G&H Landfill Superfund Site:

A Report on the Site's Current Status

May 2007

EPA Region 5
Superfund Redevelopment Initiative

funded by
United States Environmental Protection Agency

prepared for
Shelby Township, MI

prepared by
E² Inc.

Acknowledgements

E² Inc. would like to acknowledge the following people and organizations for their participation in the reuse planning process for the G&H Landfill Superfund site to date and for their valuable contributions to this report.

April 2006 G&H Landfill Meeting Representatives

Bill Ryan - EPA Region 5
Mary Schafer - Michigan Department of Environmental Quality (MDEQ)
Ralph Maccarone, David Moore, and Joe Youngblood - Shelby Township
Richard Mieszczak - DaimlerChrysler Corporation (PRP Group Representative)
Grant Gilezan - Dykema Gossett (PRP Counsel)
Gavin O'Neill - Conestoga-Rovers (PRP Contractor)

Resource Members

Tom Bloom and Jeff Cahn - EPA Region 5
Tom Hoane and Roger Storm - Michigan Department of Natural Resources (MDNR)
Tom Woiwode - Greenways Initiative of the Community Foundation for Southwest Michigan

Table of Contents

The G&H Landfill site is surrounded by a fence (bottom right) and passive gas vents are installed over the surface of the landfill (bottom left). The site is visited by a variety of wildlife including Canada geese (top).

Introduction

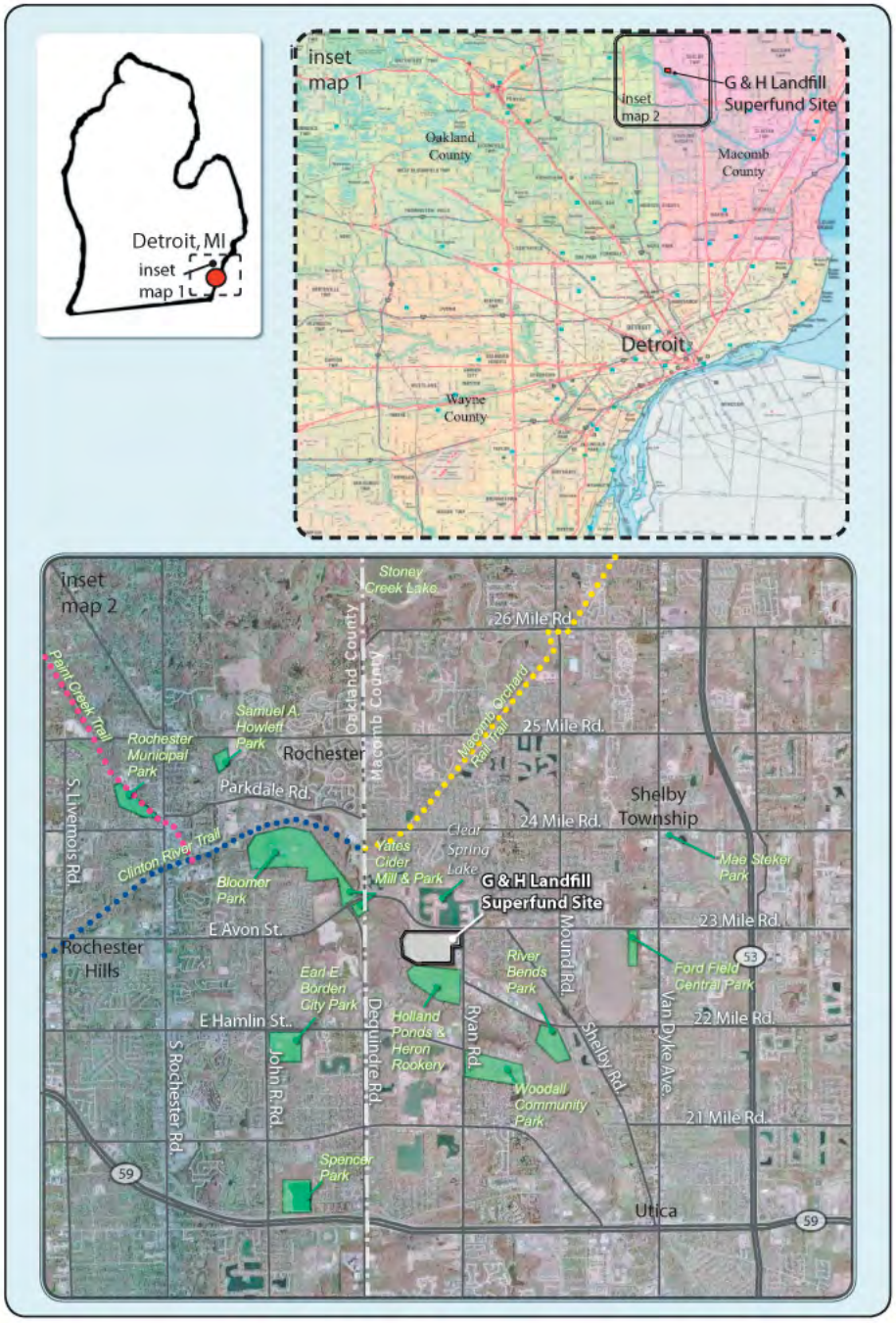
EPA's primary responsibility at Superfund sites is to ensure the protection of human health and the environment. EPA's cleanup programs have also set a national goal of returning formerly contaminated sites to long-term, sustainable, and productive use. By engaging local stakeholders in a collaborative decision-making process about a site's future use, EPA can help ensure the long-term effectiveness and permanence of site remedies. EPA provides tools and resources to support these processes both regionally and nationally. Nationally, the Superfund Redevelopment Initiative (SRI) was created by EPA in 1999 to help communities and stakeholders in their efforts to return environmentally impaired sites to beneficial use. SRI provides a range of tools and information resources for both EPA staff and stakeholders interested in site reuse.

