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Third Five-Year Review Report
for the
Lower Ecorse Creek Dump Superfund Site
Wyandotte, Wayne County, Michigan



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Date

Cover photo: A portion of the Lower Ecorse Creek Dump site is in a public park. (Photo by William Ryan, August 19, 2015.)

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LIST OF ACRONYMS

ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
EPA	United States Environmental Protection Agency
FS	Feasibility Study
FYR	Five-Year Review
ICs	Institutional Controls
LEC	Lower Ecorse Creek Dump Site
MDEQ	Michigan Department of Environmental Quality
NCP	National Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operational Unit
RAO	Remedial Action Objectives
RC	Restrictive Covenant
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SSC	State Superfund Contract
UAO	Unilateral Administrative Order
UU/UE	Unlimited Use/Unrestricted Exposure
WCHD	Wayne County Health Department

EXECUTIVE SUMMARY

The United States Environmental Protection Agency has completed the third Five-Year Review (FYR) at the Lower Ecorse Creek Dump Superfund Site (LEC Site) in the City of Wyandotte, Wayne County, Michigan (City). The purpose of this FYR is to determine whether the remedy is, and will continue to be, protective of human health and the environment. The triggering action for this statutory FYR was the signing of the previous FYR Report on March 21, 2011.

The LEC Site is located along the Ecorse River in a 6-block residential area of Wyandotte. In 1989, a resident digging on his property discovered an area of blue-stained soil; EPA later determined the staining was caused by ferric ferrocyanide, which was suspected to be from a former manufactured gas plant. After temporarily covering the blue soil with a clean soil layer in 1989, EPA completed a time-critical removal action from 1993 to 1994 during which it excavated and disposed of the contaminated soil and repaired the foundations of a few homes because they were being damaged by the corrosive nature of the contaminant. EPA placed the LEC Site on the National Priorities List (NPL) in May 1994.

EPA completed a remedial investigation (RI) and feasibility study (FS) in 1995 and issued a Record of Decision (ROD) in 1996 to select a site-wide cleanup remedy. The 1996 ROD called for further sampling of locations identified in the RI Report as having contaminant levels above cleanup standards to determine the extent of contamination and for the excavation and off-site disposal of contaminated soil with restoration of areas impacted by excavation. The 1996 ROD indicated that no FYRs would be necessary at the LEC Site because no hazardous substances above levels safe for unlimited use and unrestricted exposure (UU/UE) would be left on-site.

In 2000, during a soil cleanup action in a city park (Park), a 6-foot layer of household trash was discovered 3-4 feet below the ground surface. Although it was not the cyanide-contaminated soil found elsewhere, the debris did have lead and arsenic levels slightly above Michigan cleanup standards. Because the debris was only found under Park land, EPA issued a ROD Amendment in 2001 to require the placement of institutional controls (ICs) on the property to permanently restrict land and groundwater use in the Park, environmental monitoring, and maintenance of the existing soil cover. Pursuant to a Unilateral Administrative Order (UAO) issued by EPA in February 2002, Wyandotte recorded a restrictive covenant (RC) with the Wayne County Register of Deeds in April 2002 that restricted uses of the Park to those compatible with the selected remedy. By June 2003, the LEC Site had been cleaned up in accordance with the 1996 ROD and 2001 ROD Amendment, leading EPA to delete the LEC Site from the NPL in July 2005.

This FYR Report focuses solely on the Park because it is the only portion of the LEC Site where hazardous substances remain above levels that preclude UU/UE. Upon review, EPA finds that the remedy is protective of human health and environment because all remedial actions are complete and functioning as intended by the decision documents. The City has implemented all measures required by the UAO and the ICs are in place and effective. The soil cover remains in place and prevents exposure to any hazardous substances, pollutants, or contaminants beneath it.

Because hazardous substances remain above levels that preclude UU/UE, EPA will conduct the next FYR at the LEC Site within five years of the completion date of this report.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Lower Ecorse Creek Dump Site		
EPA ID: MID985574227		
Region: 5	State: Michigan	City/County: Wyandotte, Wayne County
SITE STATUS		
NPL Status: Deleted		
Multiple OUs? No	Has the site achieved construction completion? Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): William J. Ryan		
Author affiliation: EPA Region 5		
Review period: 3/4/2015 – 12/1/2015		
Date of site inspection: 8/19/2015		
Type of review: Statutory		
Review number: 3		
Triggering action date: March 21, 2011		
Due date (five years after triggering action date): March 21, 2016		
Issues/Recommendations		
OU(s) without Issues/Recommendations Identified during the FYR:		
EPA identified no issues during the FYR for the Lower Ecorse Creek Dump site.		

OU1 and Site-wide Protectiveness Statement

Protectiveness Determination: Protective

Protectiveness Statement:

The remedy is protective of human health and environment because all remedial actions are complete and functioning as intended by the decision documents. The city has implemented all measures required by the UAO and the ICs are in place and effective. The soil cover remains in place and prevents exposure to any hazardous substances, pollutants, or contaminants beneath it.

I. INTRODUCTION

The purpose of an FYR is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

EPA prepares FYR reports pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121 and the National Contingency Plan (NCP). CERCLA §121 states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.

EPA interpreted this requirement further in the NCP at 40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii), which states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such actions no less often than every five years after the initiation of the selected remedial action.

