

**Anoka/Ramsey Landfill City of Ramsey  
Agenda  
February 8, 2012**

**1. PowerPoint Presentation & Questions**

- How will the City respond to MPCA's specific Land Use identified? Time-frame for implementing?

**2. MPCA Landfill tasks**

- Storm Sewer transfer – reassigned work (again)
- LGTE – Planergy – State to close-out Gas Rights and Lease
- 2 Waste Management parcels – State to take ownership
- 2 out-standing easements (Westside trail and SE side culvert)
- Bond Declarations filed

**3. Site activities**

- Oak Savanna
  - Funded spring burn
  - MPCA interested in City possibly using NRD Funds to own and manage the parcel
- City Development interest
- MPCA construction work – partial update of systems

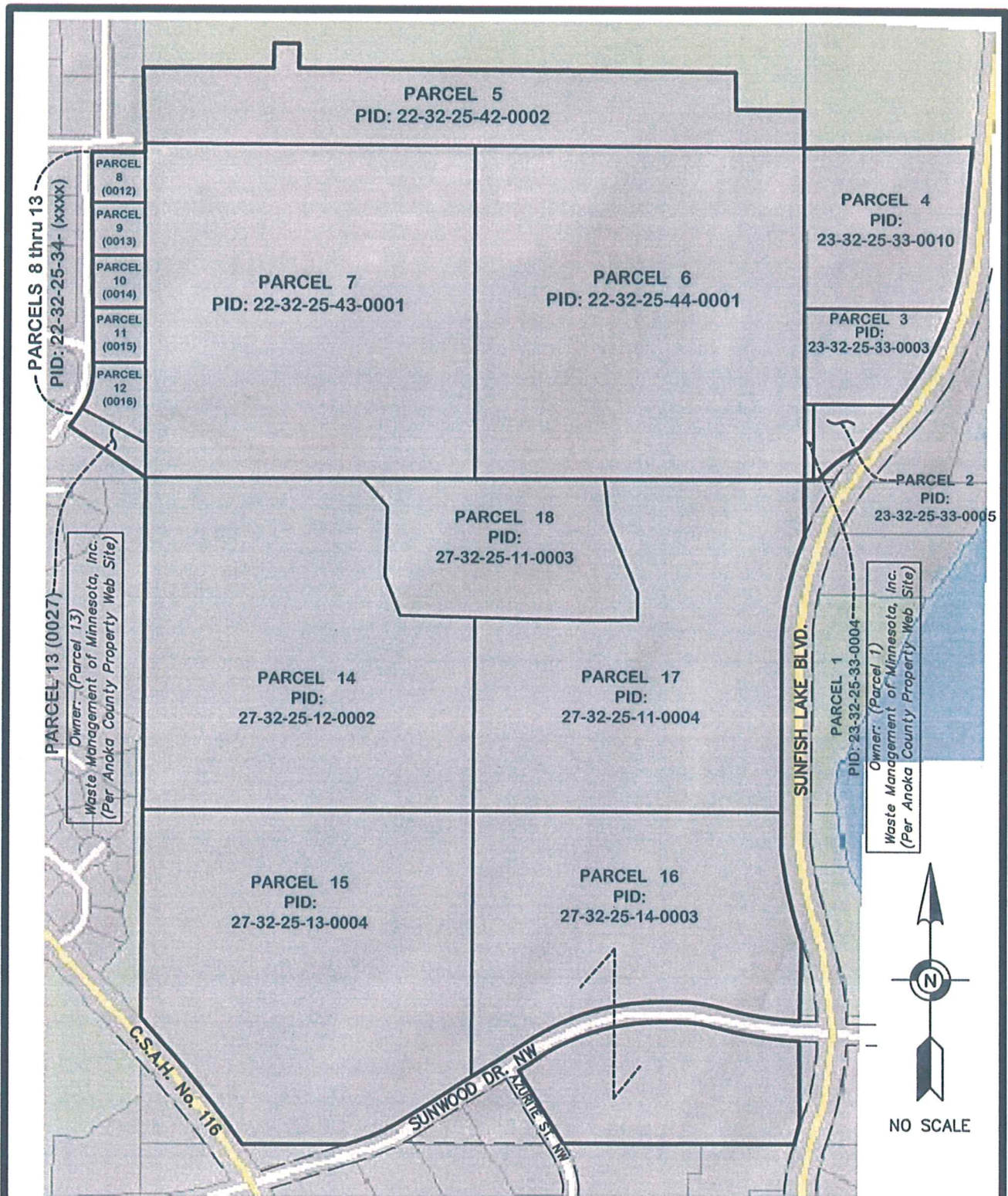


EXHIBIT FOR:

