

Windiate Park Dump Site

Site Location: Flint, Michigan
EPA ID Number: Not Applicable

Windiate Park is located within the city of Flint, Genesee County, Michigan. Windiate Park is a 10.2-acre recreational park located in a residential area. Milton Drive and residences border the park to the west, south and east. Pengelly Road borders the park to the north, with additional residential properties beyond. The surrounding area is primarily residential with some commercial and industrial facilities.¹

The Windiate Park Dump Site ("Site") consists of three areas: Windiate Park; the residences in the area surrounding the park ("Residential Areas"); and an area north of Pengelly Road that includes the Pengelly Apartments parking lot and other vacant lots northwest of the Apartments ("Pengelly Road Area").² (See Figure 1 for a Site Map).

Site Operations:

In the early 1900s, the Site was a generally undeveloped, swampy area except for a few residences. GM and other parties used the Site as a dumpsite during the late 1940s and early 1950s.³ Construction of homes in the area began in the early 1950s. The park is owned and maintained by the City of Flint and was designated a recreational park in 1954.⁴

Windiate Park

Subsurface fill material is located throughout most of the park. Substances of Potential Concern (SPOC) are lead, arsenic, benzo(a)anthracene, and benzo(a)pyrene, which all tested above the Generic Residential Direct Contact Value, established by MDEQ for soil in residential areas.⁵

Residential Areas

Subsurface fill material was identified on nine properties adjacent to the park. Eighteen properties exhibited surface soil lead concentrations in excess of the MDEQ Generic Residential Direct Contact Value of 400 ppm. A localized groundwater impact for benzene was identified at one property (4407 Milton Drive).⁶

Pengelly Road Area

Waste fill material was discovered in this area, approximately 1.7 to 2.1 ft below grade. Subsurface soil at the Site exhibited concentrations in excess of MDEQ Generic

¹ "Remedial Investigation/Feasibility Study: Windiate Park", O'Brien & Gere Engineers, Inc., February 1996.

² "Pengelly Road Investigation", O'Brien & Gere Engineers, Inc., December 1996.

³ "GM Expands Windiate Offer to 200 Homes", *Flint Journal*, May 18, 1995.

⁴ "Remedial Investigation/Feasibility Study: Windiate Park", O'Brien & Gere Engineers, Inc., February 1996.

⁵ *Ibid.*

⁶ *Ibid.*

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Residential Direct Contact Value for lead, arsenic and benzo(a)pyrene. Surficial soil samples at the Site exhibited lead concentrations in excess of MDEQ Generic Residential Direct Contact Value.⁷

Regulatory History:⁸

- In July 1994, soil sampling was conducted at a private residence (4413 Milton Dr.), with MDEQ oversight. Sampling results indicated elevated levels of lead, arsenic and VOC concentrations.
- On August 29-30, 1994, a Surface Soil Survey was conducted by MDEQ. Analytical results showed lead concentrations that exceeded the Generic Residential Direct Contact Value in the northern and southern areas of Windiate Park.
- In November 1994, MDEQ approved the Soil Vapor Work Plan for the park. Thirty-five vapor sampling points were installed.
- On November 16, 1994, MDEQ conducted additional surface soil sampling, which found levels of lead and arsenic above the Generic Residential Direct Contact Values.
- In December 1994, MDEQ performed a geophysical survey. Several anomalies indicated fill material and/or metal objects within the park area.
- On March 13, 1995, seven test pits were excavated at proposed areas in the park as directed by the MDEQ. Two pits contained 55-gallon metal drums and pieces of drums. Samples taken at the bottom of the pits indicated that lead, arsenic, and two SVOC substances (benzo(a)anthracene and benzo(a)pyrene) were in excess of Generic Residential Direct Contact Values.
- On May 31, 1995, MDEQ approved the Drum Removal Work Plan.
- On June 8, 1995, two additional test pits were constructed at the request of MDEQ. No drums were located; therefore, soil samples were not collected for analysis.
- On September 6, 1995, MDEQ identified a disturbed area of soil northwest of Pengelly Road Apartments and performed a limited subsurface investigation in

⁷ "Pengelly Road Investigation", O'Brien & Gere Engineers, Inc., December 1996.