EPA conducted a FYR of the remedy implemented at the LEC site in Wyandotte, Wayne County, Michigan. EPA is the lead agency for developing and implementing the remedy for the LEC site. The Michigan Department of Environmental Quality (MDEQ), as the support agency representing the state of Michigan, has reviewed supporting documentation and provided input to EPA during the FYR process.

This is the third FYR for the LEC site. The triggering action for this statutory review is the completion date of the previous FYR and is required because hazardous substances, pollutants, or contaminants remain at the site above levels that allow for UU/UE. The LEC site consists of one operable unit (OU), all of which is addressed in this FYR Report.

II. PROGRESS SINCE THE LAST REVIEW

Table 1: Protectiveness Determinations/Statements from the 2011 FYR Report

OU #	Protectiveness Determination	Protectiveness Statement
OU1/Site-wide	Protective	<p>The remedy is protective of human health and the environment because all remedial actions are functioning as intended by the decision documents and no evidence of exposure is occurring. The restrictive covenants, as detailed in the 2001 ROD Amendment are in place and effective. The City of Wyandotte implemented in 2002 the restrictive covenants as described in the Unilateral Administrative Order (UAO). The cover on the park area remains in place and prevents exposure to underlying contamination.</p> <p>EPA has determined that the site conditions continue to meet the goals of the 1996 ROD and the IC continues to meet the objectives set forth in the 2001 ROD Amendment and the UAO. Based upon this review, including a review of the IC instrument and interview with the City engineer, EPA determined that the ICs are adequately implemented, monitored and enforced. As a result of this Five Year Review, the Institutional Controls Tracking System will be updated.</p>

EPA identified no issues, recommendations or follow-up actions for the LEC site in the 2011 FYR Report.

Institutional Controls

The 2001 ROD Amendment required that ICs be placed on the park property to protect the remedy and ensure no disturbance of the soil or use of groundwater. ICs are legal instruments or administrative controls that are attached to properties to protect constructed remedies and control future site uses. ICs are usually required when the implementation of the remedy does not allow for UU/UE. In February 2002, EPA issued a UAO to the city of Wyandotte, directing the city to implement the remedial action described in the 2001 ROD Amendment, including the recording of ICs on the park property.

Pursuant to the UAO, Wyandotte recorded a RC with the Wayne County Register of Deeds on April 15, 2002 (see Appendix B). A map showing the area in which the ICs apply is also included in Appendix B. The RC provides for the following:

- The Owner (city of Wyandotte) shall restrict activities at the Property (Park Area) that may interfere with a remedial action, operation and maintenance, monitoring, or other measures necessary to ensure the effectiveness and integrity of the remedial action.
- The Owner shall not allow extraction of any groundwater for domestic or industrial use through a well or any other device located within the Property.

- The Owner shall at all times ensure isolation of the water layer by continuously implementing the operation and maintenance requirements set forth in paragraph 31 of the UAO and Appendix A of the RC.
- The Owner shall provide notice to EPA and MDEQ of the Owner's intent to convey any interest in the Property 30 days prior to consummating the conveyance. A conveyance of title, an easement, or other interest in the Property shall not be consummated by the Property owner without adequate and complete provision for compliance with the terms and conditions of this Covenant.
- The Owner shall grant EPA and MDEQ and each Agency's designated representative the right to enter the Property at reasonable times for the purpose of monitoring compliance with the ROD and UAO, including the right to take samples, inspect the operation of the remedial action measures and inspect records.

The RC further provides that it runs with the Property and is binding upon all future owners, successors, lessees or assigns and their authorized agents, employees, or persons under their direction and control, and will continue until EPA or its successor approves modifications or rescission of the RC. A copy of the RC will be provided to all future owners, heirs, successors, lessees, assigns and transferees by the person transferring the interest.

Table 2: Summary of Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soil/groundwater	Yes	Yes	City Park	Restrict disturbance of the soil cover and groundwater use	Restrictive Covenant recorded with the Wayne County Register of Deeds on April 15, 2002 (see Appendix B)

Current Compliance: Based on inspections and discussions with the City Engineer, EPA is not aware of Site or media uses which are inconsistent with the stated objectives to be achieved by the ICs. The remedy appears to be functioning as intended. No Site uses which are inconsistent with the implemented ICs or remedy IC objectives have been noted during the Site inspection.

Long-Term Stewardship: Since compliance with ICs is necessary to sustain the protectiveness of the remedy, planning for long-term stewardship is required to ensure that the ICs are maintained, monitored and enforced so that the remedy continues to function as intended. Long-term stewardship involves assuring effective procedures are in place to properly maintain and monitor the Site. EPA will use the FYR process at the LEC site to ensure that effective ICs are maintained and monitored and the remedy continues to function as intended by the decision

documents. FYRs include regular inspections, review of the ICs, and certification that ICs remain in-place and effective.

III. FIVE-YEAR REVIEW PROCESS

Administrative Components

EPA notified MDEQ of the start of the FYR on March 4, 2015. William Ryan, Remedial Project Manager (RPM) for the LEC site led the FYR and Heriberto León, Community Involvement Coordinator (CIC) assisted. MDEQ declined EPA's invitation to participate in this FYR, but was kept apprised of substantive milestones in the FYR process.