MINNESOTA POLLUTION  
CONTROL AGENCY  
ANOKA MA LANDFILL



Egan, Field & Nowak, Inc.  
land surveyors since 1872

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## District CLR – Closed Landfill Restricted

### A. Purpose

The Closed Landfill Restricted (CLR) District is intended to apply to former landfills that are qualified to be under the Closed Landfill Program of the Minnesota Pollution Control Agency (MPCA). The purpose of the district is to limit uses of land within the closed landfill, both actively filled and related lands, to minimal uses in order to protect the land from human activity where response action systems are in place and, at the same time, are protective of human health and safety. This district shall only apply to the closed landfill's Land Management Area, the limits of which are defined by the MPCA. This district shall apply whether the landfill is in public (MPCA, County, City, Township), Indian tribal, or private ownership.

For purposes of this ordinance, the Land Management Area for the \_\_\_\_\_ Landfill, a qualified facility under the MPCA's Closed Landfill Program, is described as:

### B. Permitted Uses

The following uses are permitted within the CLR District: \_\_\_\_\_.

### C. Accessory Uses

Accessory uses allowed in this district include outdoor equipment or small buildings used in concert with gas extraction systems, other response action systems, monitoring wells or any other equipment designed to protect, monitor or otherwise ensure the integrity of the landfill monitoring or improvement systems. Fences and gates shall apply under these provisions.

### D. Conditional Uses

Conditional uses shall be limited to uses that do not damage the integrity of the Land Management Area and that continue to protect any person from hazards associated with the landfill.

Any application for a conditional use must be approved by the Commissioner of the MPCA and the \_\_\_\_\_ (LGU). Such approved use shall not disturb or threaten to disturb, the integrity of the landfill cover, liners, any other components of any containment system, the function of any monitoring system that exists upon the described property, or other areas of the Land Management Area that the Commissioner of the MPCA deems necessary for future response actions.

The following conditional uses are permitted within the CLR District:

E. Prohibited Uses and Structures

All other uses and structures not specifically allowed as conditional uses, or that cannot be considered as accessory uses, shall be prohibited in the CLR District.

F. General Regulations

Requirements for (parking, signs, area, height) and other regulations are set forth in \_\_\_\_\_.

G. Any amendment to this ordinance must be approved by the Commissioner of the MPCA and the (LGU).

**610 – COUNTY CLOSED LANDFILL RESTRICTED (CLR)**

The Closed Landfill Restricted (CLR) District is intended to apply to the former Winona County Landfill which is qualified to be under the Closed Landfill Program of the Minnesota Pollution Control Agency (MPCA).

**610.1 Purpose**

The purpose of the district is to limit uses of land within the closed landfill, both actively filled and related lands, to minimal uses in order to protect the land from human activity where response action systems are in place and, at the same time, are protective of human health and safety. This district shall only apply to the closed landfill's Land Management Area, the limits of which are defined by the MPCA. This district shall apply whether the landfill is in public (MPCA, County, City, Township), Indian tribal, or private ownership.