The reuse planning process for the G&H Landfill Superfund site began in early 2006, when a local resident contacted Bill Ryan, the Environmental Protection Agency's (EPA's) Regional Project Manager (RPM) for the site, to express interest in reusing a portion of the G&H Landfill Superfund site to join existing rail-trail segments in the community. Following that discussion, Bill Ryan and Shelby Township Supervisor Ralph Maccarone met and agreed to organize a site stakeholder discussion including Shelby Township, the Michigan Department of Environmental Quality (MDEQ), EPA Region 5, and the site's Potentially Responsible Parties (PRPs) to discuss the site's current status and future land use considerations.

On April 25, 2006, representatives from Shelby Township, EPA Region 5, MDEQ, site engineering contractor Conestoga Rovers, and PRP representatives met in Shelby Township to discuss the current status and future use potential of the G&H Landfill site and to identify and begin to address current barriers to future use. At that meeting, Shelby Township representatives stated an interest in using the site for recreational purposes, including an expansion of the existing local and regional trail network via the rail right-of-way on the site and possible installation of sports fields on the former landfill.

Following that meeting, EPA Region 5 provided E^2 Inc. contractor services to conduct a situation assessment in Shelby Township, to develop a G&H Landfill site characterization and analysis, and to identify potential opportunities and challenges related to future use at the site. The consultant conducted community research and prepared site-related maps and analyses to inform a potential reuse planning process and community-based evaluation of the site and surroundings. The consultant also identified potential resources and partnerships to facilitate planning for the site's future use. This document summarizes key findings for the site to date, which have been informed by ongoing communications with site stakeholders and other local resource representatives.

This document presents an approach to thinking about the site's potential future use. EPA is not advocating for any particular future site use. EPA's role is to work with local stakeholders to ensure that site redevelopment activities take into account the site's remedy to ensure that the site is safe for future users. The ideas presented in this document are intended to stimulate discussion and serve as the first step in an iterative process of reuse planning.



The G&H Landfill Superfund Site is located 25 miles north of Detroit, Michigan in Shelby Township, Macomb County.

Site History

A sand and gravel quarry existed at the site through the early 1950s. In the mid-1950s, landowner Leonard Forester leased the site to the G&H Industrial Fill Company, which operated a landfill on the site between 1955 and 1973. The landfill accepted municipal refuse, solid industrial wastes, and liquid industrial wastes, including solvents, paints, varnishes, lacquers, and waste oils for disposal.