EPA's review comprised the following components:

- Community Involvement
- Document Review
- Data Review
- Site Inspection
- FYR Report Development and Review

Community Notification and Involvement

In April 2015, EPA initiated activities to involve the community in the FYR process during a telephone call between the RPM and CIC. EPA published a notice in a local newspaper, the *News-Herald*, on April 5, 2015, stating that it was beginning a FYR and inviting the public to submit any comments to EPA. No comments were submitted to EPA. The FYR Report will be made available at the LEC site information repository located at the Bacon Memorial District Library, 45 Vinewood, Wyandotte, MI 48192.

Document Review

The RPM reviewed the following documents for the FYR:

- CERCLA *Unilateral Administrative Order for Remedial Action in the Matter of Lower Ecorse Creek Superfund Site Wyandotte, Michigan. March 14, 2002.*
- CH2MHill. 1996. *Remedial Investigation Report Lower Ecorse Creek, Wyandotte, Michigan.* February 1996.
- CH2MHill. 1996. *Feasibility Study Report Lower Ecorse Creek, Wyandotte, Michigan.* April, 1996.
- City of Wyandotte Declaration of Restrictive Covenant. April 15, 2002.
- EPA. 1996. *Record of Decision for the Lower Ecorse Creek Site, Wyandotte, Michigan.* July 17, 1996.
- EPA. 1998. *Superfund Preliminary Site Close Out Report, Lower Ecorse Creek Site, Wyandotte, Michigan.* September 1, 1998.

- EPA. 2000. *Remedial Action Report Lower Ecorse Creek, Wyandotte, Michigan*. September 20, 2000.
- EPA. 2001. *Record of Decision Amendment #1 Lower Ecorse Creek Superfund Site, Wyandotte, Michigan*. July 13, 2001.
- EPA. 2003. *2002 Remedial Action Report Lower Ecorse Creek Wyandotte, Michigan*. July 25, 2003.
- EPA. 2003. *Final Remedial Action Report Approval, September 20, 2000 Report as Amended by July 25, 2003 Report, Lower Ecorse Creek Site, Wyandotte, Michigan*. December 17, 2003.
- EPA. 2005. *Superfund Final Close Out Report, Lower Ecorse Creek Site, Wyandotte, Michigan*. January 28, 2005.

Data Review

The remedy for the Park property consists of maintaining the existing 3-foot soil cover and placing ICs on the property. There are no environmental monitoring or analytical data to review for this FYR.

Site Inspection

William Ryan inspected the Site to assess the protectiveness of the remedy on August 19, 2015. Both MDEQ and the Wyandotte City Engineer had declined EPA's invitation to participate in the Site inspection.

A visual inspection of the Park property showed no evidence of cracking, sliding, settling, or breaches of the soil cover layer. The turf and protective cover appear to be in good shape, and there was no visual evidence of subsurface materials eroding to the adjacent creek. The area is fenced on two sides with 6-foot chain link fencing and on two sides with ornamental wood fencing (see Site photos in Appendix B, pp. 14-17). This fencing is appropriate as there is no need to restrict public access to the Park.

Interviews

On August 13, 2015, William Ryan confirmed with the Wayne County Register of Deeds that the RC for the Park property had been recorded on April 15, 2002.

Mr. Ryan also interviewed staff at the LEC Site document repository in the Bacon Memorial Library. The repository is stored in a protected area of the library and is easily accessible through a sign-in/sign-out process. The reference librarian was familiar with the repository and indicated that all documents in the repository had recently been placed on digital media, and were now available on the library's public workstations. All necessary documents were present, well-kept, and organized.

IV. TECHNICAL ASSESSMENT

Question A: Is the remedy functioning as intended by the decision documents?

Answer: Yes

Based on the RPM's review of relevant Site documents, his confirmation that the RC was recorded by the Wayne County Register of Deeds on April 15, 2002, and his observations from the August 19, 2015 LEC Site inspection, the remedy is functioning as intended by the 2001 ROD Amendment. The remedy implemented pursuant to the 1996 ROD has achieved cleanup standards that allow for UU/UE in all other Site areas, and therefore is not subject to this FYR.

Based on the Site inspection, the soil cover in the Park is in good condition and adequately providing a barrier to any hazardous substances below.

Based on a review of the terms of the RC, EPA has determined that it is consistent with the 2001 ROD Amendment, it has been properly recorded, it runs with the land and binds all future owners, and the use restrictions are adequate to protect the remedy and ensure no inconsistent land use in the future. The RC also grants EPA and the MDEQ the authority to monitor compliance with the 2001 ROD Amendment and UAO. (Appendix B presents a copy of the RC recorded by the City with the Wayne County Register of Deeds.)

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy selection still valid?

Answer: Yes

There have been no changes in the physical conditions of the Park property that would affect the protectiveness of the remedy, and there have been no changes in remedial cleanup standards, "to be considered" guidelines, or exposure assumptions from the 2001 ROD Amendment that would change the cleanup levels or remedial action objectives at the LEC Site.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

Answer: No

No other events have affected the protectiveness of the remedy and there is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

The remedy is functioning as intended by the 2001 ROD Amendment, based on a review of relevant documents, the site inspection, and confirmation that the RC for the park property had been recorded on April 15, 2002.