The location of this landfill is described by:

That part of the Southwest quarter of Section 10 and that part of the Southeast quarter of Section 9, all in Township 106 North, Range 7 West, Winona County, Minnesota, described as follows:

Commencing at a county monument found at the West quarter corner to Section 10; thence South 00 Degrees 03 Minutes 07 Seconds West (NAD 83 Winona County Coordinate System, 1996 Adjustment), along the West line of said Southwest quarter, a distance of 172.50 Feet to a found ¾" pipe at the Point of Beginning of the land to be described; thence South 81 Degrees 21 Minutes 04 Seconds East, a distance of 409.89 Feet to a set 5/8" rebar with aluminum cap, thence South 41 Degrees 26 Minutes 43 Seconds East, a distance of 1042.69 Feet to a set 5/8" rebar with aluminum cap; thence South 27 Degrees 26 Minutes 53 Seconds West, a distance of 500.24 Feet to a set 5/8" rebar with aluminum cap; thence South 67 Degrees 13 Minutes 45 Seconds West, a distance of 531.83 Feet to a set 5/8" rebar with aluminum cap; thence Westerly 346.88 Feet along a tangential curve concave to the North, central angle of 42 Degrees 50 Minutes 01 Seconds, with a radius of 464.00 Feet to a set 5/8" rebar with aluminum cap; thence North 69 Degrees 56 Minutes 14 Seconds West, a distance of 497.25 Feet to a set 5/8" rebar with aluminum cap; thence South 50 Degrees 39 Minutes 25 Seconds West a distance of 271.18 Feet to a found ¾" pipe; thence South 82 Degrees 15 Minutes 44 Seconds West, a distance of 154.01 Feet to a found ¾" pipe; thence Southwesterly 157.75 Feet along a tangential curve concave to the Southeast, central angle of 54 Degrees 26 Minutes 58 Seconds, radius 166.00 Feet to a found ¾" pipe; thence South 27 Degrees 48 Minutes 46 Seconds West, a distance of 71.43 Feet to a found ¾" pipe; thence Westerly 206.08 Feet along a tangential curve concave to the North, central angle of 135 Degrees 09 Minutes 37 Seconds, radius 87.36 Feet to a found ¾" pipe; thence North 17 Degrees 01 Minutes 37

Seconds West, a distance of 84.02 Feet to a found ¾" pipe; thence North 11 Degrees 07 Minutes 26 Seconds West, a distance of 244.95 Feet to a found ¾" pipe; thence North 23 Degrees 35 Minutes 02 Seconds West, a distance of 301.50 Feet to a found ¾" pipe; thence Northwesterly 215.47 Feet along a tangential curve concave to the Southwest, central angle of 29 Degrees 40 Minutes 36 Seconds, radius 416.00 Feet to a found ¾" pipe; thence North 53 Degrees 15 Minutes 38 Seconds West, a distance of 251.50 Feet to a found ¾" pipe; thence North 36 Degrees 01 Minutes 23 Seconds East, a distance of 1105.50 Feet to a found ¾" pipe; thence South 81 Degrees 21 Minutes 04 Seconds East, a distance of 1000.00 Feet to the Point of Beginning.

Tract containing 74.73 acres more or less and subject to any and all easements of record.

### **610.2 Permitted Principle Uses**

- (1) closed landfill
- (2) existing buildings and the corresponding existing footprints for those buildings at the time of enactment of this Ordinance.

### **610.3 Accessory Uses**

Accessory uses allowed in this district include outdoor equipment or small buildings used in concert with gas extraction systems, other response action systems, monitoring wells or any other equipment designed to protect, monitor or otherwise ensure the integrity of the landfill monitoring or improvement systems. Fences and gates shall apply under these provisions.

### **610.4 Conditional Uses**

Conditional uses shall be limited to uses that do not damage the integrity of the Land Management Area and that continue to protect any person from hazards associated with the landfill. Any application for a conditional use must be approved by the Commissioner of the MPCA and the Wilson Town Board. Such approved use shall not disturb or threaten to disturb, the integrity of the landfill cover, liners, any other components of any containment system, the function of any monitoring system that exists upon the described property, or other areas of the Land Management Area that the Commissioner of the MPCA deems necessary for future response actions.

The following conditional uses are permitted within the CLR District:

- (1) solar collection system

**610.5 Prohibited Uses**

All other uses and structures not specifically allowed as permitted or conditional uses, or that cannot be considered as accessory uses, shall be prohibited in the CLR District.

**610.6 Performance Standards**

**(1) HEIGHT REGULATIONS**

No structure or building shall exceed a height of two and a half (2-1/2) stories or 35 feet. No structure or building shall be constructed, repaired, or removed without the written consent of the Minnesota Pollution Control Agency.