⁸ "Remedial Investigation/Feasibility Study: Windiate Park", O'Brien & Gere Engineers, Inc., February 1996.

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the area. Results found concentrations of lead and arsenic greater than the Generic Residential Direct Contact Values.⁹

- On September 25, 1995, MDEQ approved the soil cover interim remedial measure, which required placement of 24" of soil cover in areas where lead concentrations exceeded the Generic Residential Direct Contact Value.
- On October 23, 1995, General Motors and the City of Flint signed a Remediation Agreement and Covenant not to Sue for Windiate Park.¹⁰
- On July 19, 1996, EPA approved the February 1996 Remedial Action Plan (Park RAP). The RAP detailed a Limited Residential Closure for the Windiate Park/Dixieland Subdivision Landfill.¹¹ The elements of the RAP included the interim remedial measure (IRM) soil cover, deed restrictions, and performance of maintenance activities associated with the IRM soil cover.
- In August 1996, the Addendum to the Remedial Action Plan for a Limited Residential Closure report was submitted to MDEQ. The Addendum proposed that three vacant parcels of land acquired by GM be annexed to the 1996 RAP.¹²
- In December 1996, the Pengelly Road Investigation report was submitted to MDEQ. Subsurface soil samples taken from the disturbed area northwest of the Pengelly Road Apartments had concentrations of lead and arsenic greater than Generic Residential Direct Contact Values.¹³
- On February 21, 1997, the Remedial Investigation Feasibility Study for the Residential Areas in the Windiate Park/Dixieland Subdivision was submitted to MDEQ. The report identified 18 properties with average soil lead concentrations in excess of MDEQ Generic Residential Direct Contact Value of 400 ppm. One property also had a localized groundwater impact for benzene.
- On April 22, 1997, MDEQ approved the interim remedial action for twenty-two residential properties as outlined in the February 1997 Residential Remedial Action Plan (Residential RAP).¹⁴

⁹ "Pengelly Road Investigation", O'Brien & Gere Engineers, Inc., December 1996.

¹⁰ "Addendum No. 2 to the Remedial Action Plan for a Limited Residential Closure: Windiate Park", O'Brien & Gere Engineers, Inc., February 1998.

¹¹ "Closure Report for Windiate Park", O'Brien & Gere Engineers, Inc., October 2001.

¹² "Addendum to the Remedial Action Plan for a Limited Residential Closure: Windiate Park", O'Brien & Gere Engineers, Inc., August 1996.

¹³ "Pengelly Road Investigation", O'Brien & Gere Engineers, Inc., December 1996.

¹⁴ "Closure Report for Windiate Park", O'Brien & Gere Engineers, Inc., October 2001.

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- On January 21, 1998, the Closure Report for Residential Areas was submitted to MDEQ. The report detailed the interim remedial actions taken for the twenty-two residential properties.¹⁵
- In February 1998, Addendum No. 2 to the 1996 RAP was submitted to MDEQ. Addendum No. 2 proposed that three vacant parcels of land were to be added to the Windiate Park RAP. Two parcels were privately owned at the time of the 1996 RAP; however, GM has since acquired them. The third parcel is owned by the City of Flint and is currently included in Windiate Park.¹⁶
- On May 30, 2000, the Pengelly Road RAP was submitted to MDEQ. The plan proposed implementation of interim remedial remedies, including excavation and disposal of waste fill and surface soil at four properties and implementation of a deed restriction at one property.¹⁷

Past Response Actions:Investigations and RI/FS Actions

From 1994 to 1996, the Site was investigated, and the RI/FS and RAPs were developed. As part of the RI/FS, a Windiate Park Health Survey and a blood level survey of area residents was conducted.¹⁸

Interim Remedial Actions*Windiate Park*

In June 1995, drums and portions of drums were removed from two areas in the park. The drums and contaminated materials were placed in two roll-off containers. Containers were sent either to a hazardous waste landfill or Type II landfill, based on test results.¹⁹