It is evident that the remedy is functioning as intended by the 2001 ROD Amendment. There have been no changes in the physical conditions, clean-up standards, "to be considered" guidelines, or exposure pathways that affect the park property, and no unanticipated events have undermined the protectiveness of this remedy. Lastly, there is no other information available that calls into question the protectiveness of the remedy.

V. ISSUES/RECOMMENDATIONS AND FOLLOW-UP ACTIONS

EPA identified no remedy protectiveness issues during this FYR. Therefore, there are no recommendations or follow-up actions for the LEC site in this FYR Report.

VI. PROTECTIVENESS STATEMENT

OU1 and Sitewide Protectiveness Statement	
<i>Protectiveness Determination:</i>	
Protective	
<i>Protectiveness Statement:</i>	
The remedy is protective of human health and environment because all remedial actions are complete and functioning as intended by the decision documents. The city has implemented all measures required by the UAO and the ICs are in place and effective. The soil cover remains in place and prevents exposure to any hazardous substances, pollutants, or contaminants beneath it.	

VII. NEXT REVIEW

The next FYR Report for the LEC site is required five years from the completion date of this review.

APPENDIX A – EXISTING SITE INFORMATION

A. SITE CHRONOLOGY

Table 3: Site Chronology

Event	Date(s)
Initial discovery of problem or contamination: residential owner reported blue soil to Wayne County Health Department	1989
Pre-NPL responses: ATSDR Health Consultations ATSDR issued Public Health Advisory	1989 - 1991 August 13, 1993
NPL listing: Proposed Final Deleted	January 18, 1994 May 31, 1994 July 1, 2005
EPA Removal Actions taken	1989, 1991, 1993, 1995
Remedial Investigation/Feasibility Study Reports issued Final RI Final FS	 February 1996 April 1996
Record of Decision signed	July 17, 1996
Remedial Action started	May 1998
Remedy construction dates	May 1998 – September 2000 and September 2002 – June 2003
Preliminary Close-out Report signed	September 1, 1998
ROD Amendment signed	July 13, 2001
EPA issues UAO to city of Wyandotte	February 12, 2002
Construction completion date	June 2003
Final Close-out Report signed	January 28, 2005
First FYR Report completed	June 1, 2006
Second FYR Report completed	March 21, 2011
Third FYR site inspection held	August 19, 2015

B. BACKGROUND

Physical Characteristics

The LEC Site is located in Wyandotte, Wayne County, Michigan (see maps in Appendix B), about 6 miles southwest of Detroit. The Site included six residential blocks centered on the 400 block of North Drive. The Detroit and Toledo Railroad tracks are located east of the residential area and the Ecorse River borders the Site to the north and west. Directly north of the Ecorse River are the Downriver Communities Combined Sewer Overflow Treatment Plant and the abandoned Great Lakes Steel Foundry. Two lots located at 2303 Oak Street were also included as part of the 1996 definition of the LEC Site. The Oak Street properties are located about 1.5 miles southwest of the North Drive properties, at the corner of 23rd Avenue and Oak Street.

Hydrology

The LEC Site is bounded on the north and west by the Ecorse River. The Ecorse River flows east and discharges into the Detroit River about 200 feet from the eastern Site boundary. The area north of North Drive lies in the Ecorse River's designated 100-year floodplain. Runoff from the northern portions of the residential lots on North Drive flows into the Ecorse River. Runoff from the remaining residential lots flows into storm sewers that carry the runoff to the local treatment plant, which discharges it into the Ecorse River.

Whether groundwater is present in clay rich terrain such as in eastern Wayne County depends on the occurrence of glaciofluvial deposits. Limited quantities of groundwater may be found in these permeable localized sand and gravel bodies that are buried within the lake plain deposits. The frequency and occurrence of these discontinuous sand and gravel bodies decreases toward the Detroit River.

Groundwater was not detected in most of the soil borings completed throughout the study area. Groundwater occurred only in thin permeable zones consisting of coarse fill debris and soft wetland soils. These localized, isolated zones occurred primarily within the fill material found near the river (see History of Contamination). Deep borings drilled outside of fill areas for stratigraphic profiling indicated moist to wet soils only in wetland areas. This perched water was not laterally extensive.

Land and Resource Use

The Park is known as Wyandotte Kiwanis 1000 Park and is located at 610 North Drive. It is about one acre in size and has a small playground equipment area, swing set, pavilion, and basketball court, but most of it is grass-covered and is of general recreational use. The facility is owned by the City of Wyandotte. The City has stated in correspondence that it intends to use this property as a park into the foreseeable future. Areas around the LEC Site are expected to remain residential. There is no groundwater use in the area, as such use is restricted by ICs.

History of Contamination

Before 1930, land along the banks of the Ecorse River in Wyandotte was primarily wetlands. A 1937 aerial photograph shows the wetlands and a small brook that flowed to the river between the lots at 470 and 480 North Drive and the lot at 446 North Drive. A subsequent 1951 photograph shows that most of the wetland areas had been filled and that residential development has occurred along North Drive.

By 1957, the river had been rechanneled, resulting in the confluence of the north and south branches of the river being relocated. Extensive fill is evident north of the Ecorse River. Modifications to the river in the early 1980s involved straightening the south bank of the river at the rear of several residential properties, reportedly using construction debris as fill. Interviews with local residents indicate that the homes on North Drive were built between 1920 and 1980.

