

CURRENT CONDITIONS REPORT

OF THE:
FORMER HOOVER FACILITY
101 E. MAPLE STREET
NORTH CANTON, OH 44720

PREPARED FOR:
MAPLE STREET COMMERCE LLC
4020 KINROSS LAKES PARKWAY
SUITE 200
RICHFIELD, OH 44286

PREPARED BY:
HULL & ASSOCIATES, INC.
4 HEMISPHERE WAY
BEDFORD, OHIO 44146

MAY 2017



TABLE OF CONTENTS

	PAGE
1.0 INTRODUCTION	1
1.1 Scope of Work.....	1
1.2 Purpose	1
1.3 Project Background	1
1.4 Indoor Air Location Anomalies	6
2.0 SITE DESCRIPTION	7
2.1 Location and Legal Reference	7
2.2 Zoning Information.....	7
2.3 Utility Information	7
2.4 Current Site Usage	7
2.5 Current Uses of Adjoining Properties	8
3.0 PHYSICAL SETTING.....	9
3.1 Topography and Surface Drainage	9
3.1.1 Flood Insurance Rate Map (FIRM)	9
3.1.2 Federal Wetlands Map.....	9
3.2 Regional Geology and Hydrogeology.....	9
3.2.1 Ohio Department of Natural Resources Oil and Gas Well Log Information	10
3.2.2 Ohio Department of Natural Resources Water Well Log Information.....	11
4.0 SITE HISTORY	12
4.1 Historical Site Usage	12
4.1.1 Aerial Photographs	13
4.1.2 Historical Land Use Maps.....	15
4.1.2.1 Sanborn Fire Insurance Maps	15
4.1.2.2 Historical Topographic Maps	19
5.0 ENVIRONMENTAL RECORDS REVIEW.....	22
5.1 Previous Studies	22
5.2 Environmental Data Resources Environmental Database Report.....	47
5.3 Public File Reviews.....	53
5.3.1 Local Health Department	53
5.3.2 Local Fire Department	53
5.3.3 Local Emergency Management Agency	53
5.3.4 Ohio Environmental Protection Agency (Ohio EPA)	54
5.3.4.1 Ohio EPA Northeast District Office	54

TABLE OF CONTENTS CONT'D

	PAGE
5.3.4.2 Ohio EPA Central Office	54
5.3.4.3 Ohio EPA Emergency Planning and Community Right to Know	54
5.3.4.4 Ohio EPA Division of Remedial Response	54
5.3.5 Bureau of Underground Storage Tank Regulations.....	54
5.5 Adjacent Property Environmental Records	56
5.6 Summary of Historic Permits and Licenses	56
5.6.1 RCRA Part A Permit.....	56
5.6.2 National Pollutant Discharge Elimination System Permit.....	57
6.0 PRELIMINARY CONCEPTUAL SITE MODEL	58
6.1 Sources of Contamination	58
6.2 Identification of Potentially Exposed Receptor Populations	59
6.3 Identification of Potentially Complete Exposure Pathways	60
6.3.1 Identification of Exposure Scenarios for On-Site Industrial Workers.....	60
6.3.2 Identification of Exposure Scenarios for On-Site Residents.....	61
6.3.3 Identification of Exposure Scenarios for On-Site Construction/Excavation Workers..	61
6.3.4 Identification of Exposure Scenarios for Off-Site Residents.....	62
6.3.5 Identification of Exposure Scenarios for Off-Site Commercial/Industrial Workers.....	62
6.3.6 Identification of Exposure Scenarios for Off-Site Construction/Excavation Workers..	63
6.3.7 Ecological Receptors	63
7.0 AREAS OF INTERST, SOLID WASTE MANAGEMENT UNITS, AND AREAS OF CONCERN.....	64
7.1 Regulated Unit #1 – Former Drum Storage Area	64
7.2 SWMU #1 – Site B	64
7.3 SWMU #2 – Industrial Wastewater Treatment Unit	65
7.4 SWMU #3 – Oil Pits.....	65
7.5 SWMU #4 – Pond 5.....	66
7.6 SWMU #5 – Site A.....	66
7.7 SWMU #6 – Former Refuse Disposal Area	66
7.8 SWMU #7 – Building 30 Spent Solvent Collection Area.....	67
7.9 SWMU #8 – Waste and Chemical Storage Area	67
7.10 SWMU #9 – Former Emulsified Oil Storage Area.....	68
7.11 SWMU #10 – Former Waste Cyanide Salts Storage Area	68
7.12 SWMU #11 – Incinerator	68
7.13 SWMU #12 – Former Enameling Ponds.....	69
7.14 SWMU #13 – Former Coal Storage Area	69
7.15 SWMU #14 – Former Scrap Sorting Shed	70
7.16 SWMU #15 – Building 30 Former 500-gallon UST	70
7.17 SWMU #16 – Truck Maintenance Shop	70
7.18 SWMU #17 – Plating Waste Accumulation Area.....	71
7.19 SWMU #18 – Plating Wastewater Treatment System	71
7.20 SWMU #19 – Former Building 18 Waste Drum Storage Area	72
7.21 SWMU #20 – Enameling Sewer System	72

TABLE OF CONTENTS CONT'D

	PAGE
7.22 SWMU #21 – Industrial Wastewater Sewer System	72
7.23 SWMU #22 – Courtyard	73
7.24 SWMU #23 – Scrap Storage Area	73
7.25 SWMU #24 – Former Scrap Sorting Area	74
7.26 SWMU #25 – PCB Waste Storage Area	74
7.27 SWMU #26 – Building 8 Used Oil Processing Operation.....	74
7.28 SWMU #27 – Former Hydraulic Oil Tank Farm.....	75
7.29 SWMU #28 – Former Wastewater Sludge Pit.....	75
7.30 SWMU #29 – Dust Collectors.....	76
7.31 SWMU #30 – Fume Scrubber	76
7.32 SWMU #31 – Building 18 Cutting Oil Processing Operation	77
7.33 SWMU #32 – Lab Waste Satellite Accumulation Area.....	77
7.34 SWMU #33 – Northwest Building 30 Drum Storage Area	77
7.35 SWMU #34 – Enameling Pond Drum Storage Area	78
7.36 SWMU #35 – West Building 30 Drum Storage Area.....	78
7.37 AOC #1 – Equipment Storage Area.....	78
7.38 AOC #2 – Building 30 Outdoor Storage Area	79
7.39 AOC #3 – Building 30 Chemical Storage Area	79
7.40 AOC #4 – Underground Gasoline Tank Area	79
7.41 AOC #5 – Building 18 and 30 Paint Booths	80
7.42 AOC #6 – Former PCB Transformers.....	80
7.43 AOC #7 – Former Aluminum Casting Foundry	81
 8.0 OTHER AREAS OF THE SITE TO BE INVESTIGATED IN THE RFI	 82
 9.0 REFERENCES	 83

LIST OF TABLES

Table 1	List of SWMUS, AOCS, Regulated Units
---------	--------------------------------------

LIST OF FIGURES

Figure 1	Site Location Map
Figure 2	Site Map
Figure 2A	Site Map with Facility Areas
Figure 3	Conceptual Site Model
Figure 4	Site Map with SWMUs and AOCS

TABLE OF CONTENTS CONT'D

LIST OF APPENDICES

Appendix A	Current Site Photos
Appendix B	Site Record Cards
Appendix C	Flood Insurance Rate Map
Appendix D	Federal Wetlands Map
Appendix E	Soil Map
Appendix F	Oil and Gas Well Map
Appendix G	Water Well Logs
Appendix H	Aerial Photographs
Appendix I	Historical Land Use Maps
Appendix I-1	Sanborn Fire Insurance Maps
Appendix I-2	Historical Topographic Maps
Appendix J	Environmental Database Report
Appendix K	Regulatory Agency Correspondence
Appendix L	Previous Studies
Appendix M	Résumés of Environmental Professionals

1.0 INTRODUCTION

1.1 Scope of Work

Hull & Associates, Inc. (Hull) was retained by Maple Street Commerce LLC (Maple) to prepare a Current Conditions Report (Report) for the Site located at 101 E. Main Street, North Canton, Ohio (Site or Facility or facility). The term "Site" means the "Facility" as defined and used in the Administrative Order on Consent entered into by USEPA and Maple on May 24, 2016 (Order). Pursuant to paragraph 15 of the Order, this Report summarizes the nature and extent of releases of hazardous waste and/or hazardous substances at or from the Site. This report focuses on, but is not limited to, the volatilization of contaminants from soil and groundwater to indoor air. The information presented herein will provide the basis for determining the scope for the collection of data to support corrective action decisions, including determinations that no further action is necessary for a particular Regulated Unit (RU), Solid Waste Management Unit (SWMU) or Area of Concern (AOC). The location of the Site is shown on Figure 1. A Site Plan showing the general Site layout and characteristics is presented in Figure 2. A preliminary Conceptual Site Model (CSM), which provides a diagrammatic representation of the complete and potentially significant exposure pathways from identified sources of contamination to human and ecological receptor populations, is included in this Report (see Figure 3). The CSM is an iterative tool used throughout the corrective action process to focus investigations, risk assessments, and possible corrective actions on complete and potentially significant sources, pathways and receptors.

1.2 Purpose

The purpose of the Report is to provide the general physical setting and a summary of historic operations. Specifically, the Report will describe the previous AOCs and SWMUs identified at the Site. This Report will be updated, as necessary, to address the conditions of any additional SWMUs and/or AOCs identified during the course of the investigation required under the Order. However, as set forth in the AOC, this Report is intended to be a brief summary of the Site's history and current conditions. Detailed accounts of the investigation and remedial actions completed at the Site to date, and the analysis of historic sampling data for the purpose of evaluating the need for further investigation and remediation will be addressed in the revised RCRA Facility Investigation (RFI). Building numbers referenced throughout this report relate to historical buildings numbers utilized by the previous owner of the Site (The Hoover Company) to identify buildings on the premises. For example, the West Factory Area is a large area that consists of several historical building numbers.

1.3 Project Background

The Hoover Company manufactured vacuum cleaners at the Site from the late 1800s until 2007 when Hoover sold the Site to Maple. Hoover used various chemicals in its decades of manufacturing and past

environmental investigations at and around the Site detected groundwater and soil impacts. In 1999, Hoover entered into a voluntary correction action agreement with the United States Environmental Protection Agency (USEPA) to conduct a Site-wide cleanup and closure of a Resource Conservation and Recovery Act (RCRA) regulated unit. In accordance with the 1999 voluntary corrective action agreement with USEPA, Hoover removed soil, installed a soil vapor extraction system and installed a dual-phase extraction system. Environmental Indicator Determinations were completed on September 28, 2000 and August 15, 2001.

Multiple previous investigations have been conducted at the Site and include the following:

In July 1988, a preliminary investigation was conducted of the drum storage area. In August of 1989, a drum storage area closure sampling report was conducted and an initial round of investigation was conducted in October 1989. A supplemental investigation of the former drum storage area was conducted in December 1993. Additional Investigation Activities were conducted from October 1994 to January 1995 as part of the amended closure plan. As of 1994 there had been 25 soil borings installed around the regulated unit including 5 in 1988 and 20 in 1989. In addition, a total of 12 wells had been installed including 4 in 1988 and 8 in 1993. In April of 1999, a report was submitted and showed the soil and groundwater monitoring that had been conducted in and around the regulated unit, the North Yard, and Building 36. As of August 2001, there had been 21 rounds of quarterly groundwater monitoring conducted at the regulated unit since the spring of 1995 to monitor the exceedances of COCs within groundwater. Additional groundwater monitoring was conducted after 2001 within the monitored natural attenuation network of wells that was utilized to monitor groundwater near the regulated unit. In addition, soil was excavated, a dual-phase extraction system was installed, and a cover of concrete and asphalt was placed on the regulated unit to allow no human contact during 2002.

A Perimeter Investigation was conducted between November 1999 and February 2000. Soil samples were collected from 74 deep borings and 25 shallow boring locations. Approximately 181 subsurface soil samples were collected from the 73 deep boring locations. Grab samples of groundwater were collected from 65 of the deep soil borings. Twelve permanent groundwater monitoring wells were installed at 9 locations with three of the locations having nested pairs of wells including a shallow and a deep well. During the groundwater investigation water levels were collected from the 12 newly installed groundwater monitoring wells and 19 monitoring wells or piezometers that previous had been installed.

An offsite investigation was conducted to determine the chemical concentrations in groundwater beyond the western boundary of the Site from March to July 2000. The area investigated included the area from the western Site boundary to the west to William Street, and from the north at 5th Street south to Hower

Street. Cone penetrometer testing was conducted at 23 locations to identify where groundwater was likely to be present and where groundwater samples could be collected. Thirty-four soil borings were completed. Groundwater samples were collected at 31 locations from the soil borings. Soil gas samples were taken at five locations to determine if chemicals of concern in groundwater were migrating. Groundwater pump testing was completed at two well locations to determine the groundwater flow properties. Three off-Site groundwater monitoring wells were installed and slug-testing was conducted at each of the locations.

An onsite investigation was conducted from October 2000 to July 2001 at the Site and was conducted in three phases. Surface soil samples and subsurface soil samples were collected from shallow and deep borings installed throughout the Site in each of these areas and along the perimeter of the Site. Four piezometers were installed. Grab samples of groundwater were collected from multiple soil borings on-Site. Groundwater samples were collected from previously installed groundwater monitoring wells and piezometers on the Site. Five soil vapor samples were collected along N. Main Street and sewer samples were collected from the area of Orchard Avenue, Hower Avenue, North Main Street, 5th Street, and Viking Street.

A Supplemental Investigation of the Site was conducted in November 2001. The supplemental investigation was conducted in two phases. The initial round of sampling was conducted on November 5 and 6, 2001 and included the installation of 16 soil borings. Two additional samples were installed on November 19, 2001 during the second phase of work.

Interim remediation activities including soil removal in the central portion of the site, installation and startup of a soil vapor extraction system in Building 18 (July-August 2002) and a dual-phase extraction system in the area of the North Yard (July 2002).

Upon completion of investigations and interim remediation activities, USEPA released for public comment, a Statement of Basis that proposed institutional controls as a remedy for the Site based on Hoover's 2003 Final Corrective Measures Proposal (CMP). The remedial selection alternative presented in US EPA's Statement of Basis was not implemented in 2003.

The CMP relied upon information included in the Site-Specific Risk Assessment (SSRA), which included the use of the Johnson and Ettinger Model for vapor intrusion evaluation. However, based on vapor intrusion studies since the development of the SSRA USEPA has revised applicable vapor intrusion guidance and, in light of the new guidance, is requiring that additional investigation be conducted pursuant to the requirements of the AOC. Maple Street Commerce, LLC has agreed to complete certain activities

necessary to identify and define the nature and extent of potential hazardous waste and hazardous constituents at or emanating from the Site. The Environmental Indicator will be updated and submitted with the Report.

USEPA completed an inspection for the Site on March 4, 2014. The following timeline shows activities and submittals that have occurred since 2014.

- April 9, 2014 Hull & Associates submitted a Draft FSAP to USEPA Project Manager (Joe Kelly).
- In April of 2014, Hull conducted Phase II activities in the area of SWMU #5 located to the west of Orchard Avenue and north of Charlotte Street. Five soil borings were installed and a groundwater sample was collected from MW-18S.
- August 29, 2014 USEPA responded with comments to the April 9, 2014 Draft FSAP.
- The sampling plan was finalized and soil vapor and indoor air, ambient air testing occurred in January 2015.
- In April 2015, a Summary of Analytical Results was submitted to the USEPA as well as the public repository at the North Canton Public Library in regards to the soil vapor, indoor air, and ambient air sampling conducted in January 2015. Results from samples that were collected in tenant spaces are shared with the tenants.
- Review of January 2015 results discussed by conference call with USEPA and Project Team members. Discussions regarding further expanded sampling occur.
- May 15, 2015 Addendum to the Summary of Analytical Results submitted to the USEPA as well as the public repository at the North Canton Public Library.
- Project Team finalizes proposed sampling plan and soil vapor and indoor air, ambient air testing and groundwater monitoring wells occurred in June 2015.
- August 12, 2015 Submittal of June 2015 Sampling Data submitted to the USEPA as well as the public repository at the North Canton Public Library.
- Review of June 2015 results discussed by conference call with USEPA and Project Team members.
- September 30, 2015 Summary of Analytical Results submitted to the USEPA as well as the public repository at the North Canton Public Library. Results from samples that were collected in tenant spaces are shared with the tenants.
- November 12, 2015 Meeting held at USEPA Region 5 office with USEPA and Maple Street representatives.
- Project Team finalizes proposed sampling plan soil vapor and indoor air, ambient air testing and groundwater monitoring wells occurred in November/December 2015.
- Sub Slab Depressurization Pilot Testing occurred in December 2015.
- January 26, 2016 Submittal of November/December 2015 Sampling Data submitted to the USEPA as well as the public repository at the North Canton Public Library.

- Review of November/December 2015 results discussed by conference call with USEPA and Project Team members. Results from samples that were collected in tenant spaces are shared with the tenants.
- USEPA, Ohio EPA discussion with Project Team regarding need for off-site sampling.
- Project Team finalizes proposed off-site sampling plan and soil vapor and indoor air testing occurred in March 2016.
- Review of March 2016 results discussed by conference call with USEPA and Project Team members. Results from samples that were collected in off-site spaces are shared with the off-site property representatives.
- Project Team finalizes proposed additional off-site sampling plan and soil vapor and indoor air testing occurred in May 2016.
- Review of May 2016 results discussed by conference call with USEPA and Project Team members. Results from samples that were collected in off-site spaces are shared with the off-site property representatives.
- June 21, 2016 Submittal of Interim Measures Work Plan submitted to the USEPA for review. A summary of this report can be found in Section 5.1.
- July 18, 2016 Meeting held at USEPA Region 5 office with USEPA and Maple Street representatives.
- July 21, 2016 Submittal of RCRA Corrective Action Quarterly Report submitted to the USEPA as well as the public repository at the North Canton Public Library.
- October 5, 2016 Submittal of RCRA Corrective Action Quarterly Report submitted to the USEPA as well as the public repository at the North Canton Public Library.
- October 20, 2016 Submittal of September 2016 Sampling Data submitted to the USEPA as well as the public repository at the North Canton Public Library.
- December 22, 2016 Sub-Slab Depressurization 100% Design Report submitted to the USEPA for review. A summary of this report can be found in Section 5.1.
- January 12, 2017 RCRA Corrective Action Quarterly Report submitted to the USEPA as well as the public repository at the North Canton Public Library.
- January 30, 2017 Meeting held at USEPA Region 5 office with USEPA and Maple Street representatives.
- February 22, 2017 Phase 1 Sub-Slab Depressurization 100% Design Report, Revision 1 submitted to the USEPA for review. A summary of this report can be found in Section 5.1.
- March 6-7, 2017 Hull conducts additional sampling event in which soil vapor, indoor air, ambient air and groundwater samples were collected from areas previously sampled to complete fourth of required four quarters of sampling. Wipe samples were also collected from the utility tunnel system below Building 8 and analyzed for PCBs, and new groundwater monitoring wells, soil borings, and soil vapor probes were installed and sampled in areas not previously investigated by Maple Street, including the former oil pits north of Building 36, south of Building 35 in the North Yard, and the area around Hower Street between Buildings 17/37 and the North Yard. Results then submitted to USEPA.
- March 9, 2017 USEPA approves Phase 1 Sub-Slab Depressurization 100% Design Report, Revision 1.
- March 31, 2017 Construction Quality Assurance Report submitted to the USEPA.

Copies of the finalized Hull documents that can be found in the North Canton Public Repository are in Appendix L. The results of Hull's recent sampling indicated soil gas and/or air concentrations are above current USEPA screening levels in and from the North Facility area. The North Facility Area is identified on Figure 2A. In addition, soil gas and/or air concentrations are elevated within the South Facility Area, which is identified on Figure 2A. These results will be summarized in greater detail in the RFI Work Plan to evaluate whether further investigation of these areas, or impacts arising from them is warranted, and where and how such sampling should occur. The results of Hull's recent groundwater sampling have generally shown decreasing VOC concentrations, which is consistent with Hoover's past sampling data supporting the 2004 proposed Statement of Basis.

1.4 Indoor Air Location Anomalies

Over the course of Maple Street's sampling activities, several samples identified as "indoor air" samples were actually collected in unoccupied subsurface spaces, including utility tunnels, crawl spaces and parking garages in order to collect data at the lowest available location. These are not samples from indoor spaces used for or, in many instances, capable of regular human occupancy and, thus, the use of screening or action standards is not recommended. The following table identifies the sample locations that have been identified as "indoor air" samples but, because they were collected from unoccupied subsurface spaces, should not be treated as true indoor air samples.

Indoor Air Location Anomalies		
Sample ID #	Sample location	Building #
AI-1	Unoccupied subgrade space	6
AI-2	Subgrade parking garage below building	11
AI-3	Subgrade parking garage below building	11
AI-4	Subgrade utility tunnel below building	15
AI-5	Subgrade utility tunnel below building	18
AI-15	Unoccupied subgrade space below former powerhouse	2
AI-16	Unoccupied subgrade space (approx. 12'x12') adjacent to former freight elevator shaft	3
AI-23	Unoccupied subgrade space	10
AI-30	Unoccupied subgrade space	30
AI-31	Unoccupied subgrade space	30
AA-35TNL	Subgrade utility tunnel associated with the industrial wastewater sewer	N/A (courtyard area)
AA-36TNL	Subgrade utility tunnel associated with the industrial wastewater sewer	N/A (courtyard area)

2.0 SITE DESCRIPTION

2.1 Location and Legal Reference

Site Address: 101 E Maple Street
North Canton, Stark County, Ohio.

Current Site Acreage: 69.5 acres

Parcel Numbers:

9208114	10000154	10000417
9209479	10000155	10000418
9209481	10000157	10000419
9209482	10000415	
9209516	10000416	

Resource: Stark County Auditor's Office

The location of the Site is shown on Figure 1 and photographs from the Site reconnaissance are included in Appendix A. Copies of the property record cards are included in Appendix B.

2.2 Zoning Information

Site Setting: 300-Industrial Vacant Land; and 330-Manufacturing and Assembly-Medium

A Site Plan showing the general Site layout and characteristics is presented in Figure 2.

2.3 Utility Information

Electric Service: American Electric Power (AEP)

Gas Service: Dominion East Ohio Gas

Potable Water Service: City of North Canton

Storm Sewer Service: City of North Canton

Sanitary Sewer Service: City of North Canton

2.4 Current Site Usage

Maple Street Commerce, LLC owns and leases the Site to multiple businesses for commercial operations at the Site. The Site is approximately 69.5 acres and contains multiple occupied and unoccupied buildings. Buildings at the Site include a multi-story occupied office building, former industrial and manufacturing buildings, and former distribution buildings.

Approximately 45 percent of the Site is occupied by buildings and the remaining 55 percent of the Site is generally paved and gravel surfaces for parking, access drives, and unimproved land that was formerly used for active facility operations.