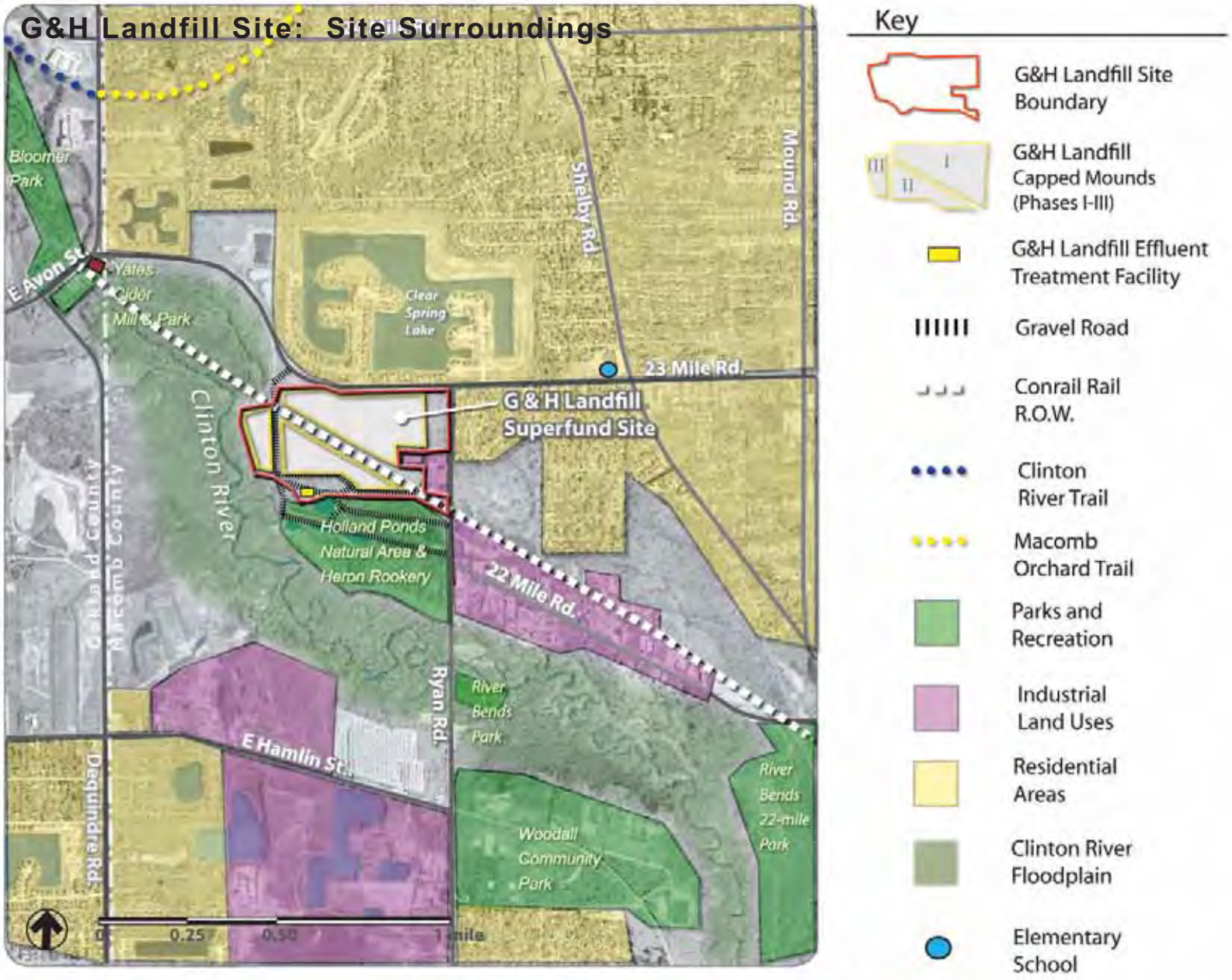
The disposal of liquid industrial waste at the site ceased in 1967 when State of Michigan authorities discovered groundwater contamination in areas south of the site. The site continued to operate as a sanitary landfill until 1973. The State referred the site to EPA in 1982 and the site was listed on the National Priorities List (NPL) in 1983. The site's Remedial Investigation (RI) and Feasibility Study (FS) were completed by 1990, and EPA issued a Record of Decision (ROD) for the site in December 1990.

EPA initiated four removal actions at the site between 1982 and 1987, including construction of a site fence and installation of systems to capture contaminated oils seeping from the site. The remedy selected in the site's ROD included installation of a landfill cap, excavation of PCB-impacted soils from areas outside of the landfill and consolidation of those soils beneath the landfill cap, installation of an impermeable underground slurry wall around the landfill areas (a toe drain was installed on the site's west side where a water main makes a slurry wall impracticable), installation of a groundwater extraction and treatment system, implementation of a groundwater monitoring program, and the mitigation of impacted wetlands and creation of new wetlands to replace wetlands lost due to cleanup actions at the site. EPA classified the site as construction complete in 1999. Groundwater extraction and treatment is expected to continue for 30 years.