**(2) FRONT YARD, SIDE YARD AND LOT WIDTH REGULATIONS**

This District shall be the entire area as described in Section 610.1. It is acceptable for land use in the Special Use District in Chapter 609 to approach the perimeter of the SLR District, but may not cross the perimeter line.

**(3) SCREENING, FENCING, AND SIGNAGE**

(a) Fencing – fencing is recommended to prevent inadvertent damage to the closed landfill within this District.

(b) Signage – signage is recommended denoting the boundaries of this District designed and placed in such a manner as to mark the perimeter of the District. Such recommended signage shall follow the standards set forth in Chapter 7 of the Wilson Township Zoning Ordinance.

**(4) SITE DESIGN CRITERIA AND RELATIONSHIPS TO ADJACENT DISTRICTS**

The established boundaries of the District may be modified from time to time as information gathered by authorized governmental agencies suggests. While it is anticipated the boundaries may contract, it should be recognized the actual boundaries cannot be accurately predicted and as such district lines may move in such a manner which will affect the adjacent Special Use District as described in Chapter 609.

**(5) GENERAL REGULATIONS**

Any additional requirements for ground water management systems, methane gas management systems, and other such systems required for the protection of public safety, health, and welfare shall be under the management and authority of the appropriate agency of and for the State of Minnesota. All permitted conditional use project plans require approval of the appropriate agency (agencies) of and for the State of Minnesota and written approval by the Commissioner of the Minnesota Pollution Control Agency as a condition of the Wilson Township conditional use permit.

**(6) LAND ALTERATIONS, EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT**

## DRAFT

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No land alterations are permitted without the written consent of the Minnesota Pollution Control Agency.

### **(7) AMENDMENTS**

All amendments to this District require the approval of the Wilson Town Board and the Commissioner of the Minnesota Pollution Control Agency.

# CLP GW Area of Concern: ANOKA MUNICIPAL REGIONAL LANDFILL








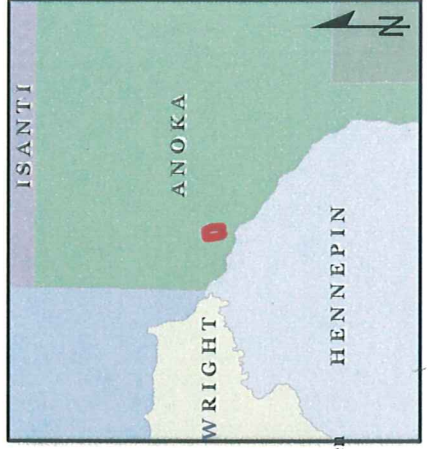
**Minnesota Pollution Control Agency**

**Site Contacts**

Land Manager: Jean Hanson  
 Engineer: Peter Tiffany  
 Hydrogeologist: Ingrid Verhagen

**Site Features**

-  **Monitoring Well**
-  **Waste Footprint**
-  **Land Management Area**  
*Designates the property that is under the responsibility and control of the MPCA.*
-  **Groundwater Plume**  
*Approximate area of the subterranean contaminated groundwater plume.*
-  **Groundwater Area of Concern**  
*An area where the groundwater may be affected by landfill contamination.*



Created Sep 02, 2011 by CLP Hydrogeologist Ingrid Verhagen  
 Meters 0 150 300 450  
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DISCLAIMER: The State of Minnesota makes no representations or warranties to the user as to the accuracy, currency, suitability or reliability of this data for any purpose. This map depicts a reasonable approximation of impacts from the landfill only and makes no inference about impacts from other potential sources.

December 10, 2010

### **Groundwater Area of Concern (GWAOC)**

The GWAOC is defined as the area of land surrounding a landfill where the presence of activities that require the use of groundwater may be impacted or precluded by contamination from the landfill, or may cause the groundwater flow direction to change thereby impacting the user or others nearby. The GWAOC is used to inform the public about the current and potential risks to users of groundwater contaminated by the landfill. In most circumstances this area is not equidistant around the site. Minnesota Department of Health (MDH) statutes establish the minimum installation distance for a water-supply well from mixed municipal solid waste at 300 feet, and 600 feet where the well is not constructed through a confining layer such as clay or shale.