2.5 Current Uses of Adjoining Properties

The former Hoover Site is bordered by a mixture of residential and commercial areas to the north, south, east and west. The City of North Canton City Hall, North Canton Public Library, and multiple commercial businesses are adjacent to the west beyond E. Main Street. Community Christian Church, North Canton Fire Department, and a residential area are adjacent to the west of the Site north of Witwer Street NE. Adjacent to the north of the Site are multiple residences, sport fields, and a parking lot. Adjacent to the east of the Site are practices fields, Hoover High School football stadium, Hoover High School, and a residential area. The North Canton YMCA, a parking lot, and a residential area are present to the south of the Site.

3.0 PHYSICAL SETTING

3.1 Topography and Surface Drainage

The surrounding area displays a gentle slope to both the east and west, as it appears the Site sits in an area where there is a ridge of relatively flat land. The average elevation at the Site is approximately 1,157 to 1,146 feet USGS datum. The site lies within the Nimishillen Creek watershed, and the west branch of the creek lies approximately 0.8 miles to the west of the Site, and the main Nimishillen Creek is present approximately 0.60 miles to the east of the Site. Former NPDES permits indicate that a former Outfall discharged to an unnamed tributary of Zimmer Ditch, which is part of the Nimishillen Creek watershed.

A series of four settling ponds, formerly associated with the wastewater treatment system, located on the northern portion of the Site north of Building 36. The ponds are contained and do not drain off-Site.

3.1.1 Flood Insurance Rate Map (FIRM)

The flood insurance rate map (FIRM) for the Site was obtained from the Federal Emergency Management Agency (FEMA). The map identifies the Site area as Zone X, an area with minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No base flood elevations or base flood depths are shown within these zones. Copies of the maps are provided in Appendix C.

3.1.2 Federal Wetlands Map

Hull reviewed the U.S. Fish and Wildlife Service National Wetlands Inventory Map for the Site. The map identifies potential wetland and riparian areas. One potential wetlands or riparian area was identified on the Site as "PUBKGh" or Palustrine Unconsolidated Bottom Artificial Intermittently Exposed Diked Impoundment. This NWI mapped wetland corresponds to an area on the site comprised of a series of four retention basins are located on the northwest portion of the Site. These retention basins are man-made basins of unknown depths. While this area is depicted as a Federal Wetland on the NWI map, this area may not be regulated as a Federal Wetland. A copy of the Federal Wetlands Map is provided in Appendix D.

3.2 Regional Geology and Hydrogeology

The Site is located in the Akron-Canton Interlobate Plain region of the Glaciated Allegheny Lake Plateaus. The Akron-Canton Interlobate Plain is the hummocky area between two converging glacial lobes dominated by kames, kame terraces, eskers, kettles, kettle lakes, bogs, and fens (Brockman, 1998).

Bedrock at the Site is Allegheny and Pottsville Groups undivided. According to the Ohio Department of Natural Resources (ODNR) bedrock beneath the Site lies approximately 47 to 107 feet below ground surface. The Site lies in an area where the bedrock topography shows sloping in two different directions, including to the east, and to the west of North Main Street the general topography shows a slope to the west-southwest. The Allegheny and Pottsville Groups generally consist of gray and black shales and are 450 to 620 feet thick. The Groundwater Resources Map of Stark County (Walker, 1988) indicates that the Site overlies areas where groundwater can be obtained from sandstones of the Pottsville group. Principal aquifers are the Massillon sandstone (upper) and Sharon conglomerate (below). Wells will produce sustained yields of as much as 50 gallons per minute, with up to 100 gallons per minute available for short periods of intermittent pumping. The Sharon conglomerate may be from 150 feet to 300 feet bgs, and with few exceptions the bedrock is covered with less than 75 feet of glacial material. The Groundwater Resources Map of Stark County also indicates that wells around the Site average approximately 78 feet bgs.

Hull used the Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) online soils mapping database to obtain information related to surficial soils at the Site. According to the NRCS, the surficial soil at the Site is 44.6 % Chili-Urban land complex, undulating, 27.3% Ravenna-Urban land complex, and 23.2 % Fitchville-Urban land each with 0 to 6% slopes and underlain by silt loam and silty clay loam. In addition, the Site is composed of 2.5% Canfield-Urban land complex, undulating with 0 to 6% slopes underlain by silty loam and loam; 1.7% Chili-Urban land complex, steep with 12 to 25% slopes underlain by silt loam, gravelly sandy loam, and loamy coarse sand; 0.4% Sebring-Urban land complex, with 0 to 2 % slopes underlain by silt loam and silty clay loam; and 0.3% Alluvial land-Urban land complex with 0 to 2 % slopes. A copy of the NRCS Soil Survey Map is included in Appendix E.

3.2.1 Ohio Department of Natural Resources Oil and Gas Well Log Information

Hull used the ODNR Geographical Information Management System (GIMS) metadata base to obtain information related to oil and gas wells within 0.5 mile of the Site. Nineteen oil or gas wells are located within the search radius, and two of the wells appear to be located on the Site. The two wells that are located on the Site were installed between December 1933 and May 1934 and were owned by the Hoover Company. The wells were listed as plugged and abandoned in the 1950s and would not pose a current environmental threat. Seventeen additional wells are located within half a mile of the Site, and of the seventeen wells fifteen of the wells are listed as plugged and abandoned between 1937 and 2000; one well was listed as a historical production well, but did not display any production notes; and one was listed as producing. The fifteen wells listed as plugged and abandoned and the one well listed as a historical production well would not pose an environmental threat as the wells are no longer producing. The wells that is currently listed as producing is located to the northeast of the Site and would not pose an

environmental threat as groundwater flow is anticipated to be to the east and to the west. A copy of the ODNR oil and gas well map is included in Appendix F.

3.2.2 Ohio Department of Natural Resources Water Well Log Information

Hull searched the ODNR Division of Water online database of located and unlocated well logs for private/public/monitoring wells within 0.5 mile of the Site. Two wells are located within 0.5 mile of the Site. None of these wells appear to be located on the Site. Hull reviewed the wells logs for information pertinent to the Site. The well logs indicate that soils generally consist of clay to depths of approximately 0 to 14 feet bgs, followed by a sand and silt layer to 18 feet bgs, followed by shale. The use of both of the wells appears to be for monitoring use based on the well log report and type of construction of the wells. The location of the wells is to the north and southeast of the Site, and would not represent an environmental concern for the Site as they are up-gradient of the Site. Copies of the ODNR water well logs are included in Appendix G.

4.0 SITE HISTORY

4.1 Historical Site Usage

Based on a review of available information the Site was formerly owned by The Hoover Company from the late 1800s until the mid-2000s. The Site was originally used to manufacture leather goods and a tannery was present on the Site in the late 1800s. The company then transitioned and began manufacturing leather goods and electrical sweepers between 1907 and 1918. Prior to World War II the company manufactured electric sweepers, household appliances, and other miscellaneous items. During the war the focus shifted away from commercial manufacturing to support the war effort. After the war was over a shift in manufacturing then moved back to the manufacturing of household items such as toaster ovens, coffee pots, hand mixers, and electric and steam irons. Eventually other household appliances were phased out and the manufacturing of floor care products and sweepers took precedence.

The Site served as the Hoover Company headquarters and manufacturing facility until September 2007, when the Site was sold to Maple Street Commerce LLC. Currently multiple tenants occupy the Site.

The Site at one time was as large as 86.6 acres. The manufacturing warehouse is 24.6 acres and includes 30 buildings. The Site was bordered by residences and a high school to the north, to the east by residences and a practice field, to the south by residences and the YMCA, and to the west by commercial businesses and residences.

The North Yard is 65 acres and is the northern portion of the Site and is mostly open. Approximately 15 acres is a parking lot. Four buildings in the northern portion cover less than 5 acres.

Hoover began operations in 1908 for the manufacturing of electric sweepers. Prior to this, the Site housed a tannery and leather goods manufacturing company. Hoover manufactured electric sweepers and household appliances, including coffee pots, hand mixers, and irons. Additionally, during the wars, in the 1940s and 1950s it manufactured switches, fuses, shells, motors, plastic, and aluminum cast parts for the military. During the investigation its operations consisted of compression and extrusion molding of plastic parts, motor and hose manufacturing, and assembly of vacuum cleaners, polishers, and service parts.

Hoover formerly operated a former Drum Storage Area from November 1980 until it was slated for closure in 1989. This was regulated under RCRA. Ohio EPA approved the closure plan January 30, 2004. Still needed to be implemented during this report.

Hoover formerly stored used oil, and spent solvents inside Building 35 for shipment off-Site to approved facilities for disposal. This area was governed under the RCRA-LQG status.

Topography in the vicinity of the Site has remained relatively the same over time. The current average elevation at the Site ranges from 1,157 to 1,146 feet above mean sea level (USGS Datum), with a gentle slope to the west-northwest. The Site appears to sit in an area where there is a ridge of relatively flat land and the surrounding area displays a gentle slope to the east and west.

4.1.1 Aerial Photographs

Hull obtained aerial photographs from the Ohio Department of Transportation (ODOT) to aid in identifying additional information about past uses of the Site and adjacent properties. Photographs were reviewed for the years 1950, 1958, 1962, 1966, 1972, 1975, 1980, 1985, 1992, 1997, 2000, 2006, and 2012. Significant findings from the photographic review include the following:

SUMMARY OF AERIAL PHOTOGRAPHS REVIEWED	
Date (Scale)	Description
1950 (1" = 500')	<p>Site: The Site was occupied by a large industrial complex. The northern portion of the Site was occupied by undeveloped land and the northeastern corner of the Site was occupied by a baseball field. Along the western edge of the Site to the west of Orchard Street was unimproved land to the north of Charlotte Street and a parking lot to the south of Charlotte Street. To the east of Orchard Street was part of the industrial complex with three ponds present and multiple industrial buildings. A few residences were located north of Hower street on the eastern portion of the Site. South of Hower Street was a residential area that stretched from Hower Street south the Witwer Street and bisected the Site. South of Witwer Street was the main industrial complex that occupied the western half of the Site. To the east of the main campus was a large unimproved piece of land that was sparsely forested and had a large open area. The unimproved area extended to the east to the eastern Site boundary. There were multiple residences to the north of E Maple Street that occupied the eastern portion of the Site. E Maple Street bisected the Site from west to east, and south of E Maple Street the Site was occupied by a residential area.</p> <p>Adjacent properties: Adjacent to the north of the Site was unimproved and forested land with a residential area present. Adjacent to the east was unimproved land with a baseball diamond and track present. Additionally, residences were present to the east of the Site. North Main Street was present to the west followed by commercial properties and residences. Adjacent to the south was residential land.</p>
1958 (1" = 500')	<p>Site: The Site was occupied by the same industrial complex. Minor changes to the Site were present. An additional baseball field was present in the northeast corner of the Site. A parking area replaced the area of disturbed land to the north of Charlotte Street and west of Orchard Street. Four ponds were present to the east of Orchard Street instead of the former three. South of Witwer Street to the east of the main industrial complex a small building was present surrounded by disturbed land. Three elongated buildings were present in the southwestern corner of the Site south of E Market Street.</p> <p>Adjacent properties: The surrounding areas appeared similar to the 1950 photograph, except additional residential areas were present to the east, south, and west.</p>

SUMMARY OF AERIAL PHOTOGRAPHS REVIEWED	
Date (Scale)	Description
1962 (1" = 500')	<p>Site: The Site appeared similar to the 1958 photograph, except a large building was present to the east of the main industrial complex, to the south of Witwer Street. The building was located to the north of the small building that was present in the 1958 photograph. A portion of the residential area located between Witwer and Hower Street had been razed and two buildings and a parking lot were present on the western portion of the former residential area.</p> <p>Adjacent properties: The surrounding areas appeared similar to the 1958 photograph.</p>
1966 (1" = 500')	<p>Site: The Site appeared similar to the 1962 photograph, except an addition had been added to the building located in the southeast portion of the Site north of E Market Street.</p> <p>Adjacent properties: The surrounding areas appeared similar to the 1962 photograph.</p>
1972 (1" = 500')	<p>Site: The Site was occupied by the same large industrial complex. The structures located on the Site had changed. Four baseball diamonds were located in the northern portion of the Site. South of the baseball diamonds the industrial complex began. To the west of Orchard Street on the western portion of the Site parking lots took up the area. Four ponds were located to the east of the parking areas to the south of the baseball diamonds. Located to the east of the ponds was a large area that was used for storage and two buildings were present. South of the ponds a large building replaced the three elongated buildings that formerly occupied the area. A long building sat to the east, followed by more storage yard area and an additional area. The eastern portion of the Site that was formerly undeveloped appeared to be occupied by storage and parking. South of Hower Street and north of Witwer Street the former residences had all be razed and the space was occupied by parking lots. South of Witwer was the original large industrial complex still present. Located to the east were the same industrial buildings, with an additional building located the south, which stretched from the original main industrial structure to the east to the eastern Site boundary and to the south to E Market Street. South of E Market Street the Site was occupied by three elongated buildings located on the western corner of the Site, with parking areas located to the east. A small wooded area was located in the southern portion of the Site.</p> <p>Adjacent properties: Adjacent to the north of the Site were baseball diamonds followed by residential development. Additional residential development was present to the east along with a track field and baseball diamond. A disturbed portion of soil was present adjacent to the northeast portion of the Site. Residential and commercial development was present to the south. North Main Street followed by commercial and residential structures.</p>
1975 (1" = 500')	The Site and surrounding areas appeared similar to the 1972 photograph.
1980 (1" = 500')	The Site and surrounding areas appeared similar to the 1975 photograph, except the eastern area of the Site that was formerly a storage area was partially occupied by a parking lot.
1985 (1" = 500')	The Site and surrounding areas appeared similar to the 1980 photograph.
1992 (1" = 500')	The Site and surrounding areas appeared similar to the 1985 photograph.
1997 (1" = 500')	The Site and surrounding areas appeared similar to the 1992 photograph.
2000 (1" = 500')	The Site and surrounding areas appeared similar to the 1997 photograph.
2006 (1" = 500')	The Site and surrounding areas appeared similar to the 2000 photograph.
2012 (1" = 500')	The Site and surrounding areas appeared similar to the 2006 photograph.

Copies of aerial photographs are provided in Appendix H.

4.1.2 Historical Land Use Maps

4.1.2.1 Sanborn Fire Insurance Maps

Hull obtained historical Sanborn fire insurance maps (Sanborn maps) from Environmental Data Resources (EDR) to aid in identifying additional information about past uses of the Site and adjacent properties. Sanborn maps were reviewed for the years 1914, 1948, 1950, and 1952.

Significant findings from the map review include the following in each of the maps reviewed:

SUMMARY OF SITE OBSERVATIONS FROM SANBORNS

Year

Site Land-Use

1914

The southwest corner of the Site contained coverage. Multiple dwellings were present to the east of N. Main Street and faced west. Stables and small outbuildings were present to the east of the dwellings. One storefront was present within the areas of the dwellings. An access road led between the buildings to the east to the interior of the Site. Two storefronts occupied the corner of N. Main Street and E. Maple Street. A bowling alley was located to the east of the storefronts and faced E. Maple Street. To the east of the bowling alley and stables to the rear of the dwellings was the W.H. Hoover Co., manufactures of patent leather saddles and horse collars. In addition, this area was also occupied by the Electric Suction Sweeper Co., the manufacturers of electric sweepers.

The manufacturing area was composed of multiple buildings and two water towers. An Electric Sweeper Department was located to the northeast of the access road that led to the interior of the Site from N. Main Street. The electric sweeper department contained a polishing and plating department, machine shop, storage room, wool storage room, and picker room. To the east of the electric sweeper department were two elevated water towers. The water towers were 60 feet tall and the one had a 20,000-gallon capacity and the other had a 30,000-gallon capacity. Below the water tower that had a 20,000-gallon capacity was a building that contained a 60-gallon gasoline tank. To the east of the water towers was a large two-story building that was separated on the first floor by a tile wall. The building was used for stock storage on the first floor and in the basement; in addition, the first floor housed a finish warehouse, and a collar factory on the second floor. The Village Fire Department was located to the east of the storage warehouse, followed by a straw shed. To the south of the water towers was a building that housed two dynamos and two furnaces, in addition to an iron clad chimney. This area most likely served as an early power plant. An underground tunnel connected the building containing the dynamo to a large three-story building to the east. This building contained stock storage in the basement, cutting and sewing on the first floor, and a harness shop on the second and third floor. A shipping department was located to the east of the building and connected to the south was a three-story building that contained the Gigg Saddle Department, wrapping and packing on the 1st floor, and sewing on the third floor. Additional Electric Sweeper Department buildings were located to the east and northeast. The building located to the northeast of the Gigg Saddle Department contained a machine shop on the first floor and wood working on the second floor. A scale was located to the east of the building. A bridge was located adjacent to the second floor wood working area that connected the Gigg Saddle Shop to the offices located to the southwest of the machine shop building.

To the east of the W.H Hoover Co and The Electric Suction Sweeper Co. were three dwellings located to the north of N. Maple Street. An automobile garage was located to the north of the western-most dwelling. A small outbuilding was located to the north of the central dwelling and a stable was located to the north of the two western-most dwellings. The eastern-most dwelling contained a small building to the north followed by a stable and one story building. An additional dwelling appeared to be present to the west, before the map faded to no coverage.

SUMMARY OF SITE OBSERVATIONS FROM SANBORNS

Year

Site Land-Use

1948

The northern portion of the Site north of Hower Street was occupied by multiple dwellings adjacent to the north of Hower Street with automobile garages to the north, followed by a portion of the Hoover Company. To the north of the dwellings to the east of Park Avenue were three long buildings, buildings 26, 27 and 28, oriented east to west that contained machinery and raw stock storage. North of the three buildings was a miscellaneous storage building. To the east of the miscellaneous storage building directly north of Park Avenue was a long building, building 31, oriented north to south used for salvage storage and scrap metal. North of this building was a sump building and a small pump house to the southeast. To the north of the dwellings north of Hower Street, to the east of Park Avenue was a long building, building 30, oriented north to south that was used for truck storage and repair, storage of paints and raw materials, tube cutting and woodworking. A paint spray area was located in the northern area of the building. An iron dust collector was adjacent to the north of the building in addition to an oil pump house. Adjacent to the east of the building was the paint and soil storage yard. Three small buildings were located to the south of the paint and oil storage yard and one was located to the east. A building oriented to the east of the small buildings was used for solvent drum storage. Three buildings, one to the north and two to the east were used as parts storage. To the north of the buildings to the east of the sump building were three fuel oil tanks. A spray pond, which was not in use, was located to the east of the fuel oil tanks beyond the fenced area of the Hoover plant. A swimming pool, with adjacent bath house to the south, was located to the north of the dwellings adjacent to the north of Hower Street to the east of the fenced area of the Hoover Plant. Between Hower Street and Witwer Street were multiple dwellings. Dwellings faced Hower Street, with an additional set of dwellings facing Witwer Street. A 32 car parking lot sat at the corner of Park Avenue and Hower Street. An additional 52 car parking lot sat north of Witwer Street, four dwellings to the west of Park Avenue.

The Main Plant of the Hoover Company was located to the south of Witwer Street to the east of N Main Street, and to the north of E Maple Street. Two dwellings and a flat were located at the corner of the Witwer Avenue and N Main Street, followed by undeveloped land extending south to E. Maple Street. The Hoover Company was located adjacent to the east. The engineering department was located in the northwest corner of the main plant area, followed by bakelite moulding. Building 7 was located adjacent to the east followed by a building that had the capacity to house 7 cars. Building 8 was adjacent to the east followed by building 8A and 8B. These buildings contained die casting activities, including 37 melting pots, and zinc furnishing. To the south of the engineering and bakelite moulding building was building 5, a four-story building, which housed the factory followed by buildings 5A and 5B that housed raw stock. Building 9A was located adjacent to the east of Building 5 and house additional factory activities in a four-story building. An elongated garage was oriented north to south and was located to the east of the factory, and had the capability to house 9 cars. Building 4, a four-story building, was adjacent to the south of building 5, 5A, and 5B, with building 10, a four-story building, adjacent to the east of building 4, these buildings housed additional factory activities. In the southeast corner of building 10 was a printing department on the 1st floor, and offices on the 2nd through 4th floors. A reservoir was located under building 4 in the southeast corner. South of building 4 was building 3, a three-story building, that housed a factory. To the east of building 3 was building 2, which housed the boiler and the compressor room. Adjacent to the east was a garage that had the capacity to house 6-cars. To the east of the 6-car building were four buildings, three 1-story office buildings surrounded an additional 1-story building with unknown use. To the east of the office building was a building that had an eight car parking capacity. To the north of this building to the south of building 10 was a 6-car parking capacity garage. To the east of the Hoover Company Main Plant area were multiple dwellings adjacent to the north of E. Maple Street, followed by Witwer Park to the north. Witwer Park shelter was located along the western Site boundary.

To the south of E Maple Street to the east of N. Main Street beyond the auto sales and service building was a Hoover Company storage building. The Hoover Inn Hotel was located to the east of the storage building, followed by McKinley Avenue. Adjacent to the south of E Maple Street to the east of McKinley Avenue were dwellings. These dwellings faced E. Maple Street and extended to the eastern Site boundary and beyond. A green house was located to the south of the dwellings to the east of McKinley Avenue beyond a dwelling. Parking lots were located to the south of the dwellings and made up the southern portion of the Site.