In 1989, the owner of the residence at 470/480 North Drive reported to the Wayne County Health Department (WCHD) that workers excavating on the property had encountered blue-colored soil. WCHD then contacted the federal Agency for Toxic Substances and Disease Registry (ATSDR), and both agencies subsequently contacted EPA for further investigation. During its investigation, EPA found a large area of soil contaminated with ferric ferrocyanide, suspected to be from a coal-gasification plant. Blue-colored water was also observed in the basement sump of the house at 446 North Drive, along with blue stains on the basement walls of the house.

Initial Response Actions

The information presented below pertains to the residential areas of the LEC Site only, not the Park property:

In response to the blue-stained soil discovery, ATSDR issued health consultations for the LEC Site in November 1989, July 1990, November 1990, and March 1991. In these consultations, ATSDR concluded that the LEC Site posed a significant health threat and recommended that residents avoid contact with contaminated areas until permanent measures could be completed.

In December 1989, EPA covered the areas of visible contamination at the LEC Site with 6 inches of clean topsoil to provide a temporary cover until further investigations were concluded and a permanent solution was developed. Additional soil was added to the temporary cover in August 1991 after it was reported that the new soil cover was eroding away. In January 1993, the owner of the residence at 446 North Drive reported that his basement had flooded with blue-colored water. EPA investigators found that this water contained high concentrations of ferrocyanide.

In response, EPA began a time-critical removal action at the LEC Site in November 1993. Cyanide-contaminated soil was removed from around the residences and disposed of off-site. EPA also repaired the foundations at some residences because they were deteriorating due to the caustic nature of the ferrocyanide contamination. EPA completed the excavation of contaminated soil from around the residences and restored the Site by January 1994.

Basis for Taking Action

EPA released a final RI report in February 1996, followed by the final FS report in April 1996, and a ROD in July 1996. The ROD determined that the primary threat to human health and the environment in the neighborhood area was the ferrocyanide-contaminated soil. Although other Site contaminants are present (e.g. semi-volatile organic compounds) in soil, they did not pose an actionable health risk. Isolated areas of contaminants were found at the Park property, as sampling had revealed three small areas of subsurface soil with lead and/or arsenic above state cleanup standards.

In March 2000, excavations made during cleanup work (see next section) in the Park uncovered a layer of general household trash or debris at 3-4 feet beneath the surface. This material had no similarities to the cyanide waste found in the residential areas of the LEC Site. The debris was sampled and levels of lead and arsenic slightly above state cleanup standards were found. Surface soil sample results from 15 locations around the Park taken during the RI did not contain contaminants above the cleanup standards. Nine test excavations were then dug to determine the extent of the debris layer. The results showed that the debris layer existed under most of the Park and is about 6 feet thick with 3 feet of clean fill over it, but the debris layer did not continue under adjacent properties. None of the material in any of the test pits exhibited the same physical characteristics as the cyanide-contaminated waste found in the neighborhood properties. EPA estimated that 10,000 cubic yards of debris would need to be removed from the Park to meet the requirement of the 1996 ROD to achieve the lead and arsenic cleanup levels.

C. REMEDIAL ACTIONS

Remedy Selection

EPA issued a ROD in 1996 to address surface and subsurface ferrocyanide contamination in soil. The remedy included the following major components:

- Excavation and disposal of shallow and deep contaminated soil;
- Resampling of locations identified in the RI which showed contaminant levels above cleanup standards to determine the extent of contamination; and
- Restoration of residential areas affected by excavation.

The selected remedy contained the following remedial action objectives:

- Reduce the risk of exposure to hazardous substances present in surface and subsurface soils at the LEC Site;
- Minimize the risk of drainage waters carrying the contaminants, via drainage systems or cracks in foundations into basements of homes on the LEC Site; and
- Minimize the possibility of acidic or basic soils associated with the contamination from coming in contact with and damaging foundation walls or utility lines.

The 1996 ROD remedy had the goal of leaving no hazardous substances above health-based limits on the LEC Site. However, as discussed above, excavations made during cleanup work on

the Park property in 2000 uncovered a layer of general household trash or debris at 3-4 feet beneath the surface. Based on the nature and extent of contamination in the debris layer, EPA issued a ROD Amendment in 2001 to address the debris layer by managing it in place. The 2001 ROD Amendment remedy included the following components for the Park property:

- Monitor and maintain the existing clean soil cover over the debris layer;
- Place ICs on the Park property to permanently restrict land use to recreational and to not disturb the soil cover; and
- Prevent future use of groundwater beneath the Park property.

Because hazardous substances above health-based limits would be left on the LEC Site, EPA would need to conduct FYRs to evaluate the effectiveness of the ICs and the condition of the soil cover. The ICs would permanently restrict the use of the land and groundwater at the Park. Although groundwater has not been found to be contaminated, EPA included the requirement that groundwater use be precluded within the Park property as a precaution.

Pursuant to Michigan Act 451 Part 201 and EPA's February 12, 2002 UAO, the selected remedy for the Park property requires RCs including, but not limited to, notice to future property owners of contamination at the LEC Site and deed restrictions to regulate the land use of the Park. The purpose of these restrictions is to prevent exposure to LEC Site contaminants and prevent erosion of the existing soil cover. If for any reason deed restrictions placed on the Park property are removed or become ineffective, then the original excavation remedy selected in the 1996 ROD will be implemented at the Park property.