The ROD also states that institutional controls (ICs), which are administrative and legal tools used to maintain protection of human health and the environment, will need to be implemented at the site. ICs are used when contamination is first discovered, when remedies are ongoing and when residual contamination remains onsite at a level that does not allow for unrestricted use and unlimited exposure after cleanup. ICs outlined in the G&H Landfill site ROD include deed restrictions on the site and ground water use restrictions in off-site areas located east of Ryan Road, until groundwater cleanup standards are met. A review of local property parcels indicates that deed restrictions have not yet been recorded.

Site Surroundings

The 60-acre G&H Landfill Superfund site is located at the junction of 23 Mile Road and Ryan Road, and includes a three-phase, sixty-acre landfill, a Conrail railroad right-of-way, and an effluent treatment facility. The site is surrounded by a mix of physical features and land uses (see map on facing page), including Spring Lake and Clear Spring Lake, which are two new residential developments located on Spring Lake to the north, an older residential subdivision of approximately 80 homes to the east, and several light industrial facilities to the southeast. The Clinton River runs near the site's western and southern boundaries, and the 30-acre Holland Ponds Natural Area, part of the former Rochester-Utica State Recreational Area, is located south of the site. A temporary indoor soccer structure is located west of the site.


G&H Landfill Site: Site Surroundings
Bloomer Park
E Avon St.
Yates Cider Mill & Park
Clear Spring Lake
Shelby Rd.
Mound Rd.
23 Mile Rd.
G & H Landfill Superfund Site
Clinton River
Macomb County Orchard Trail
Holland Ponds Natural Area & Heron Rookery
22 Mile Rd.
Ryan Rd.
River Bends Park
E Hamlin St.
Dequindre Rd.
Woodall Community Park
River Bends 22-mile Park
0
0.25
0.50
1 mile
Key
G&H Landfill Site Boundary
G&H Landfill Capped Mounds (Phases I-III)
G&H Landfill Effluent Treatment Facility
Gravel Road
Conrail Rail R.O.W.
Clinton River Trail
Macomb Orchard Trail
Parks and Recreation
Industrial Land Uses
Residential Areas
Clinton River Floodplain
Elementary School

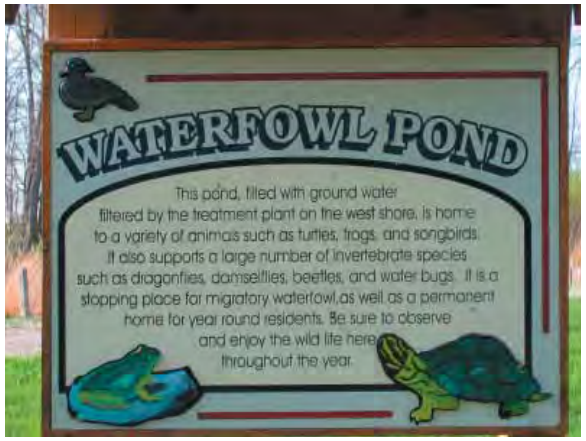
Key Stakeholder Interests

At the April 2006 stakeholder meeting, participants expressed concerns and interests related to the site's potential future use and ongoing operations and maintenance. Based on discussions held at that meeting, the contractor identified a series of key stakeholder interests which are outlined below.

· *The long-term protection of the health and safety of community residents should be the top priority at the site.* Shelby Township representatives have stated the importance of ensuring the safety of community residents, and EPA and MDEQ representatives have stated that future site uses will need to maintain the integrity of the site's remedy to ensure the long-term protection of the health and safety of future site users.

· *Transfer of the site's ownership could help foster the site's reuse and ensure the stewardship of the site over the long-term.* Shelby Township representatives have expressed interest in the ownership and reuse of the G&H Landfill site, if the site can be acquired at minimal cost to the Township. Shelby Township representatives will need to contact the Michigan Department of Natural Resources (MDNR), the site's current owner, to determine the site's availability.

· *Future site uses should take into account and ensure the protectiveness of the site's remedy.* The site's PRP representatives and PRP contractor Conestoga Rovers have expressed support for future site uses that will not damage or require significant changes to the site's remedy.



Photos above include (from left to right) a view of the G&H Landfill site cap from the adjacent Holland Ponds Natural Area, the G&H Landfill site effluent treatment facility, and informational signage at the Holland Ponds Natural Area which describes the use of ground water treated at the G&H Landfill site's effluent treatment facility to feed the natural area's ponds.