SUMMARY OF SITE OBSERVATIONS FROM SANBORNS

Year

Site Land-Use

1950	<p>The northern, western, and southern portion of the Site, south of E. Maple Street did not have coverage. The Main plant of the Hoover Company contained coverage with an area north of Witwer Street covered as well. North of Hower Street were dwellings followed by three parking sheds oriented east to west and owned by The Hoover Company.</p> <p>South of Hower Street and north of Witwer Street were multiple dwellings, dwellings were located adjacent to the south of Hower Street, facing north, and north of Witwer Street facing south. A poultry Dressing building was located adjacent to the south of Hower Street along the eastern Site boundary. An auto shed was located north of Witwer Street one dwelling to the east of Orchard Street.</p> <p>The Hoover Company was located to the south of Witwer Street and to the north of E. Maple Street, and east of the three dwellings, and undeveloped area located adjacent to the east of N. Main Street. The northeast corner of the Main Plant area was occupied by building 6, a four-story building that house offices on the 2nd through 4th floors, and was built in 1930. A plastic moulding building was located adjacent to the east followed by the clock tower and a building that had the capacity to house 10 cars. Adjacent to the east was building 8 that housed a hardening department with 59 furnaces and 8 kettles, a machine ship, and die casting shop. Building 8 contained sunken floors. To the east of building 8 was the foundry followed by building 8A to the south that was used for castings cleaning. Building 5 was located adjacent to the south of building 6, and housed a factory. To the east of building 5 was building 9 and 9A. Building 5B was located adjacent to the south of building 5 and was used as a stock warehouse on the first floor. A dry kiln, air washers, and a dust collector was located in this building as well. Adjacent to the west of building 5A was building 5B. Adjacent to the south of building 5A was building 4, a four-story building. Woodworking and a blacksmith and mill wright were located on the first floor, an assembling room and packing room was located on the second floor, the third floor contained machinery and polishing. The fourth floor contained machining, plating, and hardening department. Two water towers were located within building 4. A 100,000-gallon cistern was located below the eastern half of building 4. To the east of building 4 was building 10, which was a 4-story building. The first floor contained printing operations, while the second through fourth floors contained stock rooms or offices. A boiler room with a chimney was located to the east of Building 3 in addition a powerhouse was located to the south of the boiler room. Adjacent to the east of the boiler room and power house was a garage that had the ability to house 9 cars. Three office buildings surrounding a one story building were located to the east of the garage. An additional garage was located to the east of the offices. To the east of the Hoover Company was a city park and dwellings. Maple Avenue was located to the south of the Hoover Company followed by no coverage.</p>
1952	<p>The Site appeared similar to the 1948 map, except building 14, finished product storage, was located to the east of building 5. In addition, an incineration building was located on the northern portion of the Site to the east of the building 30.</p>

SUMMARY OF ADJACENT SITE OBSERVATIONS FROM SANBORNS				
Year	North	East	South	West
1914	No coverage.	No coverage.	McKinley Avenue extended to the south from the southwest corner of the Site. Four dwellings were located to the west of McKinley Avenue, and two dwellings were located to the east of McKinley Avenue. No coverage was available for the other areas located to the south of the Site.	N. Main Street followed by dwellings, a lodge hall, and a bowling alley. To the south of E. Maple Street adjacent to the west of the Site was a post-office, and dwellings, with multiple outbuildings and a stable.
1948	Dwellings followed by no coverage.	Dwellings and no coverage.	Dwellings and no coverage. To the south of E. Maple Street and to the east of N. Main Street were two restaurants and two storefronts. To the rear of the restaurants and storefronts was an auto sales and service building. To the south of this area was the community hall that included a bowling alley and gym, followed by the library.	N. Main Street followed by dwellings, bowling alleys, delivery services, auto repair shops, auto sales and service, a movie theater, banks, restaurants, and the post office.
1950	No coverage.	No coverage.	No coverage.	Dwellings and a Christian church followed by N. Main Street and no coverage.

SUMMARY OF ADJACENT SITE OBSERVATIONS FROM SANBORNS				
Year	North	East	South	West
1952	Dwellings followed by no coverage.	Dwellings and no coverage.	Dwellings and no coverage. To the south of E. Maple Street and to the east of N. Main Street were two restaurants and two storefronts. To the rear of the restaurants and storefronts was an auto sales and service building. To the south of this area was the community hall that included a bowling alley and gym, followed by the library.	Dwellings, a storefront, and a Christian church followed by N. Main Street followed by dwellings, a filling station, bowling alleys, delivery services, auto repair shops, auto sales and service, a movie theater, banks, restaurants, and the post office.

Copies of the Sanborn maps are provided in Appendix I-1.

4.1.2.2 Historical Topographic Maps

Hull obtained historical topographic maps from FirstSearch to aid in identifying additional information about past uses of the Site and adjacent properties. Topographic maps were reviewed for the years 1903, 1958, 1967, 1978, 1984, 1985, and 1994. Significant findings from the map review include the following:

SUMMARY OF SITE OBSERVATIONS FROM TOPOGRAPHIC MAPS	
Year	Site Land-Use
1903	The majority of the Site appeared to be undeveloped land with small buildings to the east of Cleveland Avenue. In addition, a drive extended north onto the Site from the roadway adjacent to the south, a small building was present at the end of the drive. The Site was at the top of a ridge with a relatively flat land surface of approximately 1159 feet USGS Datum. The surrounding area displayed a gentle slope to the west and to the east toward the west branch of the Nimishillen Creek.

SUMMARY OF SITE OBSERVATIONS FROM TOPOGRAPHIC MAPS

Year	Site Land-Use
1958	The Site was part of built-up land and is occupied by multiple buildings. A large industrial building is located in the southwest corner of the Site with three smaller buildings present to the east of the large building. Six additional buildings are located on the central portion of the Site. A pond is located on the northwest portion of the Site. In addition, a drive cuts through the center of the Site from north to south. A portion of the eastern part of the Site appeared to be forested land. Average elevation at the Site is 1150 feet with the general area sloping to the east and to the west.
1967	The southern and western portions of the Site were part of built-up land. The eastern portion of the Site was part of forested land. The north portion of the Site is undeveloped. The central portion of the site was developed with four buildings. A pond was present in the western portion of the site within the built-up area.
1978	The Site appeared similar to the 1967 map.
1984	The Site appeared similar to the 1978 map.
1985	No coverage.
1994	The Site appeared similar to the 1984 map.

SUMMARY OF ADJACENT SITE OBSERVATIONS FROM TOPOGRAPHIC MAPS

Year	North	East	South	West
1903	Undeveloped land.	Undeveloped land followed by the Nimishillen Creek.	A roadway followed by a tributary.	Cleveland Avenue followed by small buildings.
1958	Residential area and forested land.	A stadium followed by built-up land.	Built-up land.	North Main Street followed by built-up land.
1967	Seventh Street NE followed by a park and undeveloped land.	A stadium followed by built-up land.	Built-up land.	North Main Street followed by built-up land.
1978	Seventh Street NE followed by a park and undeveloped land.	A stadium followed by built-up land.	Built-up land.	North Main Street followed by built-up land.
1984	Seventh Street NE followed by a park and undeveloped land.	A stadium followed by built-up land.	Built-up land.	North Main Street followed by built-up land.
1985	No coverage.	No coverage.	Built-up land.	No coverage.

SUMMARY OF ADJACENT SITE OBSERVATIONS FROM TOPOGRAPHIC MAPS				
Year	North	East	South	West
1994	Seventh Street NE followed by a park and undeveloped land.	A stadium followed by built-up land.	Built-up land.	North Main Street followed by built-up land.

Copies of the topographic maps are provided in Appendix I-2.

5.0 ENVIRONMENTAL RECORDS REVIEW

5.1 Previous Studies

Based on information provided to Hull, previous investigations were formerly conducted at the Site. The findings of the various studies summarized below are findings and conclusions made by Hoover's consultant in the FCMP, which were then used as the basis for the 2004 draft Statement of Basis issued by USEPA. Copies of the former reports summarized below can be referenced in Appendix L.

CH2M Hill, Risk- Site-Specific Risk Factors for Developing Tier 1 Risk-Based Screening Levels, July 1999.

This document was used to create a list of Site-Specific Risk Factors for Calculating Tier 1 Screening Levels at the Hoover Company for Corrective Action.

The following are a list of Site-Specific Risk Factors used to calculate the Tier I Screening Levels:

- Screening Target Risk Levels;
- Land Use Assumptions;
- Conceptual Model of Exposure Pathways, including:
 - Receptors; and
 - Pathways
- Media; and
- Other Factors, including:
 - Exposure factors; and
 - Models and regulatory guidance

The current land uses at the time of the report were assumed based on current on-Site and off-Site practices at the time. At the time of the report on-Site land use was assumed to be industrial. The ball fields were determined not to be evaluated as industrial land use. The use of off-Site land at the time of the report was assumed to be a mixture of residential, commercial, and recreation-public land use. It was assumed that future land use would not change.

The following receptors were evaluated for each media:

Media-Groundwater

Groundwater Use- receptors evaluated were:

- Ingestion;
- Incidental Ingestion;
- Inhalation; and

- Dermal Contact.
- Indoor Air- receptors evaluated were:
- Ingestion;
 - Inhalation; and
 - Dermal Contact.

Media-Soil

- Ambient Air- receptors evaluated were:
- Ingestion;
 - Inhalation; and
 - Dermal Contact.
- Soil- receptors evaluated were:
- Ingestion;
 - Inhalation; and
 - Dermal Contact.
- Indoor Air- receptors evaluated were:
- Ingestion;
 - Inhalation; and
 - Dermal Contact.

Human Health and Ecological Pathway and Receptor Analysis for Former Drum Storage-

Evaluation of the potential contaminant transport, exposure pathways, and of potential human and ecological receptors in support of the RCRA closure of the former RCRA unit or former drum storage were calculated. The former drum storage area (RCRA Unit) was used to store waste including, waste generated from nickel and zinc plating, paint waste, plastic compounding, and other operations.

Surface runoff is to the east and travels to a swale before traveling to a storm water retention basin during heavy rainwater events. The drainage system eventually ends up in a storm sewer line, which discharges to a pond approximately 1 mile away from the Site.

Chemicals of potential concern from the drum storage area are:

- CVOCs
- Petroleum-related hydrocarbons
- Phthalate esters
- Metals

Extent of the detectable phthalate concentrations appeared to be in the central and northeastern portions of the RCRA unit. A separate non-RCRA unit location contained phthalates in soils south of the unit. Detectable phthalates in the groundwater appeared to be limited to the immediate vicinity of the two

areas where it was encountered in the soil. In addition, phthalates were also observed northwest of the unit and this area was not considered a release from the unit.

Petroleum-related hydrocarbons (TEX) appeared to be in soil in the north and central portions of the unit. TEX was detected in groundwater associated with the RCRA unit and between Buildings 30 and 36.

Elevated concentrations of metals were observed in almost all soil sampling locations and in groundwater. Zinc was not detected in the southwest corner of the unit and dissolved barium was not detected in groundwater during the investigation.

Chlorinated VOCs were within the RCRA unit and the entirety of the area assessed. Tetrachloroethene and 1,1,1-trichloroethane (TCA) appeared to have the highest concentrations. TCA and degradation products in groundwater appeared in the same area. Additional detections occurred to the west down gradient.

Most likely mechanism for COC transport within RCRA Unit was:

- Dissolved phase material or non-aqueous phase liquid (NAPL) moving in the same direction as groundwater; and
- By gravity along the bedrock or low-permeability soil surface in the form of a dense non-aqueous phase liquid (DNAPL).

Other transport mechanisms:

- Volatilization from dissolved or absorbed phase material and subsequent vapor flux from the soil surface;
- Suspension of surface soil particulates with adsorbed phase material which may be subject to windborne dispersal and deposition;
- By surface runoff or erosion and transport of fine-grained and soil particulates containing adsorbed-phase material into adjacent water bodies and/or storm drains; and
- By uptake by biological terrestrial biota which may utilize the unit and adjacent areas as habitat.

Human exposures included:

- Trespassers to the RCRA unit;
- Off-Site Residents;
- Recreates;
- On-Site Construction/Excavation and Commercial/Industrial Workers; and
- Off-Site Commercial/Industrial Workers

CH2M HILL, Signed Original of the Voluntary Corrective Action Agreement between the USEPA and the Hoover Company, October 1999.

The USEPA and Hoover signed the agreement to allow Hoover to work independently and voluntarily to investigate and as necessary stabilize and remediate release of hazardous waste or hazardous constituents at or from the Hoover facility. This would allow for an accelerated basis for investigation and remediation to take place.

As noted in the 1999 agreement, on July 12, 1989, Hoover submitted a closure plan to the Ohio EPA for a hazardous waste drum storage area, commonly referred to as the RCRA regulated unit or the drum storage area. On November 26, 1997 the Ohio EPA approved an amended closure plan. Hoover had not yet completed closure as of the date of this report.

Other areas were identified as SWMUs, and the USEPA and Hoover agreed that Hoover would investigate and remediate the RCRA regulated unit and all SWMUs. The closure of the RCRA unit would have to be approved by the Ohio EPA. Hoover would request an extension on the formerly approved closure to be sure to adhere to all regulations and adhere to USEPA requests for investigation, and stabilization of all areas.

This document used the following reports to prepare for closure activities

“Material and Waste Management Areas Inventory,” November 1997. Prepared by CH2M Hill for Hoover

“RCRA Unit Geoprobe Soil and Groundwater Sampling for The Hoover Company, North Canton, Ohio,” May 1999. Prepared by CH2M Hill for Hoover and the Ohio EPA.

Under the 1999 agreement, all waste, groundwater, surface water, soil, sediment, and air samples would be collected in accordance with Region 5 RCRA Quality Assurance Project Plan (QAPP). Additionally, Hoover was required to notify the USEPA 15 days prior to each phase of work. The USEPA would review and comment and as appropriate approve Hoover’s submissions pertaining to the identified demonstrations, studies or reports, including

- Achievement of EI demonstration
- Establishment of facility-specific target levels for investigation
- Establishment of corrective measures objectives, facility-specific media cleanup levels and termination criteria
- Corrective Measures Study recommendations and selection of final corrective measures
- Corrective Measures Completion Reports.

The 1999 agreement also established a schedule of corrective action milestones and required Hoover to submit a final Corrective Measures Proposal to USEPA by December 31, 2003.

**The Hoover Company, The Hoover Company VECAP Community Liaison Panel Meeting Minutes
November 16, 1999 -August 27, 2002**

The meeting notes contained a general review of what was occurring at the Site and remedial activities undertaken and reporting that was occurring. General meetings discussed the following:

November 16-1999

This first meeting was held to allow Hoover to establish a dialog with the community. The history of the company was discussed and how Hoover had entered into an agreement with the USEPA on a voluntary basis to close the RCRA site.

December 7, 1999

This meeting was held to update the community on what was occurring at the facility. At the time there were three drill rigs working around the perimeter of the Site to collect soil and groundwater samples. In addition, this meeting was used to kick-off community tours of the Hoover plant.

January 25, 2000

At the time of the meeting, the field work to collect soil and groundwater samples around the perimeter of the Site had nearly been completed. The risk model was discussed, as well as the length of time it would take to complete the RCRA Corrective Action program.

February 15, 2000

During this meeting, it was discussed that lab data was starting to come in from the lab and they were beginning to evaluate the data for the risk assessment.

March 14, 2000

At the time of this meeting, data was continuing to be evaluated and work was beginning offsite in the area along Main Street. Potential remedial actions for the Site were discussed.

April 11, 2000

At the time of this meeting, sampling was being continued offsite from the western perimeter, to evaluate and investigate the area of contamination outside of the perimeter of the Site. An overview of the preliminary results of the soil and groundwater samples of the perimeter testing was presented with most

of the results being below target levels: 99 percent of the soil samples, 96 percent of the groundwater analyses from borings, and 99.6 percent of new groundwater monitoring wells.

May 16, 2000

Sampling and investigation was continuing offsite from the western perimeter where substances above target levels were detected in groundwater. Additional investigation and sampling was planned to continue in the game patron parking lot. Investigations had concluded that no significant risk exists on the athletic fields and no corrective action was required on those fields.

June 13, 2000

Collection of offsite data was continuing, but was nearly complete. Some on-site perimeter areas required additional investigation.

August 8, 2000

Data from the offsite investigation was continuing to be evaluated. A cap had been placed on the regulated unit of the north yard of the facility, where the drum storage unit was formerly located. A system had been designed to capture and treat groundwater before it leaves the Hoover Site on the Western perimeter.

October 10, 2000

This meeting discussed Hoover's Voluntary Environmental Corrective Action Program (VECAP). Perimeter and offsite investigations were complete. Onsite investigations were the focus at this time.

November 28, 2000

Onsite investigation was continuing. An overview of the offsite investigation was discussed, stating that there was no significant human health risk associated with the groundwater migrating from Hoover's northwestern Site boundary.

April 10, 2001

Onsite investigation was continuing and remedial action alternatives on a site-wide basis were being evaluated.

October 9, 2001

Perimeter, offsite, and onsite testing were complete and it had been verified by the EPA that no human health risks existed. Onsite investigation was the focus with the following objectives:

- to identify and focus on areas where materials and wastes were handled in the past;
- to refine understanding of those areas including sources of contamination and the extent of contamination in both soil and groundwater; and
- to gather information in support of the “Groundwater Environmental Indicator” that the EPA had recently verified.

Remediation at the site was also discussed. Potential cleanup measures were now a focus at the Site. The Site has been divided into “parcels” for this purpose, with most requiring no further action. Some areas, including the game patron parking lot and the RCRA unit in the north yard, were likely to require cleanup measures within the next couple of years. Various remedial actions were discussed.

January 29, 2002

The review and update of what had been accomplished since 1997 had been discussed. Remediation plans were also discussed and it was stated that investigation onsite would continue.

June 18, 2002

This meeting discussed remedial activities that would occur at the Site, including soil excavation, dual-phase and soil vapor extraction systems, as well as the natural breakdown of chemicals, and activity or land use restrictions.

August 27, 2002

Some remedial activities had been completed. Institutional controls were being developed and the Final Corrective Measure Proposal (FCMP) to USEPA was being drafted.

November 5, 2002

Remedial activities were underway and the draft of the Final Corrective Measures Proposal was ready for review.

November 25, 2002

It was reported that a resolution to restrict permits for new wells in limited areas on and offsite would be considered at the next Board of Health of the Stark County Health Department meeting. This would act as added protection. The FCMP draft was also discussed during the meeting.

September 2, 2003

This meeting discussed what had occurred since the last meeting in regards to reporting and an update on remediation and land use measures. It was noted that the Final Corrective Measure Proposal was ready for the EPA's review.

Update on Remediation, Land Use Measures:

- Dual Phase extraction had been used to treat soils and groundwater in the area of the North Yard. Samples were taken in December, the system was optimized, and samples were taken again in June. The June samples indicated that cleanup goals had been met. Those findings had not been documented.
- Soil vapor extraction was used in one area of the main plant facility, and samples were taken from the Site in December. The system was then optimized and samples were taken again in June. Those samples indicated that cleanup goals had been met, and the findings were documented.

It was reported that pulse operations were being used to surge the system in an effort to extract as much contamination as possible.

CH2M Hill, Hoover Perimeter Investigation Chain of Custody Data Package, February 2000.

This package includes the chains of custody forms from soil and groundwater collection during the Hoover Perimeter Investigation. Sampling occurred from November 11, 1999 to February 2, 2000.

In addition *Field Survey Specifications* dated August 1999 were included, that laid out the subcontractor's responsibility. CHM2 HILL submitted the required documentation to become a subcontractor, and how sampling would occur. A *Boring Sampling and Shallow and Deep Well Drilling and Installation Specifications* report was included as well.

This report specified the following soil and groundwater sampling procedures:

- Soil Sampling was to be conducted using a split spoon, California liner, and shelly tubes. All sampling was to be conducted in accordance with ASTM. To conduct the soil sampling the following would occur, push the sampler to a target depth, expose the sampler point/screen, and collect the sample.
- Groundwater Sampling would be conducted at up to three locations including, at the groundwater surface, in the sand and gravel lens, and at the top of bedrock or probe equipment refusal.
- Groundwater samples would be collected by advancing the borehole 1 to 2 feet above target interval, drive a hydro-punch, geo-probe type, or other/equivalent groundwater sampler to target depth, expose sampler point/screen, and collect the sample using new disposal Teflon tubing.
- Flush mount wells were to be installed for shallow wells. Wells were developed, and analyzed. A table was included that showed the analysis.

CH2M Hill, Perimeter Investigation Report, May 2000

This report was sent to a community liaison panel member to be discussed at future community meetings. It noted that 99% of analytical results from soil and 96% of analytical results from groundwater grab, and 99.6% of analytical results from monitoring wells showed constituents below target levels. In addition, it was discovered that the recreational fields were evaluated and no further action would likely be required in the area. The game patron area had crushed limestone gravel placed over the parking lot, so as not to pose any imminent health risk.

Environmental Quality Findings:

- None of the COCs or concentrations detected represent an imminent threat to human health or the environment;
- Most analytical records have the results below target levels;
- Site-wide concentrations and distributions of semi-volatile organic compounds and metals could not be definitively correlated to known activities at the Hoover Site; and
- VOCs detected are consistent with those known to have been historically used at the Site.

Additional Evaluation:

- Onsite Recreational Fields, where some additional sampling and data evaluation have already been performed. The results of the evaluation concluded that there are no unacceptable risks to recreational users;
- Groundwater off-Site to the west of the facility, where investigation and sampling efforts are already in progress;
- The Game Patron Parking lot, where plans for future investigation and sampling are in progress and will be performed in conjunction with on-Site investigations; and
- Other individual locations where concentrations of chemicals above target levels were identified.

Results of additional efforts would be reported separately and corrective action would be implemented as part of the Voluntary Corrective Action process.

In addition a Program Data Management Plan was also included.

This document lays out the steps of how things will be further evaluated and documented during investigations. The sampling steps and a sampling and analysis plan are laid out.

A copy of the signed Voluntary Agreement between Hoover and the USEPA is also included.

CH2M Hill, Perimeter Investigation Report Data Packages (Volume 1 of 2)/ Groundwater Data from Soil Borings and Monitoring Wells Summary, June 2000

The purpose of this report was to present diagrams of the boring logs completed and monitoring wells installed during the Perimeter Investigation at The Hoover Company Plant No. 1. Field work took place from November 1999 until February 2000. Twelve monitoring wells were installed, as well as multiple soil borings. The report includes slug tests and boring logs.

In addition, a *Groundwater Data from Soil Borings and Monitoring Wells Summary* is included. Water was collected during the soil boring installations and also from monitoring wells. A round of groundwater data was collected in new and existing wells, as well as from piezometers on January 27, 2000. Gauging data and depth to groundwater is recorded on the tables within the report.

A *Conceptual Cross Sections Data Package* is also included in this report. This section summarized the conceptual geologic, hydrogeologic, and chemical cross sections that were created from the boring logs and previous studies.

CH2M Hill, Perimeter Investigation Report Data Packages (Volume 2 of 2), June 2000

This report presents the geotechnical testing laboratory data reports for the *Perimeter Investigation* and the associated chains of custody. In addition, the document details the *Monitoring Well and Dogwood Baseball Fields Data*. The monitoring wells near the Dogwood Baseball Fields were sampled as part of the new monitoring well installation in the perimeter investigation, again as the initial sampling of the Dogwood Baseball Fields, and as a follow-up sampling of the Dogwood Baseball Fields. Groundwater and soil were analyzed for pesticides, herbicides, organophosphorus, VOCs, SVOCs, cyanide, metals, PCBs, Dioxin and Furan Data, and sulfide in at least one of the sampling events during the original perimeter investigation or the initial sampling event. It was concluded that metals were a reoccurring problem in the soil, and this could be due to the heterogeneous nature of the soils. Low levels of contamination of naphthalene and methylene chloride were also detected in lab and equipment blanks.

CH2M Hill, Risk Assessment Data Package/ North Yard, December 2001.

This document was used to “capture and document the assumptions that are common to parcel-specific risk assessments being prepared for the Hoover Facility.”

- Objectives included:
 - Evaluate risk in areas of the Hoover facility assuming unrestricted residential land use, where appropriate, in order to support a recommendation of no further corrective action required; and

- Provided an understanding of site risks associated with different land-use assumptions to support evaluation of remedial alternatives in the Final Corrective Measures Proposal for those areas where NFA is not proposed.

This guidance was created to be used in preparation of the risk assessment. Overall risk assessment process and its role in the corrective action program were developed for individual parcels to create parcel-specific risk assessment documents. The risk assessment was to be implemented in a tiered approach.