### **Groundwater Area of Concern around Anoka/Ramsey Landfill**

The groundwater area of concern around Anoka/Ramsey Landfill is defined by an environmental monitoring system that consists of approximately 104 wells. The groundwater contamination is in the Upper Sand that is part of the Anoka sand plain aquifer. There is also groundwater contamination in a glacial channel where the Grantsburg Till (that lies below the Upper Sand) is eroded and the Upper and Lower Sand are connected. Contaminants in groundwater that exceed drinking water standards include vinyl chloride, 1,2-dichloroethane and manganese.

The groundwater plume is shown in two dimensions but extends to a depth of 100 feet below the ground surface. The area of concern extends east 1065 feet beyond the plume boundary to include parcels that are not on city water because there may be shallow ground water flow towards Sunfish Lake. The area of concern extends to the southeast 1,614 feet beyond the plume boundary because there are parcels in this direction that are not on municipal water and regional flow in the shallow groundwater is to the southeast. Private wells to the east and southeast are protected by the Anoka Municipal Regional Landfill groundwater extraction system and by the geology of the bedrock aquifer. In addition, flow in the bedrock aquifer is to the south and southwest from the waste footprint. These wells will be periodically sampled to verify that the Tunnel City Group bedrock aquifer is still contaminant free.

# CLP Methane Area of Concern: ANOKA MUNICIPAL REGIONAL LANDFILL



**Minnesota Pollution Control Agency**

## Site Contacts

Land Manager: Jean Hanson  
 Engineer: Peter Tiffany  
 Hydrogeologist: Ingrid Verhagen

## Site Features

Gas Probe



Waste Footprint



**Land Management Area**  
 Designates the property that is under the responsibility and control of the MPCA.

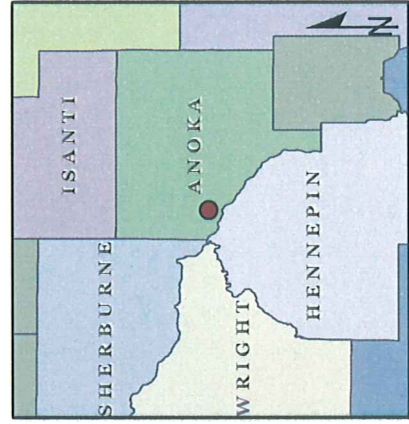


**Methane Area of Concern**  
 Area surrounding the landfill that may be impacted by subsurface migration of methane gas.



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Created 1/27/2012 by CLP Engineer Peter Tiffany  
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## **Explanation of a Methane Gas Area of Concern (MGAOC)**

The MGAOC is defined as the area of land surrounding a mixed municipal solid waste (MSW) landfill waste footprint where the presence of certain activities, such as construction of enclosed structures, may be impacted or precluded by subsurface migration of methane gas. Methane gas is an odorless gas produced when MSW decomposes, and can be explosive in confined spaces such as basements when mixed in air. The MGAOC is used to inform the public about the risks to current and future land owners regarding certain uses they may want to consider. Any questions about developing land within the MGAOC should be addressed to the MPCA Closed Landfill Program (CLP) staff assigned to that particular landfill.

### **Methane Gas Area of Concern around Anoka/Ramsey Landfill**

Soils in the vicinity of the Anoka/Ramsey Landfill are generally coarse sands. Depth to the groundwater table is approximately 20 feet below ground surface. The landfill waste footprint is approximately 65 acres and contains approximately 5,700,000 cubic yards of waste. A low permeability cover system is in place. The northwest corner of the waste footprint is approximately 240 feet from a residence. Other residences are located greater than 300 feet from the waste footprint

The cover system has 43 vertical gas extraction wells connected to an enclosed blower/flare unit. All 16 gas monitoring probes located around the landfill perimeter have had zero percent methane measured in them for more than 5 years, indicating that there likely is no gas migrating off the property. An investigation of the waste quality conducted in 2011 found the waste to be very dry, confirming that the lower gas generation rate being extracted by the flare system was not due to fouled gas wells, but rather a slower degradation rate due to lack of moisture.