Remedy Implementation

EPA completed soil cleanup actions in the neighborhood areas from May 1998 to September 2000, and from September 2002 to June 2003. Proprietary ICs, in the form of a RC, along with maintenance of the clean fill overlying the debris waste, were implemented for the Park, consistent with the 2001 ROD Amendment. In February 2002, EPA issued a UAO to Wyandotte, directing the City to perform the selected remedial action for the remedy as described in the 2001 ROD Amendment. Since all remedial actions described in the 1996 ROD were complete and since the City owns only the Park property, the UAO only covered implementation of the remedy for the Park.

On April 15, 2002, Wyandotte recorded a Declaration of Restrictive Covenant with the Wayne County Register of Deeds (see Appendix B). The RC states that the City shall restrict the uses of the Park to uses compatible with the selected remedy, runs with the property, and shall be binding upon all future owners, successors, lessees or assigns and their authorized agents, employees, or persons under their direction and control.

EPA approved the Final Remedial Action (RA) Completion Report on December 17, 2003. The report documented the remedial actions implemented by EPA as described in the 1996 ROD. In 2005, EPA issued the Final Close-Out Report for the LEC Site, which stated that "The Five-Year Review will include an evaluation of the effectiveness of the deed restrictions on the Park area property, and the condition of the soil cover." Consequently, all LEC Site FYRs have focused on the Park property.

APPENDIX B – Site map, photos, and restrictive covenant

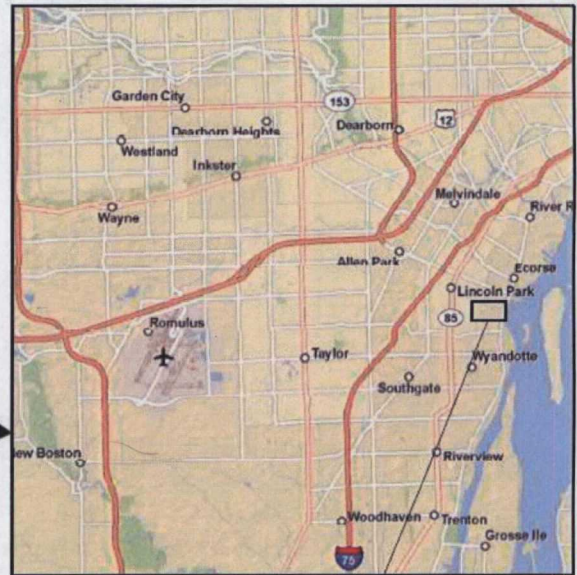


**Lower Ecorse Creek Dump
Wyandotte, MI**

EPA ID# MID980274179



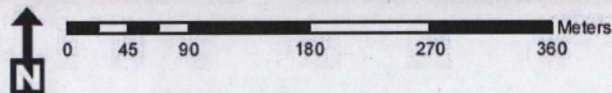
State



County



Figure 1



Site

Produced by Andrea Hicks
U.S. EPA Region 5 on February 22, 2011
Image Date: 2009/2010

EPA Disclaimer: Please be advised that areas depicted in the map have been estimated. The map does not create any rights enforceable by any party. EPA may refine or change this data and map at any time.



Photographic record of the 8/19/2015 Site Inspection of the
Park Area, Lower Ecorse Dump Site, Wyandotte, MI



Aerial photo of the Park Area - Date: unknown



Overview of the Park Area, looking NE - Date: August 19, 2015



Overview of the Park Area, looking NW - Date: August 19, 2015



Overview of the Park Area, looking north - Date: August 19, 2015



Overview of the Park Area, looking south - Date: August 19, 2015



Overview of the Park Area, looking SE - Date: August 19, 2015

Notice published in the *News-Herald*, Wyandotte, MI, April 5, 2015



**EPA Begins Review
of Lower Ecorse Creek Dump Superfund Site
Wyandotte, Michigan**

The U.S. Environmental Protection Agency is conducting a five-year review of the Lower Ecorse Creek Dump Superfund site at 470 North Drive, Wyandotte. The Superfund law requires regular checkups of sites that have been cleaned up – with waste managed on-site – to make sure the cleanup continues to protect people and the environment. This is the third five-year review of this site.

EPA's cleanup of soil contaminated with cyanide, arsenic and polyaromatic hydrocarbons consisted of digging up contaminated soil and disposing of it off-site. In the course of removing soil from a park, EPA discovered household-type waste. Since this waste is contained and covered with clean soil, EPA determined that monitoring and maintaining the soil cover and restricting use of the land and groundwater at the park was appropriate. The review will focus on the controls in place at the park.

More information is available at the Bacon Memorial District Library, 45 Vinewood, Wyandotte, and at www.epa.gov/region5/cleanup/lowerecorse/index.html. The review should be completed by March 2016.

The five-year review is an opportunity for you to tell EPA about site conditions and any concerns you have. Contact:

Heriberto Leon
Community Involvement
Coordinator
312-886-6163
leon.heriberto@epa.gov

William Ryan
Remedial Project Manager
312-353-4374
ryan.williamj@epa.gov

You may also call EPA toll-free at 800-621-8431, 9:30 a.m. to 5:30 p.m., weekdays.