North Yard Summary

The primary finding of the North Yard risk assessment is that risk from chemical concentrations detected in soil and groundwater, in the north yard area are at the upper bound of the range of risks specified in USEPA's risk reduction goal for corrective action, and are higher than the goal for non-cancer risks for the hypothetical future non-residential land use scenario. Additionally, the results from this risk assessment do not indicate the presence of conditions posing any imminent or substantial impact to human health.

Principal COCs in both groundwater and soil included the following CVOCs, tetrachloroethane (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride. Soil additionally contained: lead, cadmium, and PCBs. The principal pathway of exposure was direct exposure to soil via incidental ingestion, dermal contact, and inhalation of suspended dust. Elevated levels cadmium, lead, and PCBs were detected in the north side of the North Yard area east of Pond 1.

North Yard activities included, land disposal, satellite waste accumulation areas, drum storage, tank storage, and storage for other materials both indoors and outdoors. Hoover's wastewater treatment unit is also in the area. Land disposal wastes include used oil, acids, alkalis, aluminum dust, ash, boron, silicates, cleaning compounds, construction and demolition debris, floor sweepings, hydraulic fluid, limestone/lime, metals including chromium, oils, sludge (enameling and powerhouse), solvents, synthetic media, wood, and pyrite. Materials stored included solvents, antifreeze, filter papers, hazardous waste solvents, hydraulic oil, cutting oil, kerosene, mercury-containing wastes, paint wastes and thinners, PCB wastes, plating sludge, used oil, waste spray cans, cyanide salts, metals, nickel filter papers, detergents, PCE, and diesel fuel. Assumed unrestricted residential land use would not be achieved in this area.

Game Patron Parking Lot

This risk assessment was developed for chemical constituents detected in soil and shallow groundwater in the Game Patron Parking Lots. The primary finding, based on the uncertainties associated with the risk assessment indicated that risks from chemical concentrations detected in soil and groundwater in the Site B area achieve the range of risk specified in the USEPA risk reduction goal for corrective action. The results

show that the risk assessment did not indicate the presence of conditions posing any imminent or substantial impact to human health.

This area is an irregular shaped former land disposal area (approximately 4.5 acres) located in what was once in the northeastern corner of the Site, adjacent to the former Dogwood fields. Wastes were formerly placed in the area from 1948 until 1968. Most of the area was converted into an unpaved parking area starting in the mid-1970s. Dredged sludges from the wastewater treatment ponds were placed in this area. In addition, Hoover also indicated that small quantities of spent cyanide salts and paint solvents may have also been placed in the unit. The area was covered with approximately 6 inches of gravel to create the parking lot. This area is currently adjacent to the northeast of the current Site.

Public Access Areas

Primary findings indicated that chemical concentrations detected in soil and groundwater in Public Access Areas fall within the range of risks specified in USEPA risk reduction goal for corrective action for the unrestricted residential scenario, except for the roadway exposure unit. The roadway had soil concentrations in the upper bound of the cancer risk range and above non-cancer hazard index. The results did not indicate the presence of conditions posing any imminent or substantial impact to human health.

The Public Access Areas

- Dogwood Fields- low
- Football/Soccer Fields-low
- Former Little League Ball fields-low
- Parking Lot #7-low
- Roadway-high and no groundwater collected.

Off-Site

This risk assessment was conducted in the shallow groundwater in the offsite areas located to the west of the Site. This was conducted with assuming a restricted residential scenario (groundwater is not used as drinking water source within the area evaluated). Primary findings indicated that chemical concentrations detected in the groundwater in offsite areas fall within the range of risks specified in USEPA risk reduction goal for corrective action for the restricted residential scenario. Additionally, the results did not indicate the presence of conditions posing any imminent or substantial impact to human health.

The area assessed was groundwater beyond the western Site boundary. This also included a survey of offsite residences and businesses conducted in October 2000 to identify the potential for exposure pathways from CVOCs in groundwater.

Potential exposure pathways and receptor populations are as follows:

- Non-potable Use of Groundwater Scenario- Drinking water is supplied by the municipality with supply wells FE9 and at screened at depths FE9. It is assumed that shallow groundwater is not used for drinking water, and ingestion of drinking water and inhalation of volatiles from domestic use water indoors is not considered complete exposure pathways. Examples of non-potable groundwater use are irrigating landscaping, washing cars, and recreational uses.
- Groundwater to Indoor Air Scenario- It is assumed that CVOCs in groundwater could partition into soil gas and become transported to overlying structures. These COCs could then mix with indoor air and result in inhalation exposure.
- Emissions from water in basement sumps-Inhalation of CVOCs in air from standing water in a basement sump was a potential complete exposure pathway from groundwater for potential receptors in the firehouse and church.

Site A Lots

This risk assessment was performed to detect COCs in soil and shallow groundwater at the Site A lots (Parking lots 10 and 11). The primary finding of this risk assessment is that risk from chemical concentrations detected in soil and groundwater at the Site A Lots fall within the range of risks specified in the USEPA's risk reduction goal for corrective action for the commercial land use scenario. The results do not indicate the presence of conditions posing an imminent or substantial impact to human health.

This area is located along the western Site boundary and formerly contained a CERCLA-listed waste management area. This area was located in the naturally occurring low lying area and historically was used for disposal of waste including enameling and powerhouse sludge, miscellaneous off-spec products (helmet liners), and possible dredged sludge from the wastewater treatment ponds. Other areas were used as parking lots, but by the 1950s the area including Site A was re-graded and paved for use as a parking lot.

Regulated Unit

This risk is for the regulated unit of the Hoover (Plant 1). The primary finding of the risk assessment indicated chemical concentrations detected in soil at the Regulated Unit fall within the range of risk specified by the USEPA. The results of the risk did not indicate the presence of conditions posing any imminent or substantial impact to human health.

This area has been general storage for raw materials, equipment, and wastes since the 1930s. This area was also an interim-status RCRA hazardous waste drum storage area and was used from 1980 to 1989 for wastes including nickel and zinc plating waste, plastic compounding, spent solvents, and process materials. Three drums containing acidic/methylene chloride wastes were observed to be leaking in 1987. The wastes were re-drummed and 15 cubic feet of contaminated soil was removed. Possible

chemicals store in the Regulated Unit included hazardous waste solvents, metals, methylene chloride, filter papers, oils, paint wastes and thinners, phthalates and plastics, sodium hydroxide, solvents, methyl isobutyl ketone, methyl ethyl ketone, and 1,1,1-trichloroethane. Asphalt was placed over the Regulated Unit in 2000.

Active Facility

This risk assessment was performed for chemical constituents detected in soil and groundwater at the Active Facility. The primary finding found there are currently no complete pathways for exposure from chemical concentrations detected in soil and groundwater to potentially exposed workers with the exception of PCE in soil and a small portion of Building 18. Risks from exposure pathways associated with PCE in soil at this location fall within the range of risks specified by the USEPA. The results do not indicate the presence of conditions posing any imminent or substantial impact to human health.

The Active Facility was defined as the active manufacturing area between Witwer and E Maple Streets and between North Main Street and Taft Avenue. Information gathered for this area from former reports identified multiple SWMUs and AOCs in this area. Further investigation of the SWMUs and AOCs indicated that there had been no releases from any of these areas located in the Active Facility.

Southern Lots

This risk assessment was conducted to identify potential risks to human health for chemical constituents in soil and groundwater in the Southern Lots. The Risk assessment concluded chemical chemicals detected in soil and groundwater at the southern lots are at concentrations likely associated with either sample quality or anthropogenic or urban background levels that warrant no further investigation.

This area was formerly an orchard and fields up until 1969 when parking lots began to appear in the area. This area is located south of E. Maple Street.

Evaluation of Metals in Soil and Groundwater at the Hoover Facility

During the Perimeter Investigation some metals were detected at concentrations above the Facility. Metals were detected in soil and groundwater, however the presence of these COCs did not indicate that metals had been released from materials handling or waste management activities at the Facility. Seven metals were detected, including arsenic, beryllium, cadmium, copper, lead, tin, and titanium. Based on the soil and groundwater sampling metals detections were not related to waste management activities and were sporadic and incidental caused by the presence of wire, paint, or debris and not waste releases. Soil sampling indicated that no further investigation of tin, beryllium, and arsenic. Cadmium, copper, and lead

were evaluated as part of the North Yard risk assessment. Elevated concentrations of total metal from groundwater grab samples were likely a result of suspended solids present in groundwater.

Evaluation of PAHs in Soil at the Hoover Facility

During the Perimeter Investigation some PAHs were detected at concentrations above the Facility. PAHs were detected in soil outside of the waste management areas. The risk assessment determined that further evaluation of PAHs should focus on waste management activity areas and other areas are likely associated with anthropogenic sources. The background levels of PAHs in urban soils indicates that most detected concentrations of PAHs in soil at the Hoover Plant perimeter are comparable to background PAH values.

Middle Lots

This risk assessment was performed to assess the chemical constituents in the soil and groundwater at the Middle Lots (Parking lots 4, 5, 8, and 12). The primary findings of the risk assessment detected COCs in the soil are below concentrations that warrant further evaluation and COCs detected within groundwater fall within risks specified by the USEPA. Results do not indicate the presence of conditions posing any imminent or substantiated impact to human health.

CH2M Hill, Material and Waste Management Areas Inventory Amendment, July 2002

This report lists the current and historic information regarding operations, materials, and waste management Practices for Plant 1, beginning in May 1997. The objective of this report was to determine which areas, if any, of the Site possibly were affected by past materials and waste management operations, and would therefore have the potential to be included in a RCRA Voluntary Environmental Corrective Action Program (VECAP). Areas were designated as either solid waste management areas (SWMUs) or areas of concern (AOCs). Multiple areas of the Hoover Site were determined to be SWMUs or AOCs.

Areas discussed for SWMUs in further detail include Unit S33: Northwest Building 30 Drum Storage Area, Unit S34: Enameling Pond Drum Storage Area, and Unit S35: West Building 30 Drum Storage Area.

Areas of Concern discussed in further detail include Unit A1: Equipment Storage Area, Unit A2: Building 30 Outdoor Storage Area, Unit A3: Building 30 Chemical Storage Area, Unit A4: Underground Gasoline Tank Area, Unit 5A: Building 18 and 30 Paint Booths, Unit 6A: Former PCB Transformers, and Unit 7A: Former Aluminum Casting Foundry.

CH2M Hill, Soil Excavation Investigation Data Packages, September 2002

This report was used to prepare part of The Hoover Companies Soil Excavation *Pre-Design Investigation* (PDI). It provides a record of documentation elements developed for the field activities and also documents field modifications or deviations from the PDI work plans. This was completed in 5 phases, all of which took place in 2002- January, April, May, early June, and late June. This report includes a sampling plan and a sampling location summary data package which contains a summary of all locations sampled during the investigation at the Hoover Plant I Facility. Chains of custody were included in the report as well. A total of 216 samples were collected in 7 areas including the Maintenance Roadway, Dogwood Ball Fields, Area A-Southwest, Area A-Northeast, Area B, Area C, and Composites (Areas A, B, and C). In addition, soil borings were also included in the report.

CH2M Hill, Final Corrective Action Measures Proposal for the Hoover Company, August 2003.

This report discusses The Hoover Company's agreement with the USEPA to establish a Voluntary Corrective Action Agreement in October 1999. This agreement allowed Hoover to work voluntarily and independently to complete corrective action obligations. Prior to this report the following had been completed by the Hoover Company:

- Hoover developed a report of existing conditions at the facility;
- Hoover established a site-wide human health risk assessment and established risk reduction goal associated with current and potential future land uses for parts of the Facility;
- Stabilization measures, to control potential exposure and minimize source materials, have been evaluated, designed, and implemented;
- The ecological evaluation concluded that chemical constituents detected in soil at the Hoover Facility did not pose a threat to ecological receptors, and that further ecological risk assessment was not required;
- The site-wide evaluation of risk to human health determined that potential human exposure pathways under existing and future land uses are under control;
- For the Southern Lots and Public Access, information assembled showed that there were no risks under any current or potential future land use scenario and therefore no corrective measures were necessary;
- For the Regulated Unit, North Yard, Site A Lots, Game Patron Parking Lot, part of the Middle Lots, and Active Facility parcels, risk reduction goals were achieved through completion of stabilization measures, specifically through a county-enforced groundwater resolution to restrict well installation;
- The groundwater resolution and equitable servitude mechanism were successfully implemented for the selected parcels with Stark County and the State of Ohio; and
- RCRA closure of the Regulated Unit soil would be coordinated and certified with the Ohio EPA per the agreement.

This document demonstrated that:

- There are no unacceptable risks to human health or the environment under current conditions; and
- Risk to human health or the environment under potential future conditions had been addressed by completing corrective measures and/or implementing protective institutional controls.

Hoover requested that the USEPA make the following determinations:

- Corrective Action Complete without Controls for the Southern Lots and Public Access parcels; and
- Corrective Action Complete with Controls for the Regulated Unit, North Yard, Site A Lots, Game Patron Parking Lot, part of the Middle Lots, and Active Facility parcels and offsite area.

This report covered the history of the activities associated with the Facility, and compounds that were associated with wastes that were formerly managed at the facility since the 1920s. Compounds included metals from sources such as machining and painting, PAHs from sources such as coal ash, oils, and petroleum products, VOCs for uses such as parts cleaning and fuel, SVOCs from plastic softening, PCBs from electrical generators, and metals from sources such as machining and paints. In addition this report further covers the conceptual model and stabilization measures to be implemented, a risk evaluation, soil excavation predesign investigation report, construction report, groundwater resolution, equitable servitude agreements, signed agreement between The Hoover Company and the USEPA, material and waste management inventory, perimeter investigation report, dual phase extraction (DPE) and treatment system design and data package, soil vapor extraction (SVE) and treatment system design, DPE and SVE termination reports, and the North Yard-Offsite Remedial Alternatives Evaluation Report.

United States Environmental Protection Agency-Region 5, Statement of Basis for Corrective Measures Approval at the Hoover Company-OHD 004 462 131, October 2004.

The Statement of Basis was developed to explain the proposed remedies to address contaminated groundwater and soil at the facility that was identified during a facility inspection

History

At the time the report was written the Site consisted of 86.6 acres. The manufacturing warehouse is 24.6 acres and includes 30 buildings. The Site was bordered by residences and a high school to the north, to the east by residences and a practice field, to the south by residences and the YMCA, and to the west by commercial businesses and residences.

The North Yard is 65 acres and is the northern portion of the Site and is mostly open. Approximately 15 acres is a parking lot. Four buildings in the northern portion cover less than 5 acres.

Hoover began operations in 1908 for the manufacturing of electric sweepers. Prior to this the Site housed a tannery and leather goods manufacturing company. Hoover manufactured electric sweepers and household appliances, including coffee pots, hand mixers, and irons. Additionally, during the wars, in the 1940s and 1950s it manufactured switches, fuses, shells, motors, plastic, and aluminum cast parts for the military. During the investigation its operations consisted of compression and extrusion molding of plastic parts, motor and hose manufacturing, and assembly of vacuum cleaners, polishers, and service parts.

Hoover formerly operated a former Drum Storage Area from November 1980 until it was slated for closure in 1989. This was regulated under RCRA. Ohio EPA approved the closure plan January 30, 2004. Still needed to be implemented during this report.

Hoover formerly stored used oil, and spent solvents inside Building 35 for shipment off-Site to approved facilities for disposal. This area was governed under the RCRA-LQG status.

Hoover completed an investigation both on and off-Site to determine the degree and extent of contamination released from the Site. Results showed limited areas of the Site and groundwater extending beyond the Site warranted corrective measures.

Hoover began corrective measures during the investigation phase with the intent to use these actions as the final remedies if the risk assessment showed that the measures met goals. Corrective measures implemented at the Site by Hoover included a soil removal action, installed a soil vapor extraction system and installed a dual-phase extraction system to meet the objectives.

Proposed Remedies-

- Game Patron Parking Lot
 - a. Land Use Restrictions; and
 - b. Requirement to Provide Controls to Protect Health and Safety of Workers During Excavation.
- Site "A" Lots
 - a. Land Use Restrictions;
 - b. Groundwater Use Restrictions;
 - c. Requirement to Provide Controls During Excavation; and

- d. Requirement to Provide Vapor Intrusion Controls for New Construction Below Ground Surface.
- Building 18 Portion of the Active Facility
 - a. Land Use Restriction;
 - b. Groundwater Use Restriction;
 - c. Requirement to Provide Controls during Excavation;
 - d. Requirement to Provide Vapor Intrusion Controls for New Construction below Ground Surface; and
 - e. Requirement to provide installation and maintenance of a Semi-impermeable Surface as part of any new construction.
- North Yard
 - a. Land Use Restrictions;
 - b. Groundwater Use Restrictions;
 - c. Requirement to Provide Controls during Excavation; and
 - d. Requirement to Provide Vapor Intrusion Controls for New Construction below Ground Surface.

Institutional controls in the form of access, land, and groundwater use restrictions were necessary.

Summary of Site areas that required Remedy

Game Patron Parking Lot-

Former land disposal area approximately 4.5 acres that dredged sludges from the wastewater treatment ponds were placed in from 1948 to 1968. The area was then mostly converted to a parking lot. The area was covered with 6 inches of gravel and used for parking. Samples indicated presence of PCBs. Remedy included,

- Restrict the parcel on which the Game Patron Parking Lot is located to non-residential and non-agriculture use;
- Require soil disturbance at depths greater than 2 feet bgs to be performed with appropriate controls to minimize exposure pathways; and
- Require soils management for any soils removed to comply with local, state, and fed regulations.

Off-Site Area

The Perimeter Investigation and the Off-site Investigation concluded VOCs in groundwater had migrated beyond the western site boundary below mixed commercial and residential area approximately 1,000 feet. Concentrations exceeded USEPA drinking water standards. Soil gas was investigated and no exposures occurred.

- Proposed Remedy

Institutional Controls (Groundwater Restriction) must remain in place. Hoover will continue to sample groundwater through 2005 to:

- Evaluate the effectiveness of natural attenuation in reducing the concentration and extent of the contaminant plume; and
- Ensure that a sufficient area is covered by the groundwater use restrictions.

Site A Lots

This was located near Orchard and Charlotte Streets, and included Parking Lots 10, 10A, and 11. The investigation found PAHs and VOCs from past waste management practices were present in the soil and groundwater. Risk estimates were within risk goals if institutional controls were implemented.

Proposed Corrective Measures

- Restrict the parcel on which the Site A Lots are located to non-residential use;
- Require soil disturbance at depths greater than 6 feet bgs be performed with appropriate controls to minimize exposure pathways;
- Require soil management to comply with all regulations;
- Impose appropriate vapor control requirements for construction of basements in any future buildings; and
- Prohibit groundwater use under the Site A Lots parcel.

Regulated Unit (Former Drum Storage in the North Yard)-

This area was an outdoor, uncovered, flat area, the size of about one-half an acre. Groundwater contamination is associated with the north yard area. Site investigations concluded that contaminants from past waste management practices included VOCs, phthalates, and metals. Hoover excavated the soils to 2 ft. and the area was within the dual-phase extraction system to remove VOCs contaminating soil and groundwater.

Proposed Corrective Measures

- Restrict the parcel on which the Regulated Unit is located to non-residential and non-agriculture use;
- Require soil disturbance at depths greater than 2 ft. bgs be performed with appropriate controls to minimize exposure pathways;
- Require soil management to comply with all regulations; and
- Impose appropriate vapor control requirements for construction of basements.

North Yard

This area is located near Orchard and Hower Streets. The area included the regulated unit, a spray pond, wastewater treatment pond, dewatering pond, several buildings, and a parking lot. Past waste management led to the contamination of soil and groundwater with VOCs, PAHs, and historically with PCBs, and metals. Hoover implemented stabilization a measure including excavating the soils; and the area is within the dual-phase extraction system to remove VOCs contaminating soil and groundwater.

Proposed Corrective Measures

- Restrict the parcel to non-residential use;
- Require soil disturbance at depths greater than 2 ft bgs be performed with appropriate controls to minimize exposure pathways;
- Require soil management to comply with all regulations;
- Impose appropriate vapor control requirements for construction of basements in any future buildings; and
- Prohibit groundwater use under the North Yard.

Middle Lots

This area included parking Lots 4, 5, 8, and 12 between Witwer and Hower Streets. VOCs were found in the groundwater in this area. No unacceptable risks were calculated except for residential use in a small area of the middle lots.

Proposed Corrective Measures

- Restrict groundwater use in the Middle Lots.

Active Facility

This area encompassed the active manufacturing areas between Witwer and East Maple Street, and North Main Street, and Taft Avenue. This area was completely covered with buildings. No waste management was conducted here. Building 18 was located in this area and was contaminated with tetrachloroethylene (perchloroethylene-PCE), a VOC. PCE levels were diminished with the installation of a soil vapor extraction system in this area.

Proposed Corrective Measures

- Restrict the footprint of Building 18 of the Active Facility to non-residential use;
- Require soil disturbance be performed with appropriate controls to minimize exposure pathways;
- Require soil management to comply with all regulations;

- Impose appropriate vapor control requirements for construction of basements in any future buildings;
- Require construction and maintenance of a semi-impermeable surface to prevent exposure to underlying soil, if any ground-intrusive activities to occur at the Active Facility parcel; and
- Prohibit groundwater use under the Active Facility.

The evaluation of Proposed Remedy was based on four general standards and five remedy decision factors. The four standards for corrective measures were based on RCRA statutory regulations and the five remedy decision factors were based on the proposed Subpart S regulation for corrective action. The general standards and decision factors used to evaluate the proposed remedies are summarized below.

1. Overall Protection- cleanup actions already implemented by Hoover have met human health risk goals for corrective action;
2. Attainment of media clean-up standards- Media cleanup standards for soil were met in all areas discussed. Additional treatment will be performed using a DPE and SVE system;
3. Controlling the Sources of Releases-Removal of soils in the Dogwood Ball Fields, Maintenance Roadway, and Building 18 and the operation of the DPE and SVE systems have adequately controlled the sources of possible release to the environmental. No additional Controls necessary;
4. Compliance with Waste Management Standards- No waste will be generated during the implementation of the corrective measures;
5. Long-Term Reliability and Effectiveness- Dependent on the reliability of land and groundwater restrictions and ability of natural processes to remediate groundwater contamination;
6. Reduction of Toxicity, Mobility, or Volume of the Wastes- No additional waste reduction is required under the proposed corrective measures;
7. Short-Term Effectiveness- No short-term impacts anticipated;
8. Implementability- Restrictions will be executed and recorded prior to USEPAs issuance of the Final Decision; and
9. Cost-Major costs paid for by Hoover.

Areas not needing Corrective Measures

- Southern Lots – Parking lots 1, 2, and 3, and the wooded area south of lot 3. Low levels of PAHs and metals were detected in soil and groundwater, but no further investigation was deemed warranted.
- Public Access Areas-Former Little League Areas, Parking Lot 7, Maintenance Roadway, and Site B South. PCB contaminated soil removed from 0-2 feet in the stabilization area near the Maintenance Roadway. This area was deemed unnecessary for further investigation.