From the fall of 1995 to spring of 1996, soil was used to cap the park. The depth of the cover ranged from a minimum of 12" (6" soil and 6" topsoil) in non-contaminated areas up to a minimum of 24" (18" soil and 6" topsoil) over areas where lead concentrations exceeded the Generic Residential Direct Contact Value.²⁰ Actual soil cover depth in some areas exceeded four feet as required to maintain good site drainage. The soil cap

¹⁵ *Ibid.*

¹⁶ "Addendum No. 2 to the Remedial Action Plan for a Limited Residential Closure: Windiate Park", O'Brien & Gere Engineers, Inc., February 1998.

¹⁷ "Pengelly Road Remedial Action Plan for a Generic Residential and Limited Residential Closure", O'Brien & Gere Engineers, Inc., May 25, 2000.

¹⁸ "Closure Report for Residential Properties: Residential Properties in the Windiate Park/Dixieland Subdivision", O'Brien & Gere Engineers, Inc., January 1998.

¹⁹ "Remedial Investigation/Feasibility Study: Windiate Park", O'Brien & Gere Engineers, Inc., February 1996.

²⁰ *Ibid.*

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was also installed on four parcels of land adjacent to the Park and on the South Utility Easement area.²¹

Residential Properties

In 1997, interim remedial measures were performed at twenty-two residential properties. Actions performed included excavation and disposal of waste fill and surface soil, replacement of excavated material with clean backfill, installation of soil cover and deed restrictions.²²

GM offered to purchase 30 homes adjacent to the park area. This offer was later expanded to incorporate 200 property owners in the Windiate subdivision. Homeowners had the option to sell their home to GM or accept a lump sum payment but remain in their home.²³ Ultimately, GM purchased 94 homes.

Pengelly Road Area

In August 2000, interim remedial measures were implemented at four properties. These measures included excavation and disposal of waste fill and surficial soil. A deed restriction is being placed on one property. These properties included the Pengelly Road apartment building parking lot, the three vacant lots to the northwest of the Site, a portion of the railroad property that runs to the northeast of the Site, and a portion of the sidewalk right of way that runs along the southwest border of the Site.²⁴

Windiate Park

In 1996, land use restrictions were placed on the Windiate Park property. These included restrictions on Site activities that may potentially affect the integrity of the soil cover, a requirement to provide notice to MDEQ of the intent to convey property, permission to MDEQ to access the park, notification of MDEQ prior to performing sampling and analysis of impacted materials in the event transportation and/or disposal is performed, and notice that the property will be restricted to recreational use.²⁵

In 1996, three vacant parcels of land were annexed to the Windiate Park property. The properties were included in the IRM soil cover. Land use restrictions were implemented consistent with those for the park.²⁶

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²¹ Letter from Frederick Frank, Honigman Miller Schwartz and Cohn to Nanette Leemon, Michigan Department of Environmental Quality re: Windiate Park – Dixieland Subdivision Site, October 16, 2002.

²² "Closure Report for Residential Properties: Windiate Park/Dixieland Subdivision", O'Brien & Gere Engineers, Inc., January 1998.

²³ "GM Expands Windiate Offer to 200 Homes", *Flint Journal*, May 18, 1995.

²⁴ "Pengelly Road Remedial Action Plan for a Generic Residential and Limited Residential Closure", O'Brien & Gere Engineers, Inc., May 25, 2000.

²⁵ "Remedial Action Plan for a Limited Residential Closure", O'Brien & Gere Engineers, February 1996.

²⁶ "Addendum to the Remedial Action Plan for a Limited Residential Closure: Windiate Park", O'Brien & Gere Engineers, Inc., August 1996.

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Starting in 1996, regular operations & maintenance activities were performed by the City of Flint for the IRM soil cover. These O&M activities included:

- Mowing (performed at least twice per year);²⁷ and
- Maintenance and repair of the soil cover, including filling of settled areas.²⁸

Deleted: deed restrictions were placed on the Windiate Park property.