Based on the large mass of waste present, the highly permeable soils in the area, the potential for an extended shutdown of the gas extraction system due to unforeseen circumstances, the dry waste present, and recognizing the potential for gas to migrate under seasonal low permeable (frozen) conditions, the MGAOC is revised down from the previous estimate to extend 250 feet beyond the waste footprint.

### **Existing Land Use Controls**

Local ordinances may exist and should be checked for applicability to control the building of structures within the MGAOC.

# Covenant Parcels and GWAOC: ANOKA MUNICIPAL REGIONAL LANDFILL



**Minnesota Pollution Control Agency**

## Site Contacts

Land Manager: Jean Hanson

Engineer: Peter Tiffany

Hydrogeologist: Ingrid Verhagen

## Site Features



**Waste Footprint**

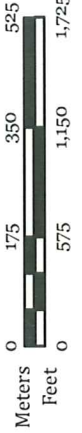
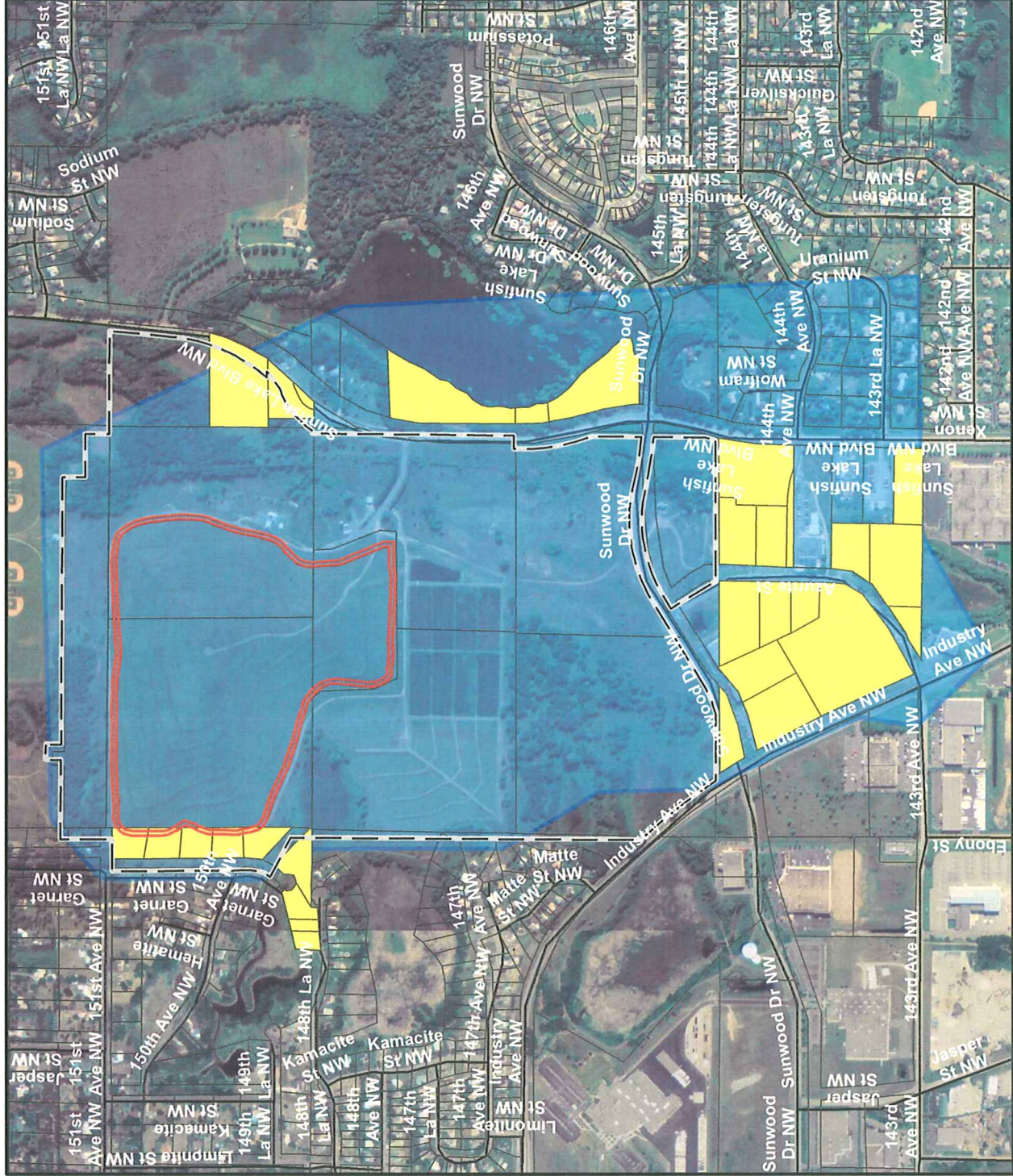