- Active Facility with the exception of Building 18- Active facility between Witwer and East Maple Streets and between North Main Street and Taft Avenue. No significant releases were noted outside of the Building 18 area. Two detections of VOCs were above target levels, but no further investigation was deemed warranted.

Maple Street notes that remedies proposed by Hoover (and included in the Statement of Basis previously issued by USEPA in 2004 for public comment) included use restrictions and other institutional controls to ensure that risks would be properly managed. The active remediation implemented by Hoover included the use of a soil vapor extraction (SVE) system in the Building 18 Area, soil excavation in the North Yard, Dogwood Field, and the former Maintenance Roadway, and the use of a dual-phase extraction (DPE) system in the North Yard. With the exception of a County Groundwater Use Resolution, none of the proposed restrictions or controls were implemented by Hoover. Pursuant to post-AOC discussions with USEPA, Maple Street plans to prepare and submit proposed Interim Measures under the AOC which would implement a set of institutional controls at the Site.

Earth Tech, Inc., Draft Phase I Environmental Site Assessment, May 2006

Earth Tech, Inc. completed a Phase I Environmental Site Assessment for the Hoover Company Plant No. 1 in May 2006. At the time of the report, the primary processes at the facility included aluminum refinishing and anodizing, heat treating, lead spraying and anodizing, degreasing, parts washing, varnishing, spring manufacturing, die cast finishing, armature shaft manufacturing, plastic injections, finishing operations, and assembly. Additionally, former operations were also covered. (These are previously summarized above.) The following RECs were identified in this report:

- Asbestos-containing materials and lead are located throughout the building structures;
- PCBs were present in the soil;
- Solvent impacts had fully been delineated in groundwater and soil. Groundwater treatment systems were in place in Buildings 30 and 17. Systems were shut down in 2003, and the facility was awaiting a closure letter from the state. The Site would be deed restricted;
- Groundwater contamination from the former use of CVOCs including TCE. The Site was in the process of obtaining a closure from the OEPA;
- Historical deeds indicate unknown compliance status from several spills including one titanium oxide spill, one tetrachloroethylene spill, and fourteen waste water spills; and
- The Site was listed as a RCRA Hazardous Waste Treatment, Storage, or Disposal (TSD) facility. CORRACTS, FINDS, SPILLS, ERNS, DERR, SSTS, and FTTS facility.

Following de minimis environmental conditions

- The abandoned 5-foot concrete and brick structure on the northeast side of the Site;
- Possible historical coal use; and

- Thirteen gas stations/dry cleaners were found within one-mile of the Site in the EDR report.

Multiple ASTs were present at the facility. USTS were removed or installed in 1989 based upon fire department records.

At the time of this reporting, the Site was being investigated and was in the process of obtaining closure from OEPA. EarthTech, Inc. recommended the following in regards to the identified RECs and de minimus conditions:

- continuing of closure activities;
- integrity testing for the existing underground storage tanks; and
- asbestos, lead, and PCB surveys and abatement if the Site was to be renovated or demolished in the near future.

In addition, Buildings 10A and 11, and the residential Site owned by the facility were not inspected.

CH2M Hill, Annual Summary Report: 2006 Monitored Natural Attenuation, February 2007.

This document is a technical memo that summarized analytical data for the monitored natural attenuation (MNA) groundwater sampling events conducted in May and October 2006. Two main lines of evidence were used to evaluate the data collected and are as follows:

- The demonstration of meaningful trends of a decrease in the contaminant mass over time at appropriate monitoring points; and
- The demonstration of active natural attenuation at the site based on geochemical data.

Monitoring wells and piezometers were used to evaluate the groundwater. Static groundwater and LNAPL readings were measured and recorded. Groundwater ranged from 2.65 feet to 13.22 feet below the top of casings in May, and 3.61 to 13.85 feet below top of casings in October. LNAPL was detected in MW-28 at 0.91 feet thick in May and 2.01 feet thick in October. Groundwater flow was determined to be to the west. The following chlorinated volatile organic compounds (CVOCs) were evaluated:

1,1,1-Trichloroethane	1,1-Dichloroethane
1,1,2-Trichloroethane	1,2-Dichloroethane
Tetrachloroethene	1,1-Dichloroethene
Trichloroethene	Carbon Tetrachloride
Cis-1,2-dichloroethene	Methylene chloride
Trans-1,2-dichloroethene	Vinyl Chloride

Results indicated:

- CVOCs concentration trends within the core of the plume remained relatively stable;
- Degradation of PCE and TCE near the down gradient edge of the plume was reflected in samples collected from MW-29S. These two COCs were mostly degrading to cis-1,2-DCE. Vinyl chloride concentrations were reported below LRL in the last two sampling events;
- Vinyl chloride, detected within the core of the plume, was also indicative of the degradation trend of the PCE and/or TCE. Vinyl chloride was anticipated to degrade aerobically as subsurface conditions face aerobic degradation process;
- Analytical data for samples collected from down gradient monitoring wells indicated that concentrations of CVOCs were below the lab method detection limit. Based on this data, the plume was considered stable; and
- Sampling locations outside the southern perimeter of the plume indicated that concentrations of CVOCs were below lab method detection limits. The plume did not appear to be expanding in this direction.

Natural attenuation parameters indicate a predominance of anaerobic subsurface conditions within the core of the plume. Methane was additionally detected within the center of the plume.

Conclusions indicated the following:

- There was strong evidence that anaerobic degradation processes exist within the core of the plume, changing to aerobic conditions down gradient and laterally away from it;
- Analytical data indicated that PCE and/or TCE were being degraded within the core of the plume, evidenced by a decrease in concentrations and the increasing trend in concentrations of daughter products;
- Cis-1,2-DCE and vinyl chloride were being degraded down gradient and laterally away from the core of the plume; and
- The plume remained stable and confined within the Ordinance Area.

Hull & Associates Inc., Interim Measures Work Plan to Implement Sub-Slab Depressurization, June 2016

Hull conducted sub-slab depressurization (SSD) pilot testing events in January, February and April 2016 in the Western Factory Area of the Former Hoover Facility. This follows discussion with the USEPA in late 2015 regarding the need for an Interim Measure in this area. The SSD pilot testing activities were conducted to evaluate SSD as a remedy for mitigation of potential vapor intrusion to indoor air.

The SSD test areas were limited to redevelopment locations. SSD pilot test results were compared to locations of indoor air screening level exceedances, as identified from the January 2015 and June 2015 sampling results, and used to develop a full-scale conceptual sub-slab depressurization system (SSDS)

design. Several of the buildings being redeveloped will include residential use on upper floors; therefore, results of paired indoor air and sub-slab samples were compared to conservative residential RSLs to evaluate the need for vapor mitigation. Full-scale SSDS installation in the Western Factory Area as an Interim Measure will protect future occupants.

Hull & Associates Inc., Sub-Slab Depressurization 100% Design Report, December 22, 2016

Hull's report outlines the rationale and design of the SSDS to be installed within Western Factory Area of the Former Hoover Facility. The report discusses sequencing and a proposed construction schedule as well as system startup and monitoring.

Hull & Associates Inc., Phase 1 Sub-Slab Depressurization 100% Design Report-Revision 1, February 22, 2017

Hull's revised report, based on USEPA comments, outlines the rationale and design of the SSDS to be installed within Western Factory Area of the Former Hoover Facility. The report discusses sequencing and a proposed construction schedule as well as system startup and monitoring. Notably, the revised report described the "phased" implementation of the SSDS. The "Phase I" area is limited to locations in which occupants are anticipated in mid-2017. It will not include sub-areas Retail 2A, Retail 2B and Parking 8A. As additional areas become ready for human occupancy, a new "phase" of SSDS work will be implemented in those areas unless data demonstrates that only part or none of the interim measure work is required.

Hull & Associates Inc., Construction Quality Assurance Report, March 31, 2017

Hull prepared a Construction Quality Assurance Plan (CQAP) to develop and implement a program to ensure, with a reasonable degree of certainty, that the completed Sub-Slab Depressurization (SSD) 100% Design Report for the Sub-Slab Depressurization System of the Former Hoover Facility West Factory Area (Site) meets or exceeds design criteria, plans, specifications, and performance standards. The CQAP introduces personnel, defines responsibilities, and details activities in the quality assurance and quality control (QA/QC) program, such as inspections, testing, monitoring and potential corrective actions, if necessary.

5.2 Environmental Data Resources Environmental Database Report

An environmental database report generated by Environmental Data Resources (EDR) was used to access environmental records for this report. The proximity of various listed facilities was reviewed to identify the potential affect, if any, that these facilities may have on the Site. The databases searched included those specified by ASTM E 1527-13 as well as several additional federal and state databases.

EDR contacts government agencies to receive updated records on a monthly or quarterly basis, depending on the database. As a result, facilities that were recently added to the list, and therefore not identified by EDR, may exist within the specified search distance. EDR has verified that it updates its database every 90 days or within 90 of the last agency update. In addition to the facilities identified in the EDR report, EDR provides a list of orphan facilities. These facilities, which are listed on one or more databases, do not have enough address information to be specifically located by EDR. A copy of the report by EDR is included in Appendix J.

Based on regulatory information from the databases, as well as topography, geological conditions, and hydrogeological considerations including anticipated groundwater flow direction, and potential groundwater flow barriers, such as rivers or streams, only facilities located adjacent to the Site and would likely affect the Site if releases occurred at those facilities.

Site:

The site was listed 17 times in the database. A summary of the listings is provided below:

SPILLS:

Spill No.: 9612-76-4989

The Hoover Co. was listed for a spill of wastewater reported December 5, 1996.

Spill No.: 002-76-0346

The Hoover Co. was listed for a spill of wastewater on February 3, 2000.

Spill No.: 9709-76-3830

Hoover Co. was listed for a spill of wastewater on September 18, 1997.

Hoover Co. was listed for a spill of wastewater on March 18, 1999.

Hoover Co. was listed for a spill of wastewater on July 28, 1999.

Hoover Co. was listed for a spill of wastewater on January 30, 2003.

Spill No.: 9606-76-2458

Hoover was listed for a spill of wastewater on June 5, 1996.

Spill No.: 9910-76-3686

Hoover Co. was listed for a spill of wastewater on October 14, 1999.

Spill No.: 9310-76-4170

Hoover Inc. was listed for a spill of smoke plastic fire on October 7, 1993.

Spill No.: 9906-76-2213

Hoover Co. was listed for a spill of wastewater on June 17, 1999, from Outfall 001.

Spill No.: 9811-76-4708

Hoover Co. Plant 1 was listed for a spill of wastewater on November 25, 1998. In addition, a spill of wastewater was listed under the same spill number July 30, 2004.

Spill No.: 9903-76-0800

Hoover Co. was listed for a spill of wastewater on March 4, 1999.

Spill No.: 0112-76-4702

Hoover Company was listed for a spill of wastewater December 13, 2001.

Spill No.: 0107-76-2653

Hoover Company was listed for a spill of wastewater July 19, 2001.

The nature and extent of residual contamination, if any, from the spills identified above will be addressed as part of the RFI. The areas of the Site that will be investigated as part of the RFI are described in Section 8, below.

FINDS:

Registry ID: 110000391237

Hoover Co. Plant 1 was listed in the FINDS database for the following:

National Compliance Data Base (NCDB) to support the implementation of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA);

- Toxic Substance Control Act (TSCA);
- Aromatic Information Retrieval System (AIRS), National Emission Data System (NEDS), and the Storage and Retrieval of Aeromatic Data (SAROAD);
- National Emissions Inventory (NEO);
- US EPA Toxics Release Inventory System (TRIS);
- US National Pollutant Discharge Elimination System (NPDES);
- RCRAInfo;
- Hazardous Waste Biennial Reporter;
- Criteria and Hazardous Air Pollutant Inventory;
- The Ohio-Core (OH-CORE);
- Permit Compliance System (PCS); and
- Section Seven Tracking System (SSTS).

No additional information was listed in the database report in regards to any of the databases.

ERNS:

An unknown facility located at the Site was listed in the Emergency Response Notification System. No information was provided.

ARCHIVE UST:

Facility ID: 76000691

The Site is listed for an archived UST. A permit was first issued for the tank October 10, 2008, with a reissue October 7, 2010. A final inspection permit was issued May 3, 2011. The tank is listed as a 1000-gallon gasoline tank constructed of fiberglass reinforced plastic. The tank is currently listed as in use.

NY MANIFEST:

EPA ID: OHD004462131

TSDF ID: AD52263NY

The Hoover Co. Plant 1 is listed in the NY MANIFEST database for the disposal of cadmium. One dump truck was listed as a disposal container of cadmium, July 1, 2 and 5, 2002, via chemical, physical, or biological treatment. In addition, the facility was listed as having disposed of other miscellaneous PCB wastes on June 28 and July 2, 2002. The waste was disposed of in a landfill by a dump truck, with a total of 2.2 pounds being disposed of. Additional PCB wastes were disposed of in a landfill, by the same means, on July 5, 2002.

RCRA-CESQG:

The Hoover Co. Plant 1 was listed as a RCRA- conditional exempt small quantity generator (CESQG). No additional information was provided.

CERCLIS-NFRAP:

The Hoover Co. Plant 1 was listed in the CERCLIS No Further Remedial Action Planned (NFRAP) database as an archived site that had been removed from the inventory of CERCLIS sites. The facility was first evaluated August 1, 1980 for a preliminary assessment. No priority level was assigned. On March 13, 1985 the facility was listed as a low priority for further assessment, and on March 28, 1990 the facility was listed as an archived site as the facility did not qualify for the national priority list (NPL) based on existing information.

CORRACTS:

EPD ID: OHD004462131

The entire facility was listed for the manufacturing of household vacuum cleaners February 12, 1985. The facility was listed as having action CA050-RFA completed. On May 17, 1990 the RFA determination of need for an RFI was deemed necessary. The facility was assigned a medium corrective action priority on March 31, 1994 and September 27, 1991. The RFI was imposed and focused data collection was required for stabilization evaluation on October 28, 1991.

One September 28, 2000 current human exposure pathways were listed as under control and verified.

On August 15, 2001 the facility was listed as having migration of groundwater under control and verified as having groundwater under control.

RCRA-TSDF:

The facility was listed as a RCRA treatment, storage, and disposal (TSDF) February 28, 2008. The facility is listed as a RCRA-CESQG and was listed as a handler engaged in the treatment, storage, or disposal of hazardous waste. The facility was listed as a large quantity generator (LQG) from January 1, 1979 to May 20, 2002. The facility was then listed as a small quantity generator (SQG) from February 27, 2003 until February 28, 2007. During the time the facility was listed as a LQG the facility was listed as a handler of ignitable wastes, waste with a pH of less than 2 or greater than 12.5 and listed as a corrosive hazardous waste, reactive hazardous waste, arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, benzene, carbon tetrachloride, chlorobenzene, chloroform, methyl ethyl ketone, tetrachloroethylene, trichloroethylene, spent halogenated solvents, carbon disulfide, sodium cyanide, acetone, 1,2-benzenedibicarboxylic acid, etc. The database further listed the CORRACTS action as discussed above.

US FIN ASSUR:

US EPA ID: OHD004462131

The Hoover Plant 1 was listed in the financial assurance information (US FIN ASSUR) database. The facility was listed in the database April 5, 2004 to assure that the facility had the funds available to pay for cleanup, closure, and post-closure care of the facility. The Site was last listed as closed within the database.

2020 COR ACTION:

EPA ID: OHD004462131

The Hoover Plant I is listed in the 2020 Corrective Action (2020 COR ACTION) database. No further information was provided.

HIST FTTS INSP/ FTTS INSP:

Inspection Number: 19890314OH0212

The Hoover Company was listed in the Federal Insecticide, Fungicide, & Rodenticide Act/ Toxic Substances Control Act (FIFRA/TSCA) Tracking System Administration Case Listing (HIST FTS) database. An inspection was conducted by Buchan with the state on March 14, 1989. A section 6 PCB investigation was conducted. No other information was provided.

LUST/UST:

Release number: 76000691-N00001

The Former Hoover Company was listed in the leaking underground storage tank (LUST) and underground storage tank (UST) database for a suspected release from a regulated UST. The release was listed as October 7, 2010 and a Tier II Investigation had been completed for the release. The review date was listed as June 2, 2000 with a responsible party identified January 23, 2014. The tank release was subsequently granted a no further action (NFA) status.

Adjacent sites:

Spitzer Chevrolet, of 407 N Main Street, adjacent to the west of the Site was listed in the FINDS database as a RCRA-CESQG. The registry ID is listed as 110004604982. No additional information was listed.

The North Canton School Bus Garage, of 387 Pershing NE, located adjacent to the east of the Site was listed as a RCRA-SQG. The facility was listed as a handler of hazardous waste including cadmium, chromium, lead, and tetrachloroethylene. No violations were found.

Guenther Motors Inc., of 104 E Maple Street, located adjacent to the west of the Site was listed as a historical auto station. The facility was listed as Harpold Motor Co in 1942, an automobile dealer- sales, service, and supplies. In 1948 the facility was listed as Elder & Son Inc., an automobile repair shop. In 1954 Guenther Motors Inc. was listed as an auto dealer- sales, service and supplies facility. Dungan Motors Inc. operated an auto dealer, sales, service, and supplies shop in 1960 at the location.

North Canton Cleaners, of 163 N Main Street, located adjacent to the west of the Site was listed as a historical cleaner. The facility was listed as a dry cleaner from 1942 until 1960.

W & J Chevrolet Co., of 407 N Main Street, located adjacent to the west of the Site was listed as a historical auto station. From 1942 until 1966 the facility was listed as an automobile dealer of sales, service, and supplies.

North Canton Buick, of 327 N Main Street, located adjacent to the west of the Site was listed as a historical auto station in 1942. The facility was listed as an automobile dealer, sales, service, and supplies facility.

Brown Lester Auto Service, of 315 N Main Street, located adjacent to the west of the Site was listed as a historical auto station from 1954 until 1970. The facility was listed as an automobile service station.

North Canton Buick Co., of 315 N Main Street, adjacent to the west of the Site was listed as a historical auto station in 1954. The facility was listed as an automobile dealer, sales, service, and supply company.

5.3 Public File Reviews

5.3.1 Local Health Department

Health Department: Stark County Health Department

Issues Identified: The Stark County Health Department had files that indicated the USEPA was in contact with Maple Street Commerce in regards to the Administrative Order on Consent (AOC). This correspondence indicated that the EPA had concerns related to the vapor intrusion and the EPA was considering additional changes to the AOC. The concerns were in relation to soil gas concentrations found near residential areas that contained TCE and PCE that exceeded URLs. EPA determined they needed to further assess for vapor migration at nearby residences.

Correspondence with the Stark County Health Department is included in Appendix K.

5.3.2 Local Fire Department

Fire Department: City of North Canton Fire Department

Issues Identified: A response has not yet been received from the City of North Canton Fire Department. A letter addendum to the report will be issued if a response indicates a concern for the Site.

Correspondence with the North Canton Fire Department is included in Appendix K.

5.3.3 Local Emergency Management Agency

County EMA: Stark County Local Emergency Planning Committee

Issues Identified: A response has not yet been received from the Stark County Local

Emergency Planning Committee. A letter addendum to the report will be issued if a response indicates a concern for the Site.

Correspondence with the Stark County Local Emergency Planning Committee is included in Appendix K.

5.3.4 Ohio Environmental Protection Agency (Ohio EPA)

5.3.4.1 Ohio EPA Northeast District Office

Issues Identified: A file review was conducted on May 23, 2014 at the NEDO. Multiple files were found to be related to the Site. Results of the file review can be found in Table 1.

Correspondence with the Ohio EPA is included in Appendix K.

5.3.4.2 Ohio EPA Central Office

Issues Identified: A response has not yet been received from the Ohio EPA Central Office. A letter addendum to the report will be issued if a response indicates a concern for the Site.

Correspondence with Ohio EPA Central Office is included in Appendix K.

5.3.4.3 Ohio EPA Emergency Planning and Community Right to Know

Issues Identified: A response has not yet been received from the Ohio EPA Emergency Planning and Community Right to Know. A letter addendum to the report will be issued if a response indicates a concern for the Site.

Correspondence with Ohio EPA Emergency Planning and Community Right to Know is included in Appendix K.

5.3.4.4 Ohio EPA Division of Remedial Response

Issues Identified: A response has not yet been received from the Ohio EPA Division of Remedial Response. A letter addendum to the report will be issued if a response indicates a concern for the Site.

Correspondence with Ohio EPA DERR is included in Appendix K.

5.3.5 Bureau of Underground Storage Tank Regulations

Issues Identified: Yes.

BURTR ID: 76000691-01

Correspondence between the Hoover Company and BUSTR indicated that three registered USTs were removed and disposed of on June 28, 1989. The tanks were located adjacent to the south of Building 30. Two of the tanks were listed as 1,000 gallons and the third was listed as 1,100 gallons, all of steel construction. Removal of the tanks was witnessed by personnel from the Fire Inspection Bureau with the North Canton Fire Department.

A letter to the Hoover Company from BUSTR dated August 31, 1989 indicated that a confirmed release had occurred from the UST system. The Hoover Company responded to inquire why he had received a letter confirming a release. It was noted that more information was need in relation to the tank closure than just soil samples. Hoover resubmitted a report along with soil analysis and the contractor who conducted the work, in addition the City of North Canton submitted a letter indicating that they had witnessed the removal of the tanks. BUSTR issued a letter June 16, 1992 indicating that at the time BUSTR was not requiring further corrective action of any contamination resulting from petroleum UST activity at the facility. The letter did indicate that it was not a guarantee or warranty that no problems exist at the location, and the letter did not release the responsible party from future responsibility.

BUSTR ID: 76000691-02

Flynn Environmental, Inc. submitted a UST Closure Assessment Report to Maple Street Commerce, LLC. This report was in reference to the removal of a 1,000-gallon fiberglass UST that was used to store and dispense gasoline. The tank was installed in 1989, removed April 25, 2011, and was last used in 2007 by the Hoover Company. The tank was located south of Building 30 in the former location of 3 USTs, and the dispenser for the tank was located approximately 20 feet west of the tank cavity. The 3 former USTs we installed in the 1970s and removed in 1989. It was indicated in the report that monitoring wells previously installed at the facility detected gasoline constituents in the soil and groundwater surrounding the historical UST location. A Tier I Site investigation was conducted for the tank removal. Excavated pea gravel removed from the tank cavity exhibited a sheen and emitted a strong petroleum odor. The material was removed and disposed of at a licensed facility. The report indicated that groundwater and soil contained concentrations of petroleum constituents above applicable closure action levels in the area of the former UST system. However, the report indicated that based on the confirmed release from the three USTs that were formerly removed from the same location in 1989 that the contamination detected during the 1,000 gallon UST closure may not have been associated with the UST.

Correspondence was sent to Maple Street Commerce, LLC by BUSTR December 15, 2011 notifying them that they were not in compliance with completing a Tier I Source Investigation that was requested to be completed on September 6, 2011. The original request for a Tier I Source Investigation was sent on May 5, 2011.