In 1998, additional land was annexed to the Windiate Park property. The parcels (4407 and 4413 Milton Dr.) were privately owned when the Park RAP was submitted to MDEQ. However GM has since acquired the properties, and intends to annex them to the Park pending closure approval by the MDEQ. The properties were included in the IRM soil cover. Land use restrictions were implemented consistent with those for the Park.²⁹

Current Environmental Issues and Future Remedial Actions:*Windiate Park*

Future operations & maintenance activities to be performed include:

- Inspection of the soil cover, including any necessary repairs;³⁰
- Annual reporting to the MDEQ; and,
- Routine park and cover maintenance³¹.

GM Share:

GM is the only PRP and pays all Site costs.

Remediation Costs:

From 1994 through December 2003, General Motors has incurred approximately \$6.7 million³² in past costs.

GM's exposure to potential future costs associated with environmental remediation at the Site is estimated to be approximately \$0.2 million,³³ as summarized in Attachment C.

²⁷ *Ibid.*

²⁸ *Ibid.*

²⁹ "Addendum No. 2 to the Remedial Action Plan for a Limited Residential Closure: Windiate Park", O'Brien & Gere Engineers, Inc., February 1998.

³⁰ "Remedial Action Plan for a Limited Residential Closure", O'Brien & Gere Engineers, February 1996.

³¹ *Ibid.*

³² Exclusive of an additional \$1.1 million spent on toxic tort.

³³ Future costs presented here in nominal dollars (including price inflation).

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Attachment A: Site Figures

Figure 1 – Site Map

Attachment B: Ongoing, Planned and Potential Future Remedial Actions

Attachment C: Supporting Cost Schedules

Attachment D: Information Sources

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**ATTACHMENT A
SITE FIGURES**

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Confidential Material Governed by December 9, 2003 Standstill and
Confidentiality Agreement Between the Policyholder and Royal Indemnity Co.
Confidential Settlement Communication

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**ATTACHMENT B
ONGOING, PLANNED AND POTENTIAL
FUTURE REMEDIAL ACTIONS**

Area	Remedial Actions
Operations & Maintenance	▪ Responsible for inspection and repair of the cover ▪ Routine park and cover maintenance ▪ Annual reporting requirements to MDEQ

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ATTACHMENT D INFORMATION SOURCES

"RI/FS Work Plan", O'Brien & Gere Engineers, Inc., November 1994.

"GM Expands Windiate Offer to 200 Homes", *Flint Journal*, May 18, 1995.

"Remedial Action Plan for a Limited Residential Closure", O'Brien & Gere Engineers, February 1996.

"Remedial Investigation/Feasibility Study: Windiate Park", O'Brien & Gere Engineers, Inc., February 1996.

"Addendum to the Remedial Action Plan for a Limited Residential Closure: Windiate Park", O'Brien & Gere Engineers, Inc., August 1996.

"Pengelly Road Investigation", O'Brien & Gere Engineers, Inc., December 1996.

"Remedial Action Plan for Residential Properties: Residential Properties in the Windiate Park/Dixieland Subdivision, Flint, Michigan", February 1997.

"Remedial Investigation/Feasibility Study: Residential Properties in the Windiate Park/Dixieland Subdivision, Flint, Michigan", February 1997.

"Closure Report for Residential Properties: Residential Properties in the Windiate Park/Dixieland Subdivision", O'Brien & Gere Engineers, Inc., January 1998.

"Addendum No. 2 to the Remedial Action Plan for a Limited Residential Closure: Windiate Park", O'Brien & Gere Engineers, Inc., February 1998.

"Pengelly Road Remedial Action Plan for a Generic Residential and Limited Residential Closure", O'Brien & Gere Engineers, Inc., May 25, 2000.

"Closure Report for Windiate Park", O'Brien & Gere Engineers, Inc., October 2001.

| Letter from Frederick Frank, Honigman Miller Schwartz and Cohn to Nanette Leemon, Michigan Department of Environmental Quality re: Windiate Park – Dixieland Subdivision Site, October 16, 2002.