the property.

Innocent Landowner Responsibilities

The Innocent Landowner Defense protects individuals or entities (ultimately the "property owner") purchasing a property that is not known to be contaminated. The property owner must also satisfy the following requirements to obtain and maintain the defense (AAI, Section II D.3 and CERCLA Section 107(b)(3)):

- Have no reason to know that any hazardous substance which is the subject of a release of threatened release was disposed of on, in, or at the facility;
- Provide full cooperation, assistance and access to persons authorized to conduct response actions at the property;
- Comply with any land use restrictions and not impeding the effectiveness or integrity of any institutional controls;

- Take reasonable steps to stop continuing releases, prevent any threatened release, and prevent to limit human, environmental, or natural resource exposure to any hazardous substances released on or from the landowner's property;
- Demonstrate that the act or omission that caused the release or threat of release of hazardous substances and the resulting damages were caused by the third party with whom the person does not have employment, agency, or contractual relationship;
- Exercise due care with respect to the hazardous substance concerned, taking into consideration the characteristics of such hazardous substance, in light of all relevant facts and circumstances;
- Take precautions against foreseeable acts or omissions of a third party and the consequences that could result from such acts or omissions.

Contiguous Property Owner Defense

The Contiguous Property Owner Defense protects individuals or entities purchasing a property that is not known to be contaminated, but could be contaminated by migration from a contiguous property owned by someone else. To qualify as a contiguous property owner, a landowner must have no knowledge of contamination prior to acquisition, or reason to know of contamination at the time of acquisition, have conducted AAI, and meet all of the criteria set forth in AAI Section II.D.2 and CERCLA Section 107(q)(1)(A), which include:

- Not cause, contribute, or consent to the release or threatened release;
- Not be potentially liable nor affiliated with any other person potentially liable for response costs at the property;
- Take reasonable steps to stop continuing releases, prevent any threatened release, and prevent or limit human, environmental, or natural resource exposure to any hazardous substances released on or from the landowner's property;
- Provide full cooperation, assistance, and access to persons authorized to conduct response actions or natural resource restorations;
- Comply with land use restrictions established or relied on in connection with a response action;
- Not impede the effectiveness or integrity of any institutional controls;
- Comply with any CERCLA request for information or administrative subpoena;
- Provide all legally required notices with respect to discovery or release of any hazardous substances at the property.

Persons who know, or have reason to know, that the property is or could be contaminated at the time of acquisition of a property cannot qualify for the liability protection as a contiguous property owner, but may be entitled to Bona Fide Prospective Purchaser status.