On August 8, 2013 a letter was sent to Maple Street Commerce, LLC to notify them that a new rule came into effect in 2012 and the facility had been moved into the 2012 corrective action rule and was at the time not in compliance.

A Tier I Source Investigation Letter was submitted to BUSTR by Flynn Environmental for the tank removal on December 24, 2013. The Tier I Source Investigation indicated that a Tier I Delineation would be needed in regards to the tank removal.

On January 23, 2014 a letter was sent to Maple Street Commerce, LLC in regards to the Tier I Notification Report dated December 24, 2013 that was submitted to BUSTR. The letter indicated that soil and groundwater contamination exists in excess of action levels and that they would be required to complete a Tier I Delineation. Maple Street Commerce conducted further delineation activities and has since received a No Further Action Letter dated February 19, 2016 for this release. An environmental covenant was placed on the property that will restrict land use in the former underground storage tank area to non-residential.

Correspondence with BUSTR is included in Appendix K.

5.5 Adjacent Property Environmental Records

Multiple adjacent properties were identified in the database report; and an adjacent property file review was conducted as part of this CCR. Information regarding the file review is listed below.

The North Canton City School District-Bus Garage, located at 387 Pershing Street, NW, adjacent to the east of the Site was listed in the Stark County Health Department files for a closure plan of an underground injection control (UIC) unit. This UIC was listed in the Ohio EPA's Division of Drinking and Groundwaters. The closure plan was dated August 31, 2004 and stated that the closure plan was in compliance with applicable regulations and that at the time no Class V Motor Vehicle Waste Disposal wells were present at the facility. No other information was provided.

A response has not yet been received from the Ohio EPA Northeast District Office, Ohio EPA Central office, Stark County Local Emergency Planning Committee, or the City of North Canton Fire Department. A letter addendum to the report will be issued if a response indicates a concern or the Site.

5.6 Summary of Historic Permits and Licenses

5.6.1 RCRA Part A Permit

Hoover applied for, and was approved for, a RCRA Part A permit (OEPA Permit No. OHD 004 462 131) by the US EPA on November 19, 1980. The Regulated Unit at the Site is defined under the RCRA Part A permit for the regulated unit. Hoover operated a RCRA hazardous waste drum storage area (DSA) from November 1980 to July 1989 under the permit ID under interim status. In July 1983 the design capacity of the DSA increased from 6,000 gallons to 25,000 gallons. The unit underwent closure in accordance with

the State of Ohio's Closure Program. Historically the area had been used for general materials and waste storage since the 1930s. Materials stored in the area included waste generated from, nickel and zinc plating operations, plastic compounding, waste from manufacturing processes, spent solvents, and obsolete or contaminated process chemicals. Wastes were stored in 55-gallon drums before being hauled off-Site for disposal. Additional information about the permit and DSA is included in Appendix L. Currently the Facility does not have a RCRA Part A permit.

5.6.2 National Pollutant Discharge Elimination System Permit

The Hoover Company applied for, and was approved for, an NPDES permit (No. OH0004065), OEPA Permit No. 31C00011601 in 1996 and 2006. This permit allowed the discharge from the Site to an unnamed tributary of Zimmer Ditch. The permit became effective on September 1, 2006 and expired on August 31, 2011. The permit covered one outfall, Outfall 001, which discharged to an unnamed tributary of Zimmer Ditch which flows to the Nimishillen Creek. Additional information about the permit is included in Appendix L.

6.0 PRELIMINARY CONCEPTUAL SITE MODEL

This section describes the Preliminary Conceptual Site Model (CSM), including the identification of potential sources of contamination at the Site, the potentially exposed receptor populations and the potentially complete exposure pathways by which these receptor populations may come in contact with Site-related constituents. A graphical representation of the Conceptual Site Model is provided in Figure 3.

6.1 Sources of Contamination

The first element of the CSM is the identification of probable source areas, including a brief description of the mechanisms and timing of known or suspected releases in those areas, contaminants of concern and impacted media. USEPA recognizes that sources (which USEPA says includes both the location of the original release and areas where a significant mass has migrated) are to be evaluated for the primary purpose of understanding exposures and ultimate corrective measures.¹ Extensive investigations have been conducted across the Site, including recent investigations focused extensively on vapors. This allows the source element of the CSM to be used for the ultimate purposes of exposure evaluation and corrective measure selection.

The substantial existing investigation data indicates that vapor-related impacts extend across broad areas of the Site, often have an ambient distribution, and are closely related to impacted groundwater. Evaluation of this information has identified two source areas, identified as the Facility North Area and Facility South Area, which are shown on Figure 2A. The two source areas are described below with reference to both geographic areas and historic operations; each contains SWMUs and AOCs previously identified at the Site. The existing Facility data supports the use of these two source areas in the CSM and then for RFI and Corrective Measures Evaluation and Selection. Due to the age of the Facility, history of operations, and existing data, the use of these two source areas should expedite and increase the accuracy and effectiveness of data evaluation by area for RFI and Corrective Measures Evaluation and Selection.

A brief summary of each source area, with reference to historic operations and identified impacts, is noted below.

1. **The Facility North Area** – This area includes Facility property north of Hower Street, including, but not limited to, the North Yard, multiple buildings, Site A Lots, parking, storage, and outlots/open fields. Impacts to soil and groundwater, as well as vapor, have been identified from this Area. Groundwater impacts in the Facility North Area have been

¹ Final Remedy Selection for Results-Based RCRA Corrective Action, Fact Sheet #3, USEPA, OSW, March 2000.

identified and delineated. Vapor impacts have also been identified. Historic operations in the Facility North Area included manufacturing, storage of chemicals, land disposal, coal storage, satellite waste accumulation areas, drum storage (Regulated Unit), wastewater treatment,

The Facility South Area – This area includes Facility property boundary south of Hower Street, including, but not limited to, the West Factory, East Factory, multiple buildings, open spaces, parking, and courtyard areas. Impacts to soil and groundwater, as well as vapor, have been identified from this Area. Groundwater impacts in the Facility South Area have been identified and delineated. Vapor impacts have also been identified. Historic operations in the Facility South Area included manufacturing, painting, degreasing, chemical storage, coal storage, power production, waste storage, and production sewers.

Exposure Potential

Exposure refers to contact between a receptor and an environmental medium (e.g., soil) containing a chemical of concern (COC). Chemical agents cannot exert deleterious effects unless they: (1) come in contact with the receptor; (2) are absorbed by the receptor; and (3) reach the site or locus of biological action at a sufficient dose level for a sufficient length of time. The primary elements which determine the degree of toxicity, as it relates to exposure, are the routes of administration (e.g., breathing, eating, or touching), and the intensity, frequency and duration of exposure.

In order for exposure to occur, an exposure pathway must be complete. Exposure pathways are the means by which the chemical may be delivered to receptors. Pathway completeness is largely determined by factors such as present and future land uses, proximity of receptor populations to the affected media, the physicochemical properties of the chemical agent, and Site activities. There are four factors necessary to constitute a complete exposure pathway. These include:

- A source and mechanism of chemical release into the environment;
- A transport medium (such as air, water, dust) that can move the chemical from the source to the receptor;
- A point of contact between the receptor and the affected transport medium; and
- A means of taking the chemical into the body (exposure route) such as breathing vapors or dust, ingestion, or dermal contact with the affected medium.

These four criteria are considered when evaluating the potential for exposure to chemicals in environmental media at the Site.

6.2 Identification of Potentially Exposed Receptor Populations

As indicated, the Site is currently leased to multiple businesses for commercial and/or industrial operations. The Site is surrounded by a combination of commercial/industrial and residential properties. Future

redevelopment plans for the Site include the construction of ground level commercial establishments with residential apartment units on upper levels of the building. Therefore, the potential and reasonably anticipated future receptor populations for the Site consist of the following:

- On-Site Commercial/Industrial Workers;
- On-Site Construction/Excavation Workers;
- On-Site Residents;
- Off-Site Residents;
- Off-Site Commercial/Industrial Workers; and
- Off-Site Construction/Excavation Workers.

6.3 Identification of Potentially Complete Exposure Pathways

A conceptual site model (CSM) provides a diagrammatic representation of the complete and potentially complete exposure pathways at the Site. Thus, the CSM facilitates a consistent and comprehensive evaluation of hazards and risks by creating a framework for identifying the paths by which humans and the environment may be impacted by chemicals in environmental media at the Site. The CSM for the Site is illustrated in Figure 3. The complete and incomplete exposure pathways at the Site for each identified receptor population are presented in the CSM and are summarized for each receptor population in the subsections below. Note that a risk assessment must be performed to determine if complete exposure pathways exist.

It should be noted that all complete and potentially complete exposure pathways identified in the CSM were previously evaluated by the Hoover Company. However, due to advances in the understanding of the vapor intrusion exposure pathway, this pathway requires further evaluation at the Site. The Order emphasizes the vapor intrusion exposure pathway as the predominant pathway requiring further evaluation at the Site. Because of prior, existing RCRA Corrective Action investigations and resulting evaluations of complete and potentially complete exposure pathways and the focus of the Order, the vapor intrusion exposure pathway listed for the applicable receptors below will be the only exposure scenario for which additional assessment is conducted under the RFI. Nevertheless, all exposure pathways are identified herein.

6.3.1 Identification of Exposure Scenarios for On-Site Industrial Workers

The Site currently consists of a combination of commercial and industrial tenants. Future plans include retaining additional tenants that are commercial or industrial in nature. Based upon historical operations dating back to the late 1800s as well as the current re-configuration to commercial/industrial land use, it is

reasonably anticipated that the Site will continue to operate on the basis of re-configured commercial/industrial land use setting. Therefore, an active On-Site Industrial Worker was identified as a potential receptor population for current and future land use. This worker may be present both indoors and outdoors at the Site. The potentially complete exposure pathways for the On-Site Industrial Worker are summarized below.

Potential Receptor	Media of Interest	Potentially Complete Exposure Pathway
On-Site Commercial/Industrial Workers (adult)	Surface Soil (0 to 2 ft)	Ingestion ² Dermal Contact ¹ Particulate Emissions to Outdoor Air ¹ Volatile Emissions to Outdoor Air ¹
	Total Soil (all depths)	Volatile Emissions to Indoor Air
	Groundwater	Volatile Emissions to Indoor Air Volatile Emissions to Outdoor Air

6.3.2 Identification of Exposure Scenarios for On-Site Residents

Future redevelopment plans for the Site include the construction of ground level commercial establishments followed by residential apartments on upper levels of the building(s). Due to the nature of the redevelopment (i.e., residential apartments on upper levels) it is reasonably anticipated that the future On-Site resident will be restricted from exposure to subsurface soils. Therefore, potentially complete exposure pathways for the future On-Site Resident are summarized below.

Potential Receptor	Media of Interest	Potentially Complete Exposure Pathway
On-Site Resident (adult and child)	Surface Soil (0 to 2 ft)	Ingestion ¹ Dermal Contact ¹ Particulate Emissions to Outdoor Air ¹ Volatile Emissions to Outdoor Air ¹
	Total Soil (all depths)	Volatile Emissions to Indoor Air
	Groundwater	Volatile Emissions to Indoor Air Volatile Emissions to Outdoor Air

6.3.3 Identification of Exposure Scenarios for On-Site Construction/Excavation Workers

Construction/excavation workers may be involved in potential future intrusive activities at the Site (i.e., fence installation, utility work). The potentially complete exposure pathways for the On-Site Construction/Excavation Worker are summarized below.

² Note that Ingestion, dermal contact, and inhalation of volatile and particulate emissions to outdoor air is collectively referred to as the direct contact exposure pathway.

Potential Receptor	Media of Interest	Potentially Complete Exposure Pathway
On-Site Construction/Excavation Worker (adult)	Surface and Subsurface Soils (0 to 10 ft)	Ingestion Dermal Contact Particulate Emissions to Outdoor Air Volatile Emissions to Outdoor Air
	Groundwater	Dermal Contact Incidental Ingestion Volatile Emissions to Outdoor Air

6.3.4 Identification of Exposure Scenarios for Off-Site Residents

A combination of residential and commercial/industrial properties surrounds the Site. Therefore, an Off-Site Resident (adult and child) was identified as a potential off-Site receptor population for current and future land use. The potentially complete exposure pathways for the Off-Site Resident (adult and child) are summarized below.

Potential Receptor	Media of Interest	Potentially Complete Exposure Pathway
Off-Site Resident (adult and child)	Surface Soil (0 to 2 ft)	Particulate Emissions to Outdoor Air Volatile Emissions to Outdoor Air
	Groundwater	Volatile Emissions to Indoor Air Volatile Emissions to Outdoor Air

6.3.5 Identification of Exposure Scenarios for Off-Site Commercial/Industrial Workers

A combination of residential and commercial/industrial properties surrounds the Site. Therefore, an active Off-Site Commercial/Industrial Worker was identified as a potential off-Site receptor population for current and future land use. The evaluation of On-Site Commercial/Industrial Workers is considered protective of Off-Site Commercial/Industrial Workers. The potentially complete exposure pathways for the Off-Site Commercial/Industrial Worker are summarized below.

Potential Receptor	Media of Interest	Potentially Complete Exposure Pathway
Off-Site Commercial/Industrial Workers (adult)	Surface Soil (0 to 2 ft)	Particulate Emissions to Outdoor Air Volatile Emissions to Outdoor Air
	Groundwater	Volatile Emissions to Indoor Air Volatile Emissions to Outdoor Air

6.3.6 Identification of Exposure Scenarios for Off-Site Construction/Excavation Workers

Construction/excavation workers may be involved in potential future intrusive activities at off-Site locations. The potentially complete exposure pathways for the Off-Site Construction/Excavation Worker are summarized below.

Potential Receptor	Media of Interest	Potentially Complete Exposure Pathway
Off-Site Construction/Excavation Worker (adult)	Surface and Subsurface Soils (0 to 10 ft)	Particulate Emissions to Outdoor Air Volatile Emissions to Outdoor Air
	Groundwater	Dermal Contact Incidental Ingestion Volatile Emissions to Outdoor Air

6.3.7 Ecological Receptors

No ecological receptors have been identified at the Site. As indicated herein, the Site consists of buildings constructed to support former operations associated with The Hoover Company as well as paved parking areas. Portions of the Site not currently covered by buildings or pavement primarily consist of maintained open land. The nearest surface water body, Nimishillen Creek, is located hydraulically upgradient approximately 0.6 miles east of the Site. Therefore, no off-Site ecological receptors have been identified for the Site.

7.0 AREAS OF INTEREST, SOLID WASTE MANAGEMENT UNITS, AND AREAS OF CONCERN

Areas of interest (AOIs), SWMUs, and AOCs identified in Appendix B of the Administrative Order on Consent are summarized below. A summary of each SWMU and AOC can also be found in Table 1. A recommendation and justification for no further investigation of a particular AOI, SWMU, or AOC is also presented where appropriate. The data and other information supporting the “no further investigation” recommendation will be summarized in detail in the RFI Work Plan.

The AOIs, SWMUs, or AOCs for which a “no further investigation” recommendation is not made will be addressed as part of the RFI, including the identification of data gaps that require additional information above that already available from the extensive historic investigations.

All SWMUs and AOC are presented on Figure 4. Photographs of the Site are presented in Appendix A. Copies of the reports containing historic data can be found in Appendix L.

7.1 Regulated Unit #1 – Former Drum Storage Area

- Location: North Yard east of Building 30 and southwest of Building 35
- Dates of Operation: 1930s-1980 as storage for raw materials, equipment and wastes; November 1980- July 1989 as a RCRA hazardous waste drum storage area
- Unit Description: This was an approximately 0.5-acre area measuring approximately 190 feet north to south and 110 feet east to west with two concrete pads. It was an outdoor storage area that was open, uncovered, and flat. This area was used to store raw materials, equipment, and wastes from the 1930s until November 1980. In November 1980 this area was classified as a RCRA hazardous waste drum storage area. This RCRA Regulated Unit was used to store waste generated from nickel and zinc plating, plastic compounding, and other manufacturing operations until July 1989.
- Status: Currently this Regulated Unit is closed and no longer used to store materials.
- Current Condition: The concrete pads were removed and 4 inches of gravel with an additional 6 inches of concrete were used to cover the area. The area was covered with asphalt.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.2 SWMU #1 – Site B

- Location: Northeast corner of the North Yard.
- Dates of Operation: 1948-1968
- Unit Description: Dredged wastes from the wastewater treatment ponds were placed in this area.
- Status: Inactive and converted to unpaved parking area in the mid-1970s.

- Current Condition: This area is currently located outside of the Facility boundary and is occupied by a gravel parking lot and baseball fields.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.3 SWMU #2 – Industrial Wastewater Treatment Unit

- Location: North Yard, north of Building 36
- Dates of Operation: 1944 - Unknown
- Unit Description: This unit consists of a 30,000-gallon oil skimmer, a 50,000-gallon aerator, 4 settling ponds, and two dewatering beds.
- Functionality: Formerly was used for treatment of industrial wastewater including wastewater from zinc plating, zinc phosphating, steam degreasing, tumble barrel, parts washing operations, boiler and chilling operations blowdown, and drainage, overflow of the plant's noncontact cooling water system, as well as roof and yard drainage. The ponds also served as a storm water holding lagoons and industrial waste treatment ponds before discharging as regulated by the NPDES outfall.
- Status: Inactive
- Current Condition: Currently 4 settling ponds with 2 dewatering beds present that are only collect stormwater that is discharged to the sanitary sewer as needed.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.4 SWMU #3 – Oil Pits

- Location: Open part of the North Yard, south of Ponds 3 and 4.
- Dates of Operation: 1952 – 1960s
- Unit Description: Several pits roughly 10 feet deep and 25-50 feet in diameter used for disposal of used oil.
- Functionality: Used oil was pumped into the pits from drums.
- Status: Operations ceased in the 1960s
- Current Condition: All pits have been filled in and the area is currently gravel and grassed land.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected in the vicinity of these areas from VP-10 and VP-8 during January, June, and November/December sampling events. Indoor air was collected from AI-8 during the same sampling events.

7.5 SWMU #4 – Pond 5

- Location: West of the wastewater treatment system Pond 4
- Dates of Operation: 1950s-Unknown
- Unit Description: Naturally low lying area to the west of Pond 4 that was utilized as a waste disposal area between 1950 and 1958. Waste materials were removed from the area in the 1970s and transported off-Site. The area was then filled with construction and demolition debris, dirt, limestone, and boiler ash.
- Functionality: Used as a disposal area for various wastes.
- Status: No longer active.
- Current Condition: The pond was filled in and is currently grass covered.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.6 SWMU #5 – Site A

- Location: To the west of Building 36 beyond Orchard Street
- Dates of Operation: 1920-1948
- Unit Description: Oval-shaped disposal area located in the open portion of the North Yard.
- Functionality: Used for disposal of wastes generated during plant operations, including enameling and powerhouse sludges, miscellaneous off-specification products, and dredged sludges from the wastewater treatment ponds. This area covered approximately 0.8 acres.
- Status: Operations ceased in 1948
- Current Condition: Gravel parking lot.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil and groundwater samples were collected from this area in April 2014. Soil vapor was collected from VP-37 during June and November/December 2015 with ambient air being collected from AA-37 during the same sampling event.

7.7 SWMU #6 – Former Refuse Disposal Area

- Location: North Yard south of the wastewater treatment ponds
- Dates of Operation: 1930s-1968
- Unit Description: Large area that lies within the footprint of the existing Building 36.
- Functionality: Used for disposal of waste materials including enameling and powerhouse sludges from the 1930s and is visible from historic documentation until at least the 1960s. Operations ceased in 1968.
- Status: Operations ceased prior to the construction of Building 36 in 1968.

- **Current Condition:** Currently the location of Building 36 and the grassy area to the north of the building.
- **Data:** Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor samples were collected from VP-6, VP-8, and VP-10, during January, June, And November/December 2015, indoor air samples were collected from AI-6, and AI-8 during the same sampling events, and ambient air was collected from AA-1 during the same sampling events. Soil vapor was collected from VP-9 during January 2015 and the soil vapor probe was unable to be sampled during other events due to being wet.

7.8 SWMU #7 – Building 30 Spent Solvent Collection Area

- **Location:** Located indoors on the north end of Building 30
- **Dates of Operation:** 1940s-Unknown
- **Unit Description:** Four square foot area located on the first floor area of Building 30.
- **Functionality:** Used to store drummed liquid waste generated in the Cabinet Shop paint area.
- **Status:** No longer active
- **Current Condition:** This area is currently unoccupied and no longer is in use. The concrete floor in this area is intact.
- **Data:** Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.9 SWMU #8 – Waste and Chemical Storage Area

- **Location:** North Yard inside the north end of Building 35
- **Dates of Operation:** 1968-Unknown
- **Unit Description:** North end of Building 35 where drums and two 3,000-gallon used oil ASTs were used to store hazardous and nonhazardous wastes inside a sealed and painted concrete floor area with berms and walls. The oil tanks were within a concrete containment area and the drains in the floor had been plugged. Additionally, drums of feedstock chemicals were stored on the southern end of the building.
- **Functionality:** This area was used to store drums of spent solvents, aerosol can waste, paint waste, used oil, investigation-derived wastes, nonhazardous spent nick filter papers, and cyanide acid waste from electroplating activities.
- **Status:** No longer active
- **Current Condition:** ASTs are present and no longer in use.
- **Data:** Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.10 SWMU #9 – Former Emulsified Oil Storage Area

- Location: North Yard east of Pond 1
- Dates of Operation: 1950s-early 1980s
- Unit Description: This unit was roughly 100 feet by 100 feet and was located on the ground surface.
- Functionality: The unit was used to store drums of spent oil in the 1980s, approximately 260 drums were transported offsite in the 1980s as hazardous and nonhazardous waste. Following use as a drum storage area the unit was used as a tractor trailer storage area.
- Status: No longer active
- Current Condition: Grassy field.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-34, in the vicinity of this area, during June and November/December 2015. Ambient air was collected from AA-34 during the same sampling events.

7.11 SWMU #10 – Former Waste Cyanide Salts Storage Area

- Location: Located outdoors adjacent to the south side of the North Yard fence, west of the spray pond
- Dates of Operation: 1970-1980
- Unit Description: The unit was approximately 120 by 30 feet and was located on the ground with no containment.
- Functionality: This unit was used to store drums of hazardous spent cyanide acid waste generated from electroplating activities.
- Status: Operations ceased in 1980
- Current Condition: Gravel parking lot and grassy field.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.12 SWMU #11 – Incinerator

- Location: Inside Building 32
- Dates of Operation: 1950-1960
- Unit Description: Incinerator located inside Building 32 with a partial concrete floor.
- Functionality: Used to burn nonhazardous trash generated at the plant.
- Status: Operations ceased in 1960.
- Current Condition: This area is no longer active and is part of an unoccupied building.

- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.13 SWMU #12 – Former Enameling Ponds

- Location: North Yard south of the cooling tower and former spray pond.
- Dates of Operation: 1968-1983
- Unit Description: Three unlined pretreatment lagoons composed the wastewater unit, and were approximately 10 feet deep and approximately 9,500 feet square. The ponds totaled approximately 120,000 gallons.
- Functionality: The ponds were used for pretreatment and to separate wastes that were high in organics and suspended solids from the industrial wastewater treatment unit.
- Status: No longer active
- Current Condition: The northern pond was filled in in the 1970s and the other two ponds were filled in in the early 1980s. This area is part of grassy land.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.14 SWMU #13 – Former Coal Storage Area

- Location: North Yard northeast of Building 30
- Dates of Operation: Between 1934 and 1942- late 1960s
- Unit Description: Two large piles of coal were stored directly on the ground covering approximately a 50,000 square foot area. A large portion of this area is now covered by Building 35.
- Functionality: This unit was used to store coal or use in onsite boilers and to store boiler ash and cinders before sale for offsite uses.
- Status: No longer active
- Current Condition: Large portion currently covered by Building 35 and the remainder of the area is covered by an asphalt drive and gravel area.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-13 during January, June, and November/December 2015; VP-14 during January and June 2015; and VP-32 during June and November/December 2015. Ambient air was collected from AA-3 during January, June, and November/December 2015. Indoor air was collected from AI-32 during June and November/December 2015.

7.15 SWMU #14 – Former Scrap Sorting Shed

- Location: North Yard west of Building 30 within the current footprint of Building 36
- Dates of Operation: 1940s-late 1960s
- Unit Description: Wood floored shed approximately 180 by 20 feet.
- Functionality: Used for storing and sorting scrap metals generated on-Site
- Status: No longer active.
- Current Condition: Current location of Building 36.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-8, in the vicinity of this area during January, June, and November/December 2015. Indoor air was collected from AI-8 during the same sampling events.

7.16 SWMU #15 – Building 30 Former 500-gallon UST

- Location: North Yard east of Building 30 and south of the former perchloroethylene tank
- Dates of Operation: Late 1970s
- Unit Description: A 500-gallon UST was utilized for the storage of kerosene and was later utilized to store used oil generated in the truck maintenance shop.
- Functionality: The tank was originally used to store kerosene for general cleaning purposes, then was used to store used oil in the truck
- Status: Removed in 1986, along with some discolored soils noted during removal.
- Current Condition: Asphalt covered area.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.17 SWMU #16 – Truck Maintenance Shop

- Location: South end of Building 30
- Dates of Operation: 1950s-Unknown
- Unit Description: 5,400 square foot with a pit used for servicing vehicles that was contained with concrete floors, a concrete service pit, and brick walls.
- Functionality: This unit was used for routine maintenance of trucks, and used for storage of used solvents, and used vehicle fluids including oil, antifreeze, and brake fluid.
- Status: No longer active.
- Current Condition: Building 30 is present and currently unoccupied.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016

Order (i.e. vapor intrusion pathway), soil vapor samples were collected from VP-31 during June and November/December 2015. Indoor air samples were collected from AI-31 during the same sampling events.

7.18 SWMU #17 – Plating Waste Accumulation Area

- Location: Northwest corner of Building 37
- Dates of Operation: 1981-1997
- Unit Description: Area was located inside the northwest corner of Building 37 and was 8 square feet. The unit was contained by a concrete containment structure overlain by acid brick floors within concrete building walls.
- Functionality: This unit was used as a satellite accumulation area for nonhazardous zinc plating wastewater treatment sludges. Sludges were stored in plastic-lined corrugated tote boxes.
- Status: Operations ceased in 1997.
- Current Condition: This area is currently leased to tenant and no longer is utilized to accumulate nonhazardous zinc wastes.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor collected from VP-33, located in Building 37, was collected during June and November/December 2015. Indoor air was collected from AI-33 during the same sampling events.

7.19 SWMU #18 – Plating Wastewater Treatment System

- Location: Northwest corner of Building 37 and the far northeast corner of Building 17
- Dates of Operation: 1981-unknown
- Unit Description: Approximately 25 by 50 feet total and consisted of a membrane filtration tank, two pH adjustment tanks, a sludge accumulation tank, and one filter press. Containment was provided by a concrete floor and walls. The part situated within Building 37 was located on an acid brick floor inside a concrete containment area
- Functionality: The unit was used to treat nonhazardous nickel and zinc plating wastewater.
- Status: No longer active.
- Current Condition: This area is currently leased to tenant and no longer is utilized as a plating wastewater treatment area.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor collected from VP-33, located in Building 37, was collected during June and November/December 2015. Indoor air was collected from AI-33 during the same sampling events.

7.20 SWMU #19 – Former Building 18 Waste Drum Storage Area

- Location: Second floor of Building 18
- Dates of Operation: 1960s-mid-1990s
- Unit Description: Located on the second floor of Building 18. Containers were closed, labeled and stored on concrete flooring.
- Functionality: Used as a satellite storage area for drums of liquid waste generated in the enameling department.
- Status: Operations ceased in the mid-1990s
- Current Condition: Unoccupied space.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.21 SWMU #20 – Enameling Sewer System

- Location: Located indoors and outdoors near Building 18 and Building 36 and extending into the North Yard area.
- Dates of Operation: 1962-early 1980s
- Unit Description: Located within Buildings 18 and 36 and the utility tunnels below them. Outdoor location is underground. The main distribution line is roughly 1,000 feet of 6-inch diameter cast iron piping. The in-file filter and paint waste surge/accumulation tank with a sewer system was located in the Building 18 tunnel.
- Functionality: The unit was used to transfer wastewater generated during the preparation of metal parts painting to the former enameling ponds (SWMU #12). No maintenance or monitoring occurred during the operation of the system. Sludges were manually removed from the system as needed and when the system was hindered it would back up into the utility tunnel.
- Status: Operations ceased in the early 1980s.
- Current Condition: No longer utilized.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.22 SWMU #21 – Industrial Wastewater Sewer System

- Location: Located both indoors and outdoors. The location of the system indoors was within the building and the utility tunnels below them. The outdoor locations were underground between the manufacturing buildings and the wastewater treatment ponds and filter beds.
- Dates of Operation: 1944-Unknown
- Unit Description: Main line was 3,400 feet of 15 to 24-inch diameter clay and concrete pipes. The system was fed through multiple floor drains throughout the plant. The system was used to transport industrial wastewater from the process areas to the wastewater treatment ponds. The system would historically treat between 50,000 and 1 million gallons per day.

- **Functionality:** The system would historically collect plant-generated wastewaters, floor drainage, roof drainage, and some storm water runoff. The system would historically collect between 50,000 and 1 million gallons per day.
- **Status:** No longer active.
- **Current Condition:** No longer utilized.
- **Data:** Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-35 and VP-36 during June and November/December 2015. Ambient air was also collected from AA-35 and AA-36 during the same sampling events. During each of these sampling events a sample of indoor air was collected from the tunnel associated with the Industrial Wastewater Sewer. The samples AA-35TNL and AA-36TNL were collected from the areas corresponding to the vapor probes and ambient air samples.

7.23 SWMU #22 – Courtyard

- **Location:** West of Building 17 and 18
- **Dates of Operation:** 1950-Unknown
- **Unit Description:** Irregular shaped area measuring 300 feet north to south and 140 feet east to west.
- **Functionality:** This area was routinely used for storage and transfer of containerized wastes, scrap and general trash, including scrap metal, general trash, spent solvents, paint wastes, plating wastes, and used oil.
- **Status:** No longer utilized.
- **Current Condition:** Concrete parking area.
- **Data:** Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.24 SWMU #23 – Scrap Storage Area

- **Location:** Outdoors, adjacent to the north wall of Building 8
- **Dates of Operation:** 1960s-Unknown
- **Unit Description:** 200 by 300-foot concrete covered area with open bins present.
- **Functionality:** Scrap metal was stored in open bins before being transported to off-Site facilities.
- **Status:** No longer utilized.
- **Current Condition:** Concrete pads and grassy areas present. This area is part of the West Factory Area construction activities.
- **Data:** Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.25 SWMU #24 – Former Scrap Sorting Area

- Location: Outdoors, adjacent to the north of Building 10.
- Dates of Operation: 1950s-1963
- Unit Description: Adjacent to the north side of Building 10
- Functionality: Unit was used for storage and sorting of scrap metals generated at the Site.
- Status: Operations ceased in 1963 and Building 38 was constructed over the area.
- Current Condition: Currently part of a larger renovation plan for the west factory.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.26 SWMU #25 – PCB Waste Storage Area

- Location: Inside Building 10
- Dates of Operation: Late 1980s-Unknown
- Unit Description: Materials are stored in drums on a wooden floor and was roughly 10 square feet.
- Functionality: This unit is used as a satellite accumulation area for items that potentially contained PCBs, primarily fluorescent light ballasts.
- Status: No longer active
- Current Condition: Currently part of the West Factory Area renovation.
- Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-23 within the unoccupied subgrade space below Building 10 in June 2015. Indoor air was collected from AI-23 during the same sampling event.

7.27 SWMU #26 – Building 8 Used Oil Processing Operation

- Location: Indoors in the southwest corner of Building 8 and the northwest corner of Building 15.
- Dates of Operation: Late 1970s-Unknown
- Unit Description: System was comprised of one 8,000-gallon storage tank for hydraulic oil, one 2,000-gallon settling/distillation tank, two in-line filters, and two 5,000-gallon storage tanks for the reprocessed oil.
- Functionality: This unit recycled hydraulic oil in batches.
- Status: No longer active.
- Current Condition: The tanks are no longer present in this area. This area is part of the West Factory Area renovations.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in

Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil borings were installed in this area in November/December 2015.

7.28 SWMU #27 – Former Hydraulic Oil Tank Farm

- Location: Outside on the north side of Building 8
- Dates of Operation: Late 1960s-1970s; Tanks were removed in 1992
- Unit Description: The tank farm contained three 3,000 gallon horizontal tanks and one 8,000 gallon vertical ASTs with a concrete containment area measuring 80 by 13 feet.
- Functionality: This unit was used for storage of used and reprocessed hydraulic oil that was to be used in die casting and injection/compression molding production areas.
- Status: Tanks were removed in 1992.
- Current Condition: The tanks are no longer present and grass occupies the former location. This area is part of the West Factory Area renovations.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil borings were installed in this area in November/December 2015.

7.29 SWMU #28 – Former Wastewater Sludge Pit

- Location: Outdoors about 15 feet west of the southwest corner of Building 3
- Dates of Operation: 1934-1980s
- Unit Description: This unit was a concrete pit measuring roughly 5 by 8 by 4 feet and was accessed via a manhole.
- Functionality: This pit was used to capture solids from the wastewater that was discharged to the storm sewer before construction of the Industrial Wastewater Sewer System. This pit was also used periodically as a neutralization chamber for plating wastewaters before they were discharged into the industrial sewer system.
- Status: Operations ceased in the 1980s.
- Current Condition: This area is currently part of the grassy courtyard to the west of Building 3 and is part of the West Factory Area renovations.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil borings were installed in this area in November/December 2015 and September 2016 soil boring locations and HSB-106, HSB-109, and HSB-115 were installed and utilized to delineate any former impacts from the former wastewater sludge pit. Monitoring well MW-35 was installed downgradient of this area to determine if impacts to the groundwater had occurred.

7.30 SWMU #29 – Dust Collectors

- Location: Located inside Buildings 5, 5B, 9B, 16, and 30
- Dates of Operation: 1940s-Unknown
- Unit Description: One plastic dust collector was observed in Building 5. Two brush lacing dust collectors were located inside a structure on the roof of Building 5B. One dust collection system was located near the Wheelabrator machine in Building 8. Two powder epoxy coating collectors were found in Building 16, one near each of the motor lines. One wood dust collector was located in Building 30.
- Functionality: The collectors were used to capture inert dust particles generated during woodworking, plastic transfer, cutting, sand blasting, sanding, and grinding of parts.
- Status: No longer in use.
- Current Condition: Dust collectors located in buildings 5, 5B and 9B are no longer present and these areas are part of the West Factory Area renovations. The dust collectors located in Building 16 are no longer present. Tenants occupy the first and second floors of Building 16. The dust collector in Building 30 is no longer present and this building is currently unoccupied.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), a soil vapor sample was collected from VP-18 located in Building 5 in June 2015, and an indoor air sample was collected from AI-18 during the same sampling event. Soil vapor samples were collected from VP-25 located in Building 16 and VP-30 in Building 30 during June and November/December 2015, and indoor air samples were collected during the same sampling event at AI-25 and AI-30.

7.31 SWMU #30 – Fume Scrubber

- Location: Inside the north central portion of Building 4
- Dates of Operation: Late 1970s-early 1990s
- Unit Description: An air controlled device that covered an approximately 6 square foot area, and stood on a concrete floor.
- Functionality: This unit was used to briefly control fumes generated during heat transfer, and the scrubber used water to removed fumes from the air, then discharged the water into the Wastewater Sewer System.
- Status: No longer active.
- Current Condition: This area is currently part of the West Factory Area renovations and the fume scrubber is no longer present.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-17 during June 2015 and indoor air was collected from AI-17 during the same sampling event.

7.32 SWMU #31 – Building 18 Cutting Oil Processing Operation

- Location: Southeast corner of Building 18
- Dates of Operation: 1970s-Unknown
- Unit Description: Two 100-gallon steel centrifuges, a small concrete sump measuring 1 foot by 5 feet by 18 inches, one small oil holding tank, one small distillation tank, and a steel storage tank for reprocessed oil.
- Functionality: The system recycled oil removed from metal chips.
- Status: No longer active.
- Current Condition: This area is currently leased to a tenant. The cutting oil processing operation are no longer present.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor samples were collected in Building 18 at VP-27 in the vicinity of this area in June and November/December 2015. In addition, an indoor air sample was collected in this area during the same sampling events at AI-27.

7.33 SWMU #32 – Lab Waste Satellite Accumulation Area

- Location: Located inside the Building 6 materials analytical laboratory
- Dates of Operation: Late 1940s- Unknown
- Unit Description: Three 5-gallon metal containers were located on the floor of the laboratory and were closed and Site labeled.
- Functionality: The metal containers were used to store liquid hazardous waste generated in the analytical laboratory including hazardous laboratory waste solvents and have been noted as having been used for storage of mercury-containing wastes.
- Status: No longer in use.
- Current Condition: This area is currently vacant and is part of the West Factory Area renovations.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor samples were collected from this area in January and June 2015 from VP-1, and indoor air samples were collected from AI-1 during the same sampling events. An indoor air sample, AI-1FLR1 was collected from the first floor of the building in June 2015.

7.34 SWMU #33 – Northwest Building 30 Drum Storage Area

- Location: North Yard, northwest of Building 30
- Dates of Operation: 1950s-Unknown
- Unit Description: A paved area measuring approximately 25 square feet
- Functionality: Used to store stacked drums.

- Status: No longer in use.
- Current Condition: This area is covered by gravel and grass.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-11 in this area during January, June, and November/December 2015. Ambient air was collected from AA-2 during the same sampling events.

7.35 SWMU #34 – Enameling Pond Drum Storage Area

- Location: North Yard, southeast of the incinerator and west of the former enameling ponds.
- Dates of Operation: 1960s-late 1970s
- Unit Description: Approximately 100 square feet
- Functionality: Used for storage of drums, containers other than drums, and some materials were stored directly on the ground.
- Status: Operations ceased in the late 1970s.
- Current Condition: This area is currently part of a gravel parking area and grassy field.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.36 SWMU #35 – West Building 30 Drum Storage Area

- Location: North Yard, west of Building 30
- Dates of Operation: mid-1970s
- Unit Description: Area was approximately 150 by 40 feet.
- Functionality: Used for the storage of drums and other materials of unknown nature.
- Status: No longer in use.
- Current Condition: Asphalt covered drive.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.37 AOC #1 – Equipment Storage Area

- Location: North Yard east of Building 35
- Dates of Operation: 1970s-Unknown
- Unit Description: Approximately a 20 by 120 feet area.
- Functionality: This area is used to store equipment that is reused during construction, repair, and maintenance activities, equipment in this area is stored directly on the ground.

- Status: No longer in use.
- Current Condition: This area is currently part of a gravel access drive and grassy field.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.38 AOC #2 – Building 30 Outdoor Storage Area

- Location: Outside, east of Building 30, north of the RCRA Drum Storage Area
- Dates of Operation: 1950s-1970s
- Unit Description: Approximately 3,600 square feet of unpaved area
- Functionality: This area was used to stored miscellaneous materials including containers and other materials.
- Status: No longer active.
- Current Condition: This area is currently part of gravel and grass covered portions of the North Yard.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.39 AOC #3 – Building 30 Chemical Storage Area

- Location: Subgrade space below Building 30
- Dates of Operation: 1940s-Unknown
- Unit Description: Subgrade space with concrete floor
- Functionality: Used to store 55-gallon drums of liquid chemicals, spare parts, motors, paints, and oils.
- Status: No longer active.
- Current Condition: This building is currently vacant.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-30 and VP-31 located in Building 30 during June and November/December 2015. Indoor air samples were collected from AI-30 and AI-31 during the same sampling event.

7.40 AOC #4 – Underground Gasoline Tank Area

- Location: North Yard south of Building 30
- Dates of Operation: 1940s-Unknown
- Unit Description: Four historical USTs were located in this area

- Dates of Operation: 1967-2007
- Functionality: Three former USTs were located in the area all approximately 1,000 or 1,100 gallons, and were removed in 1987. An additional UST was installed in 1989 and use of the UST ceased in 2007.
- Status: No longer active.
- Current Condition: These USTs have been closed out through BUSTR through an NFA. The area has a use restriction for commercial/industrial land use in the vicinity of the former USTs.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.41 AOC #5 – Building 18 and 30 Paint Booths

- Location: Located on the second floor of Building 18 and the first floor of Building 30 in the maintenance department
- Dates of Operation: 1960s-1980s
- Unit Description: Two automatic and three or four hand spray paint booths were located in Building 18 and one paint booth in Building 30.
- Functionality: The paint booths in Building 18 were used to apply paint to metal, and the paint booth in Building 30 was used by the maintenance department for nonproduction related use
- Status: No longer in use.
- Current Condition: The second floor of Building 18 is currently vacant and Building 30 is currently vacant and unoccupied.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.42 AOC #6 – Former PCB Transformers

- Location: Located in 10 locations inside plant production areas
- Dates of Operation: Unknown
- Unit Description: Ten transformers were located throughout the plant
- Functionality: Used to run various electrical equipment.
- Status: One was removed, one was found to be contaminated with PCBs, and eight were found to be non-PCB containing.
- Current Condition: Unknown
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. No further assessment is required for this SWMU.

7.43 AOC #7 – Former Aluminum Casting Foundry

- Location: Located within Buildings 8 and 15
- Dates of Operation: 1924-1993
- Unit Description: Approximately a 40,000 square foot area with more than 30 aluminum die casting machines.
- Functionality: Used to create aluminum castings.
- Status: Operations ceased in 1993.
- Current Condition: This area is currently unoccupied and is part of the West Factory Area renovations.
- Data: Data collected in regards to this area can be found in the Final Corrective Measures in Appendix L; complete and potentially complete exposure pathways were assessed as part historical RFI activities. In order to further evaluate the primary objective of the May 24, 2016 Order (i.e. vapor intrusion pathway), soil vapor was collected from VP-4 located in the utility tunnel system below Building 15 during January 2015. Indoor air was collected from AI-4 during January and June 2015.

8.0 OTHER AREAS OF THE SITE TO BE INVESTIGATED IN THE RFI

In addition to the AOlS, AOC,s and SWMUs for which additional investigation is needed, Maple Street plans to conduct further investigation to address: (1) data gaps existing with respect to certain areas of the Site, and (2) the type or specific boundaries of certain institutional controls, some of which were proposed by Hoover (and included in a prior Statement of Basis issued for public comment in 2004), but never finally approved by USEPA or implemented by Hoover. Accordingly, Maple Street will conduct additional investigation of certain areas as part of the RFI to delineate the nature and extent of impacts at the Site from historic operations

The additional areas of the Site that will be assessed as part of the RFI are as follows:

1. Wastewater Treatment Ponds 1-5/sludge pits/storm sewer pathway
2. Dogwood Baseball Fields
3. Game Patron Lot
4. North Yard area, including the Regulated Unit, former spray pond, waste water treatment pond, and dewatering pond
5. Building 18
6. West Factory Area

As noted in Section 1.3 above, Hull completed additional sampling in March 2017 during which some of the above listed areas were investigated (See attached Figures showing sample locations for Winter 2017 sampling event). The laboratory results from the Winter 2017 sampling event are attached in Appendix L. A more detailed analysis of the results and the need for further investigation will be addressed in the RFI.

9.0 REFERENCES

- Bouder, Richard. Ohio Environmental Protection Agency, Central Office. Written Correspondence. August 2016.
- Caldwell, Nancy. Bureau of Underground Storage Tank Regulations. Written Correspondence. April 2014 and August 2016.
- CH2M Hill, Annual Summary Report: 2006 Monitored Natural Attenuation, February 2007.
- CH2M Hill, Final Corrective Action Measures Proposal for the Hoover Company, August 2003.
- CH2M Hill, Hoover Perimeter Investigation Chain of Custody Data Package, February 2000.
- CH2M Hill, Material and Waste Management Areas Inventory Amendment, July 2002
- CH2M Hill, Perimeter Investigation Report, May 2000
- CH2M Hill, Perimeter Investigation Report Data Packages (Volume 1 of 2)/ Groundwater Data from Soil Borings and Monitoring Wells Summary, June 2000
- CH2M Hill, Perimeter Investigation Report Data Packages (Volume 2 of 2), June 2000
- CH2M Hill, Risk Assessment Data Package/ North Yard, December 2001.
- CH2M Hill, Risk- Site-Specific Risk Factors for Developing Tier 1 Risk-Based Screening Levels, July 1999.
- CHM2 HILL, Signed Original of the Voluntary Corrective Action Agreement between the USEPA and the Hoover Company, October 1999.
- CH2M Hill, Soil Excavation Investigation Data Packages, September 2002
- Earth Tech, Inc., Draft Phase I Environmental Site Assessment, May 2006
- Environmental Data Resources. Aerial Photographs, 1950, 1958, 1962, 1966, 1972, 1975, 1980, 1985, 1992, 1997, 2000, 2006, and 2012.
- Environmental Data Resources, Environmental Database Report, September 2, 2016.
- Environmental Data Resources, Historical Topographic Maps, 1903, 1958, 1967, 1978, 1984, and 1994.
- Environmental Data Resources, Sanborn Fire Insurance Maps, 1914, 1948, 1950, and 1952.
- Federal Emergency Management Agency. Flood Insurance Rate Map, Stark County, Ohio. September 29, 2011.
- Mountain Sky Group, LLC, Phase I Environmental Assessment Report, September 5, 2007
- North Canton Fire Department, Written Correspondence. April 2014 and August 2016.
- Ohio EPA, Authorization to Discharge Under the National Pollutant Discharge Elimination System- The Hoover Company-Plant 1, July, 2006.

Ohio Department of Natural Resources, Division of Geological Survey. Physiographic Regions of Ohio. 1997.