**Land Management Area**  
Designates the property that is under the responsibility and control of the MPCA.



**Covenant Parcels**

**Groundwater Area of Concern**  
An area where the groundwater may be affected by landfill contamination.



Created Sep 27, 2010 by CLP Engineer Peter Tiffany

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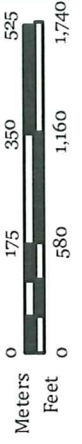
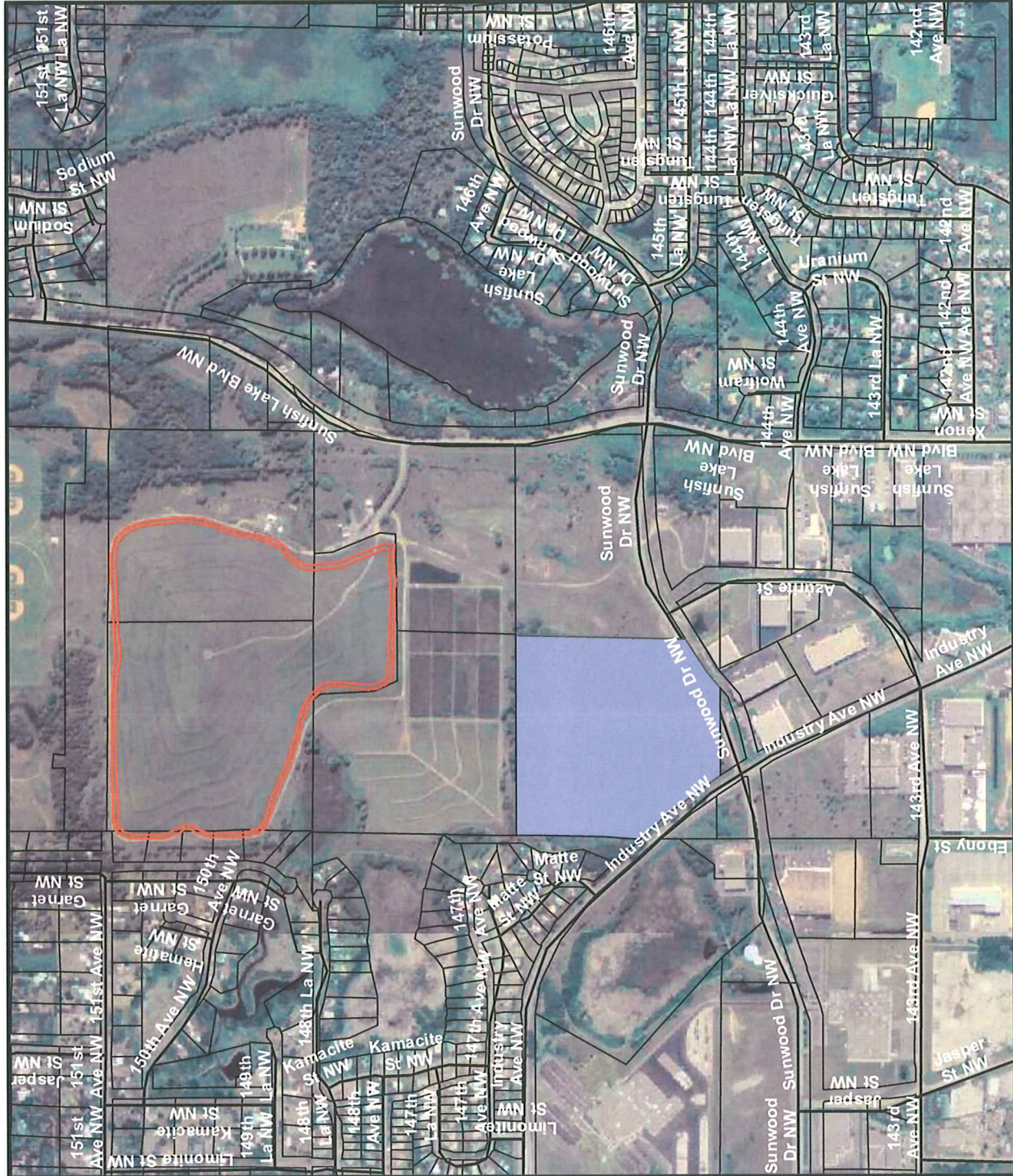
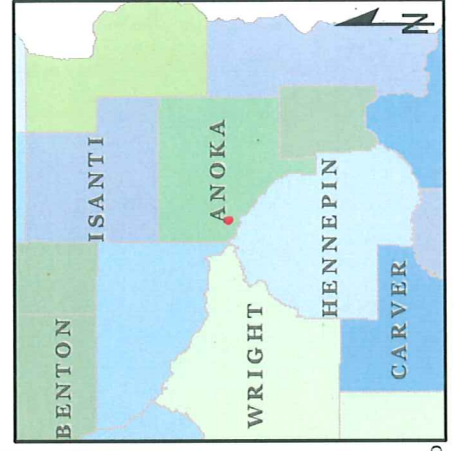
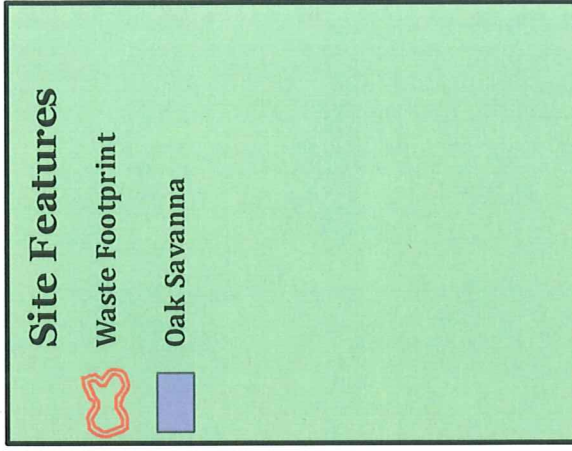
# Oak Savanna at ANOKA MUNICIPAL REGIONAL LANDFILL