RC the City filed with the Wayne County Register of Deeds on April 15, 2002

02061829 APR 15 2002

ATTACHMENT 3

DECLARATION OF RESTRICTIVE COVENANT

This Restrictive Covenant has been recorded with the Wayne County Register of Deeds for the purpose of protecting public health, safety and welfare and the environment.

On July 13, 2001, the United States Environmental Protection Agency (U.S. EPA) issued a Record of Decision Amendment #1 (ROD) selecting institutional controls as the remedy for the approximately one acre parcel of property owned by the City of Wyandotte and located at 610 North Drive, Wyandotte, Wayne County, Michigan, (Property) which is depicted in the attached property survey and more particularly described as:

Lots 11, 12, 13 and 14 Emmons Orchard Subdivision of part of PC 113 Ecorse Twp T3S R11E as recorded in Liber 38, Page 30 WCR

Property Tax ID Number of Property: 57-001-04-0011-000

As used herein, the term "Owner" shall mean at any given time the then current title holder of the Property.

NOW THEREFORE the City of Wyandotte, in accordance with the ROD and U.S. EPA's [insert date] Unilateral Administrative Order (UAO) issued pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9606(a), hereby imposes restrictions on the Property and covenants and acknowledges that an approximately six foot thick layer of debris exists under most of the Property and is covered by approximately three feet of clean fill material. In the ROD, U.S. EPA determined that continuous isolation of this waste layer is necessary for protection of human health and the environment. Accordingly, the Owner shall restrict the uses of the Property to uses compatible with the remedy selected in the ROD specifically including:

1. The Owner shall restrict activities at the Property that may interfere with a remedial action, operation and maintenance, monitoring, or other measures necessary to assure the effectiveness and integrity of the remedial action:

2. The Owner shall not allow extraction of any groundwater for domestic or industrial use through a well or any other device located within the Property.

3. The Owner shall at all times ensure isolation of the waste layer by continuously implementing the operation and maintenance requirements set forth in paragraph 31 of U.S. EPA's February 12, 2002 UAO and Appendix A to this Restrictive Covenant.

4. The Owner shall provide notice to U.S. EPA and the Michigan Department of Environmental Quality (MDEQ) of the Owner's intent to convey any interest in the Property 30 days prior to consummating the conveyance. A conveyance of title, an easement, or other interest in the Property shall not be consummated by the Property owner without adequate and complete provision for compliance with the terms and conditions of this Covenant.

Not 18 42 4000 S 2

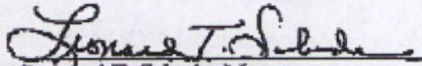
5. The Owner shall grant to U.S. EPA, the MDEQ and each Agency's designated representatives the right to enter the Property at reasonable times for the purpose of monitoring compliance with the ROD and UAO, including the right to take samples, inspect the operation of the remedial action measures and inspect records.

This Restrictive Covenant shall run with the Property and shall be binding upon all future owners, successors, lessees or assigns and their authorized agents, employers, or persons acting under their direction and control, and shall continue until U.S. EPA or its successor approves modifications or rescission of this Restrictive Covenant. A copy of this Restrictive Covenant shall be provided to all future owners, heirs, successors, lessees, assigns and transferees by the person transferring the interest.

If any provision of this Restrictive Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof. All such other provisions shall continue unimpaired in full force and effect.

The undersigned person executing this Restrictive Covenant is the Owner, or has the express written permission of the Owner, and represents and certifies that he or she is duly authorized and has been empowered to execute and deliver this Restrictive Covenant.

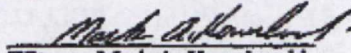
IN WITNESS WHEREOF, the said Owner of the above-described Property has caused this Restrictive Covenant to be executed on this 1st day of April, 2002.



Leonard T. Sabuda, Mayor

City of Wyandotte, 3131 Biddle Avenue, Wyandotte, MI 48192

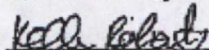
Signed in the presence of:


Witness, Mark A. Kowalewski


Witness, Kelly Roberts

STATE OF MICHIGAN
COUNTY OF WAYNE

The foregoing instrument was acknowledged before me this 1st day of April, 2002, by Leonard T. Sabuda, Mayor of the City of Wyandotte, a Michigan Municipal Corporation, on behalf of the City of Wyandotte.



Notary Public

Kelly Roberts

Wayne County, Michigan

My Commission Expires: February 13, 2005

DRAFTED & RETURN TO:
WILLIAM R. LOCK
2241 OAK STREET
WYANDOTTE, MI 48192

ATTACHMENT A to RESTRICTIVE COVENANT

In the course of routine maintenance of the Property (e.g., lawn mowing, garbage collection), the owner shall inspect the Property for any conditions which may, in the course of recreational use or precipitation events, erode the approximately three foot layer of clean fill material. The inspections shall include the following tasks:

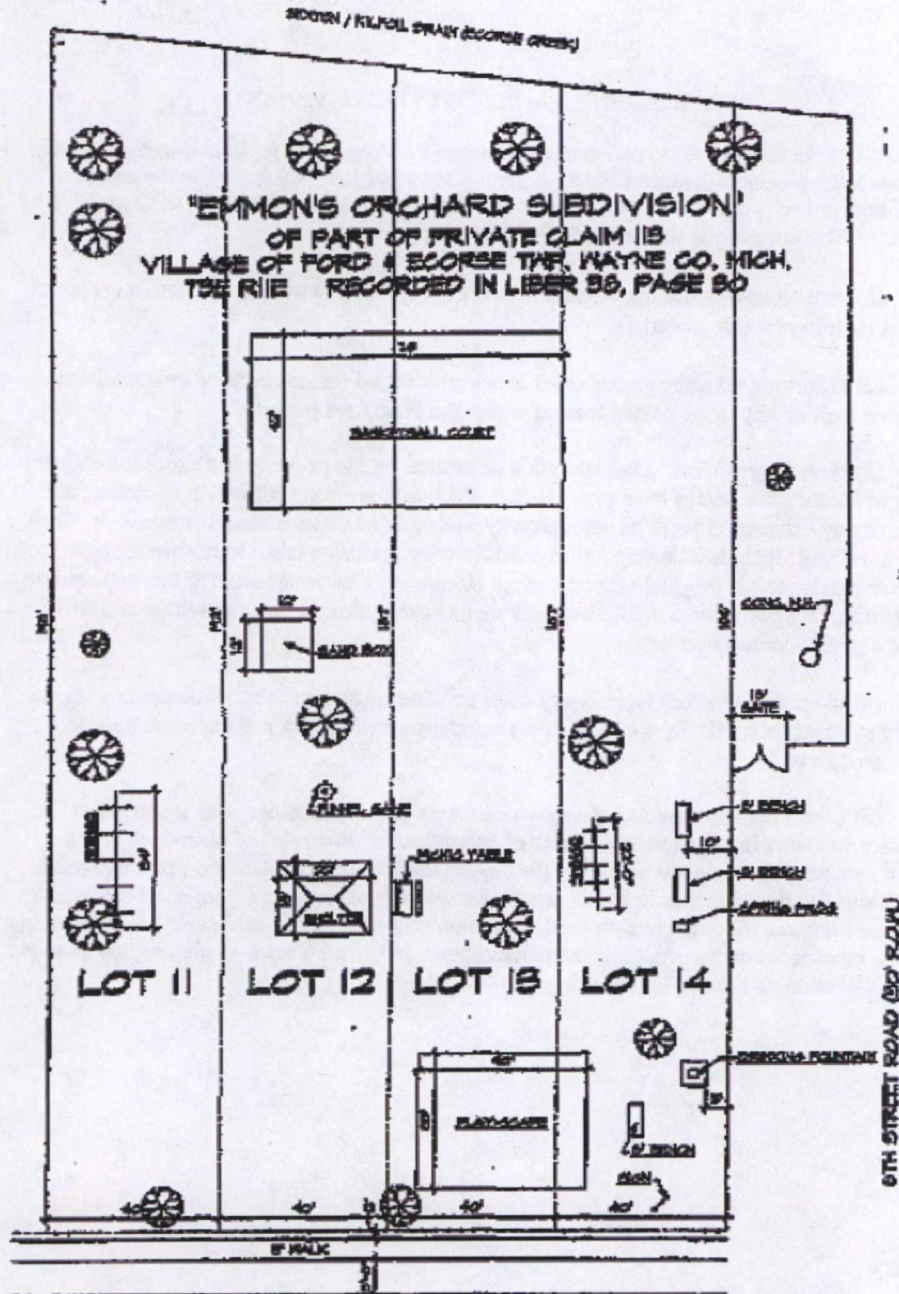
(1) observing whether the vegetative cover is sufficient to prevent erosion in areas not covered by impermeable materials.

(2) observing whether groundwater is being extracted for domestic or industrial use through a well or any other device located within the Park Area property.

(3) observing whether any excavation or erosion on the property has exceeded eighteen inches in depth. The owner must provide U.S. EPA with written notification if, during the course of any excavation work or other activity, the layer of waste material is exposed. Such notification shall include a description of the corrective measures taken to restore the clean soil exposure barrier to the original ground surface elevation. The owner must follow appropriate health and safety procedures before undertaking any excavation or other activities that will exceed eighteen inches in depth.

(4) observing whether there is any other condition which may be inconsistent with the remedy selected in the ROD, which requires maintenance of a clean soil exposure barrier above the debris.

(5) observing whether any corrective measures (e.g., reseeded, adding soil) are necessary to maintain the exposure barrier of approximately three feet of clean soil. In the event corrective measures are necessary for any excavation or erosion on the property which has exceeded eighteen inches in depth, the Owner and any subsequent owner shall create and retain a written record documenting implementation of the corrective measure. The Owner and any subsequent owner shall restore all excavation and erosion areas to the original ground surface elevation as soon as practicably possible.



NORTH DRIVE (60' R.O.W.)



CITY OF KIMANDOTTE DEPARTMENT OF ENGINEERING	
DESIGNED BY: [blank]	DATE: 10/1/00
DRAWN BY: [blank]	SCALE: 1" = 50'
CITY ENGINEER: MARK A. KOPALSKI	
KIMANIS 1000 PARK 610 NORTH DRIVE	
1 OF 1	