Ohio Department of Natural Resources, Division of Water. Groundwater Resources of Stark County. Walker, Alfred. 1988.

Ohio Department of Natural Resources, Division of Oil & Gas. Well Log and Drilling Reports. September 2016.

Ohio Department of Natural Resources. Water Well Log and Drilling Reports. September 2016.

Patella, Nicole. Ohio EPA Northeast District Office. Written Correspondence. April 2014 and August 2016.

Stark County Auditor's Office, property cards. March 2014.

Stark County Auditor's Office. Property deed. March 2014.

Stark County Health Department. Written Correspondence. April 2014 and August 2016.

Stark County Local Emergency Planning Committee. Written Correspondence. April 2014 and August 2016.

The Hoover Company, The Hoover Company VECAP Community Liaison Panel Meeting Minutes November 16, 1999 -August 27, 2002

United States Environmental Protection Agency-Region 5, Statement of Basis for Corrective Measures Approval at the Hoover Company-OHD 004 462 131, October 2004.

United States Environmental Protection Agency-Office of Solid Waste, Final Remedy Selection for Results-Based RCRA Corrective Action, Fact Sheet #3, March 2000.

TABLES

TABLE 1
LIST OF RUs, SWMUs, and AOCs

DRAFT. FOR DISCUSSION PURPOSES ONLY.
PREPARED AT THE REQUEST OF LEGAL COUNSEL.
PRIVILEGED AND CONFIDENTIAL.

Area Name	Unit Designation	Area ID. No.	Type of Use: How was/is area used? (e.g., storage, loading, treatment, sewer)
Former Drum Storage Area	RU	R1	Drum storage area
Site B	SWMU	S1	Land disposal
Industrial Wastewater Treatment Unit	SWMU	S2	Wastewater treatment unit
Oil Pits	SWMU	S3	Land disposal
Pond 5	SWMU	S4	Land disposal
Site A	SWMU	S5	Land disposal
Former Refuse Disposal Area	SWMU	S6	Land disposal
Bldg. 30 Spent Solvent Collection Area	SWMU	S7	Satellite waste accumulation area
Waste And Chemical Storage Area	SWMU	S8	Drum and tank storage area
Former Emulsified Oil Storage Area	SWMU	S9	Drum storage area
Former Waste Cyanide Salts Storage Area	SWMU	S10	Drum storage area
Incinerator	SWMU	S11	Incineration and storage of paper/wood waste
Former Enameling Ponds	SWMU	S12	Wastewater treatment unit
Former Coal Storage Area	SWMU	S13	Material storage area
Former Scrap Sorting Shed	SWMU	S14	Scrap metal accumulation
Bldg. 30 Former 500-gallon UST	SWMU	S15	UST
Truck Maintenance Shop	SWMU	S16	Vehicle Maintenance Facility
Plating Waste Accumulation Area	SWMU	S17	Satellite accumulation area
Plating Wastewater Treatment System	SWMU	S18	Wastewater treatment unit
Former Bldg. 18 Waste Drum Storage Area	SWMU	S19	Drum storage area
Enameling Sewer System	SWMU	S20	Sewer system
Industrial Wastewater Sewer System	SWMU	S21	Sewer system
Courtyard	SWMU	S22	Storage and transfer point for scrap and Waste
Scrap Storage Area	SWMU	S23	Scrap metal accumulation
Former Scrap Sorting Area	SWMU	S24	Scrap metal accumulation
PCB Waste Storage Area	SWMU	S25	Drum storage
Bldg. 8 Used Oil Processing Operation	SWMU	S26	Recycling unit for used oil
Former Hydraulic Oil Tank Farm	SWMU	S27	Aboveground storage tanks
Former Wastewater Sludge Pit	SWMU	S28	Wastewater treatment unit
Dust Collectors	SWMU	S29	Air treatment unit
Fume Scrubber	SWMU	S30	Air treatment unit
Bldg. 18 Cutting Oil Processing Area	SWMU	S31	Recycling unit for used oil
Lab Waste Satellite Accumulation Area	SWMU	S32	Hazardous waste satellite accumulation area
Northwest Bldg. 30 Drum Storage Area	SWMU	S33	Drum storage area
Enameling Pond Drum Storage Area	SWMU	S34	Drum storage area
West Bldg. 30 Drum Storage Area	SWMU	S35	Drum storage area
Equipment Storage Area	AOC	A1	Equipment storage area
Bldg. 30 Outdoor Storage Area	AOC	A2	Materials storage area

TABLE 1
LIST OF RUs, SWMUs, and AOCs

DRAFT. FOR DISCUSSION PURPOSES ONLY.
PREPARED AT THE REQUEST OF LEGAL COUNSEL.
PRIVILEGED AND CONFIDENTIAL.

Area Name	Unit Designation	Area ID. No.	Type of Use: How was/is area used? (e.g., storage, loading, treatment, sewer)
Bldg. 30 Chemical Storage Area	AOC	A3	Drum storage area
Underground Gasoline Tank Area	AOC	A4	UST
Bldgs. 18 and 30 Paint Booths	AOC	A5	Process units
Former PCB Transformers	AOC	A6	Electrical equipment
Former Aluminum Casting Foundry	AOC	A7	Production area

Notes:

RU = Regulated Unit

SWMU = Solid Waste Management Unit

AOC = Area of Concern

FIGURES



Hull & Associates, Inc. (Hull) has furnished this data to the company identified in the title block (Client) for its sole and exclusive use as a preliminary planning and screening tool and field verification is necessary to confirm these data. This map is reproduced from geospatial information compiled from third-party sources which may change over time. Areas depicted by the map are approximate and may not be accurate to mapping, surveying or engineering standards. Hull makes no representation or guarantee as to the content, accuracy, timeliness or completeness of any information or spatial location depicted on this map. This map is provided without warranty of any kind, including but not limited to, the implied warranties of merchantability or fitness for a particular purpose. In no event will Hull, its owners, officers, employees or agents, be liable for damages of any kind arising out of the use of this map by Client or any other party.



Source: The topographic maps were acquired through the USGS Topographic Map Web Service.

he aerial photograph in the inset was acquired through the ERI image web service. Aerial photography dated 2011.



4 Hemisphere Way
Bedford, Ohio 4414

Phone (440) 232-9
: (440) 232-9946
www.hullinc.com

Former Hoover Facility Current Conditions Report

Property Location Map

101 E. Maple Street
North Canton, Stark County, Ohio

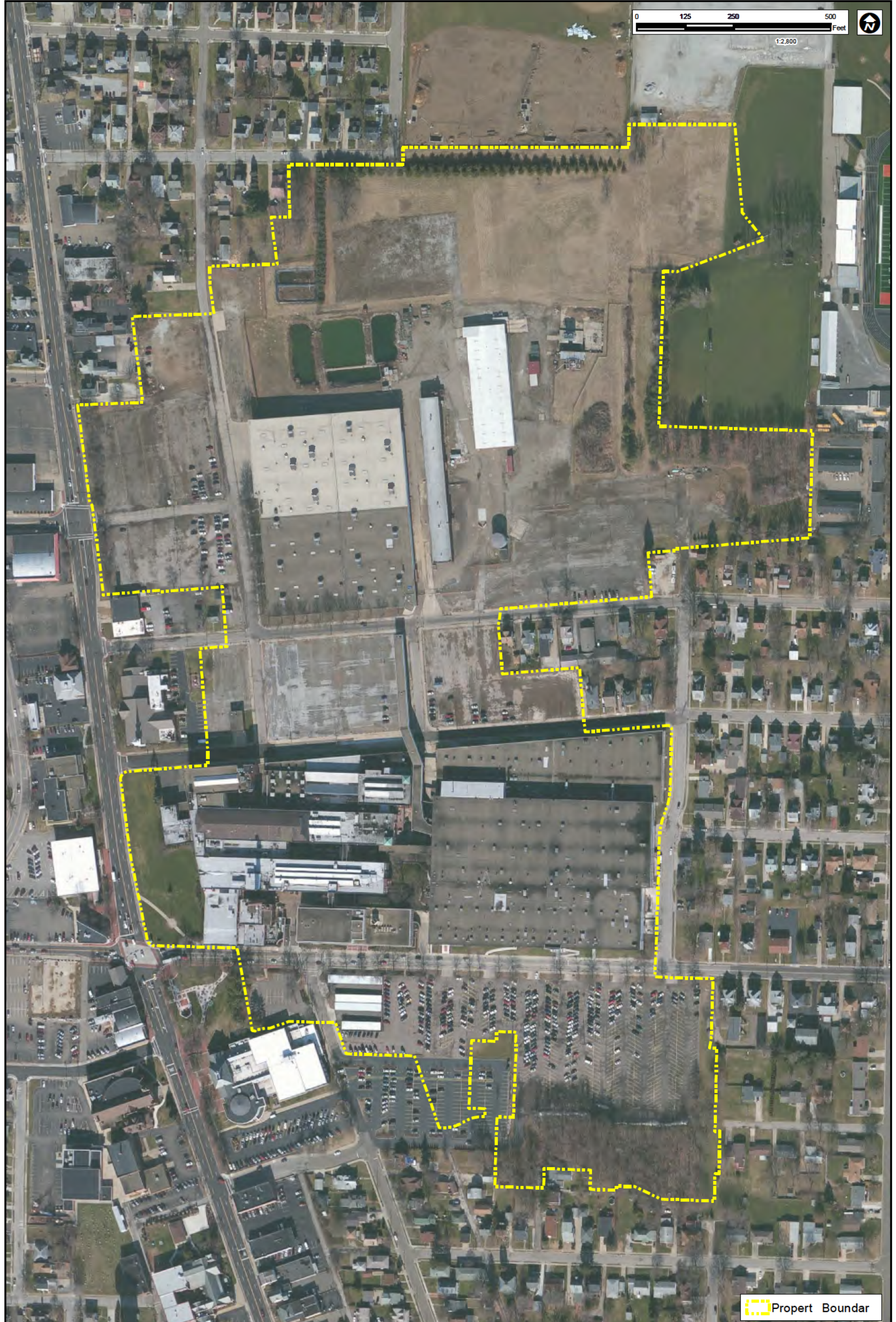
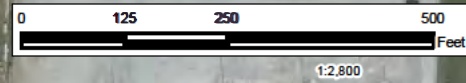
Dati:


Ma 2017

File Name:
MPL001_05_Fig01_SLM.mxd
Edited: 9/1/2016 By: mopol

igaur

1



 Property Boundary



Hemisphere Way
Bedford Ohio 44146
Phone (440) 232-9945
Fax (440) 232-9946
www.hullinc.com

DISCLAIMER
Hull Associates Inc. (Hull) has furnished this map to the client to be used in connection with the client's project. Hull does not warrant the accuracy or completeness of the information or spatial location depicted on this map. Hull provides this map as a service to the client and does not assume any liability for damage or injury arising out of the use of this map by the client or any other party.

May 2017

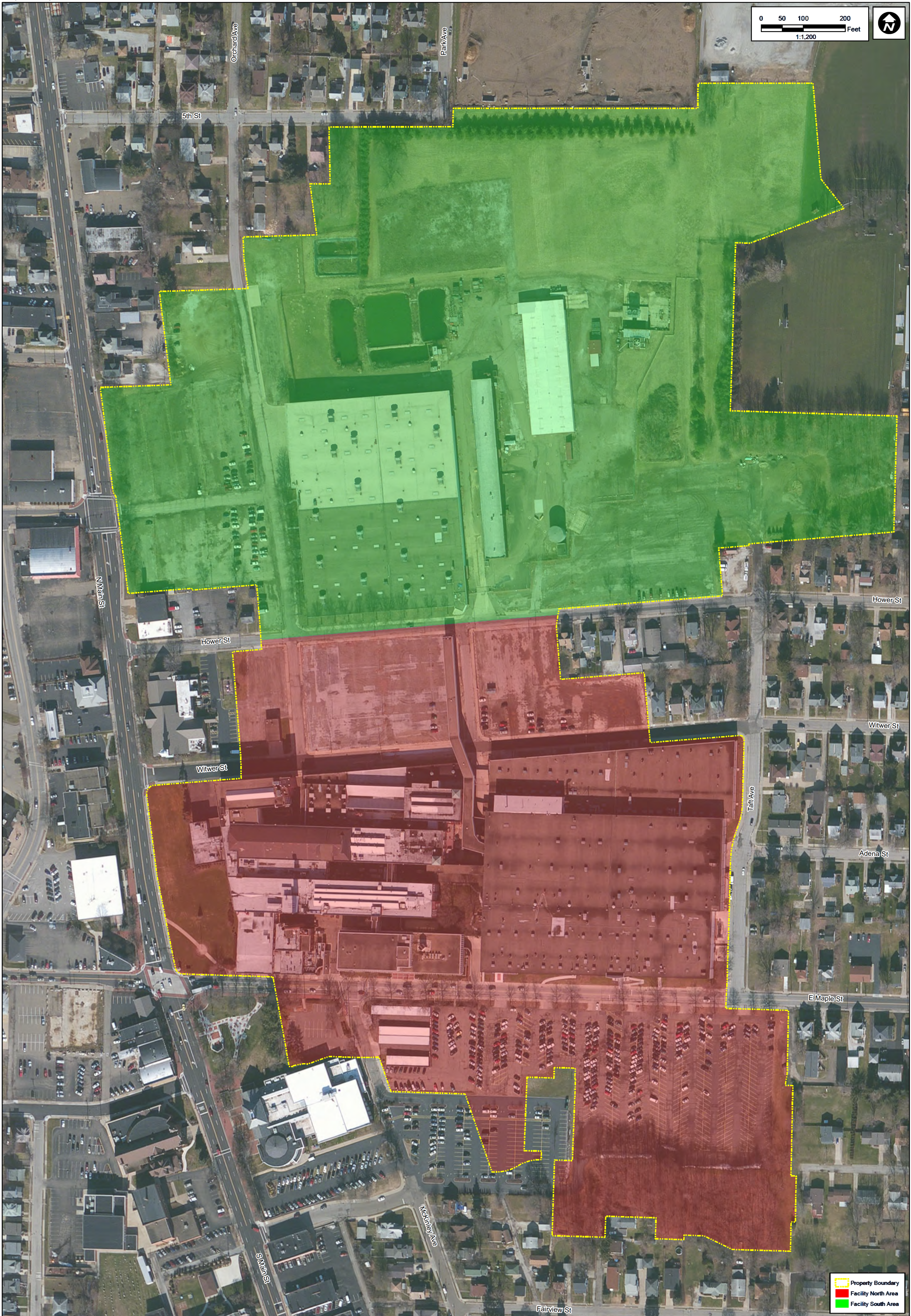
Former Hoover Facility
Current Conditions Report

Property Layout Map

101 E. Maple Street
North Canton, Stark County, Ohio

Figure

2



4 Hemisphere Way
Bedford, Ohio 44146

Phone: (440) 232-9945
Fax: (440) 232-9946
www.hullinc.com

DISCLAIMER
Hull & Associates, Inc. (Hull) has furnished this map to the company identified in the title block (Client) for its sole and exclusive use as a preliminary planning and screening tool and field verification is necessary to confirm these data. This map is reproduced from geospatial information compiled from third-party sources which may change over time. Areas depicted by the map are approximate and may not be accurate to mapping, surveying or engineering standards. Hull makes no representation or guarantee as to the content, accuracy, timeliness or completeness of any information or spatial location depicted on this map. This map is provided without warranty of any kind, including but not limited to, the implied warranties of merchantability or fitness for a particular purpose. In no event will Hull, its directors, officers, employees or agents, be liable for damages of any kind arising out of the use of this map by Client or any other party.

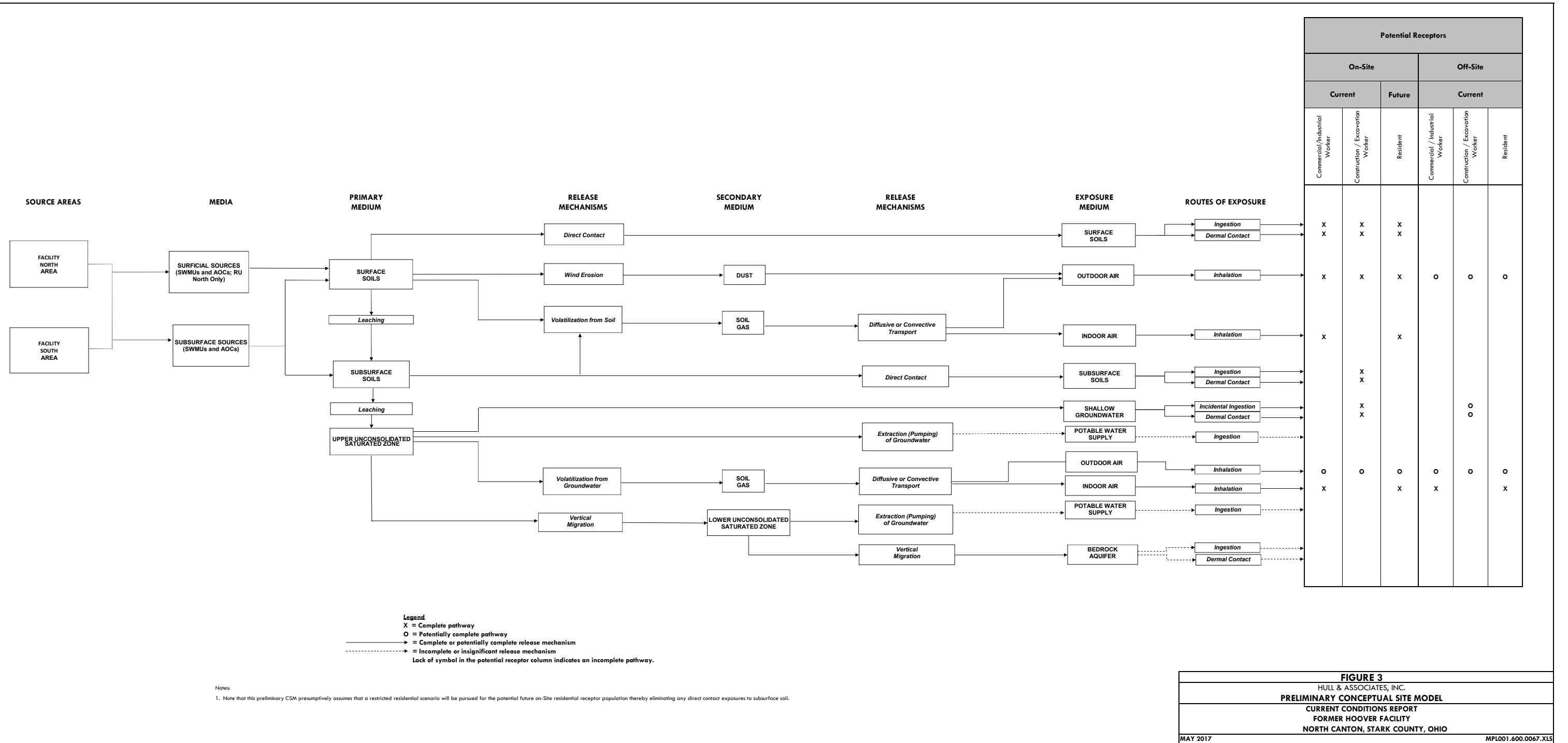
May 2017
Former Hoover Facility

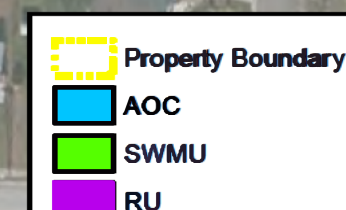
Site Map with Facility Areas

101 E. Maple Street
North Canton, Stark County, Ohio

Figure

2A





Phon : (44) 232-9945
Fa (44) 232-9946
www.hullinc.com

Ma 201
Form r Hoov r Facili y
Curre t Conditio s Report

**Site Map with
SWMUs and AOCs**
101 E. Maple Street
North Canton, Stark County, Ohio

4

APPENDIX A

Current Site Photos



PHOTO 1: Northern portion of the West Factory Area, facing south.



PHOTO 2: View of northern portions of the West Factory Area and the active industrial buildings.



4 Hemisphere Way
Bedford, Ohio 44146
© 2016, Hull & Associates, Inc. www.hullinc.com

Phone: (440) 232-9945
Fax: (440) 232-9946

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS



PHOTO 3: Northern portion of the currently occupied industrial buildings.



PHOTO 4: North extent of building in central portion of site.



4 Hemisphere Way
Bedford, Ohio 44146
© 2016, Hull & Associates, Inc. www.hullinc.com

Phone: (440) 232-9945
Fax: (440) 232-9946

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001 600.0068.XLS



PHOTO 5: Western extent of the North Yard, facing north.



PHOTO 6: Grassy field located in the North Yard.



4 Hemisphere Way
Bedford, Ohio 44146
© 2016, Hull & Associates, Inc. www.hullinc.com

Phone: (440) 232-9945
Fax: (440) 232-9946

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS



PHOTO 7: Eastern side of building in the North Yard, facing south with the former remediation trailer present.



PHOTO 8: Basement of building located in the North Yard.



4 Hemisphere Way Phone: (440) 232-9945
Bedford, Ohio 44146 Fax: (440) 232-9946
© 2016, Hull & Associates, Inc. www.hullinc.com

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS



PHOTO 9: Northern end of the building located in the North Yard, with the former dust collectors present.



PHOTO 10: Pond located in the North Yard.



4 Hemisphere Way Phone: (440) 232-9945
Bedford, Ohio 44146 Fax: (440) 232-9946
© 2016, Hull & Associates, Inc. www.hullinc.com

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS



PHOTO 11: Small utility shed located at the southeastern corner of the ponds. Empty drums present to the west of the utility building.



PHOTO 12: Empty waste oil AST located adjacent to the utility shed near the ponds in the North Yard.



4 Hemisphere Way Phone: (440) 232-9945
Bedford, Ohio 44146 Fax: (440) 232-9946
© 2016, Hull & Associates, Inc. www.hullinc.com

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS



PHOTO 13: Storage yard located to the east of the ponds in the North Yard.



PHOTO 14: Storage building located in the North Yard.



4 Hemisphere Way Phone: (440) 232-9945
Bedford, Ohio 44146 Fax: (440) 232-9946
© 2016, Hull & Associates, Inc. www.hullinc.com

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS



PHOTO 15: Water tank located in the southern portion of the North Yard.



PHOTO 16: Parking area located to the west of Orchard Avenue.



4 Hemisphere Way Phone: (440) 232-9945
Bedford, Ohio 44146 Fax: (440) 232-9946
© 2016, Hull & Associates, Inc. www.hullinc.com

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS



PHOTO 17: Parking area located to the west of Orchard Avenue, west of the North Yard.



4 Hemisphere Way
Bedford, Ohio 44146
© 2016, Hull & Associates, Inc. www.hullinc.com

Phone: (440) 232-9945
Fax: (440) 232-9946

Former Hoover Facility
Current Conditions Report

Site Photographs

1010 E. Maple Street
North Canton, Stark County, Ohio

Date:

September 6, 2016

Project Number: MPL001

File Name:

MPL001.600.0068.XLS