Minnesota Pollution Control Agency

## Site Contacts

Land Manager: Jean Hanson  
 Engineer: Peter Tiffany  
 Hydrogeologist: Ingrid Verhagen



1:12,086

Created Feb 10, 2011 by Land Manager Jean Hanson  
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# LMA and Bond Parcels: ANOKA MUNICIPAL REGIONAL LANDFILL



**Minnesota Pollution Control Agency**

**Site Contacts**

Land Manager: Jean Hanson  
 Engineer: Peter Tiffany  
 Hydrogeologist: Ingrid Verhagen

**Site Features**



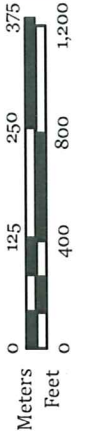
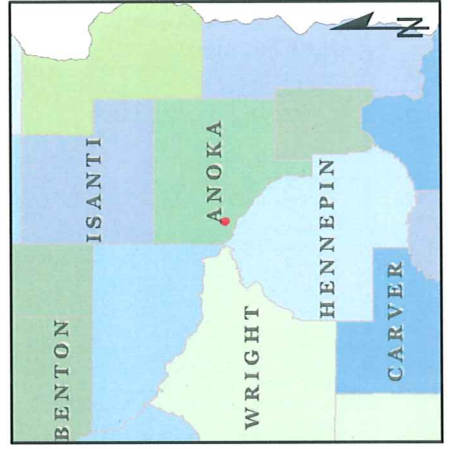
**Waste Footprint**



**Land Management Area**  
 Designates the property that is under the responsibility and control of the MPCA.



**Bond Parcel**



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