· *Future land uses at the site should blend with surrounding land uses and serve as an amenity for surrounding neighborhoods.* Residents of neighborhoods adjacent to the site have expressed interest in the remediation of the G&H Landfill site as well as future use opportunities at the site. Residents have also expressed concerns about the potential stigma, including reduced property values, associated with the fencing and signage currently located around the site.

· *Recreational uses at the site could serve as an amenity for residents of adjacent neighborhoods and the larger Shelby Township community.* The Shelby Township Parks and Recreation Department has expressed interest in expanding park and recreational resources in the Township. Department representatives have stated that the former CSX rail bed which runs through the G&H Landfill site could link together existing recreational trails located east and west of the site, expanding the regional trail network. Other potential uses for the site, as identified by Parks Department staff, include active recreational uses such as a junior golf course and soccer fields, and passive recreational uses including walking trails, wildlife habitat, and a bird sanctuary.

· *The site, the site's water treatment plant, and the adjacent Holland Ponds Natural Area could provide environmental education opportunities for community members.* The Shelby Township Parks, Recreation and Maintenance Department has expressed interest in using the Holland Ponds Natural Area, which is located adjacent to the G&H Landfill site and is fed by clean water from the site's treatment plant, as a learning center where visitors could learn about the connections between the former industrial site and the natural area.

Land uses surrounding the site (pictured above from left to right) include Yates Park to the northwest, Clear Spring Lake, a new residential development to the north, and older subdivision of approximately 80 homes to the east.

Site Characterization Analysis and Future Use Considerations

Following the April 2006 stakeholder meeting, the contractor developed a site characterization analysis that was informed by the key stakeholder interests outlined on the previous page as well as physical and regulatory considerations at the site. This site status report creates a framework for thinking about a range of uses for the site rather than presenting a definitive plan for the site's reuse. This report takes into account Superfund program characteristics and site remedy components, site ownership considerations for the landfill and the railroad right-of-way, topography challenges, and the compatibility of potential future site uses with surrounding land uses and community needs.

Site Remedy Elements

The G&H Landfill site remedy includes a site fence, site cap, monitoring wells and passive gas vents, a slurry wall, a leachate collection system, and an effluent treatment facility. The site characterization analysis included in this section of the report presents maps and supporting text that identify the site's key characteristics and evaluate the current status of each of the site's remedy components. This section also includes a review of potential future land use implications that may need to be taken into account as plans are developed for future uses at the site.

Site Fence

The site fence restricts access to the three capped phases of the landfill, the site's effluent treatment facility, and the wetland area located in the northeast corner of the site. Moving forward, reuse planning efforts could consider how the site's fence could be reconfigured or removed in key areas to facilitate appropriate site access.

Site Cap

The site's cap system covers the majority of the site's 60 acres and provides an impermeable barrier between the site's surface and the refuse located in the landfill. During operations, the G&H Landfill was developed in three phases. As a result, the configuration of the site's remedy included three capped landfill phases, where Phases I and II are separated from each other by the Conrail railroad right-of-way, and from Phase III by the site's primary access road. Each of the site's three phases is addressed independently in later sections of this report.

The cap system consists of a bentonite-containing geotextile liner covered by twelve inches of clay, and a topsoil layer and planted with grass. Draft deed restrictions in the site's 1991 Consent Decree include restrictions on grading, excavation, farming, mining, building, and the continued presence of humans at the site. Given that future use plans will likely impact the cap system, EPA decision documents including the 1991 Consent Decree could need to be amended and appropriate engineering controls approved by the site's engineering contractor and EPA to ensure that the integrity of the cover system remains protected.

Buildings have been constructed on landfills in other locations using floating foundations or pilings. For example, the Home Depot in Oregon City, Oregon and the Walkers Brook Crossing mixed-use development in Reading, Massachusetts were both constructed on former landfills using pile construction. The Home Depot in San Mateo County, California was built on a pile foundation and included a parking lot constructed on a hinged floating foundation.

Photographs above include the G&H Landfill site's effluent treatment facility (top left), the fence surrounding the Phase III landfill near the Clinton River (top right), monitoring wells located in the Holland Ponds Natural Area (bottom right), and the site's main access road (bottom left).

Monitoring Wells and Passive Gas Vents

Monitoring wells and passive gas vents are installed across the surface of the landfill's three phases and in surrounding areas, including the Holland Ponds Natural Area to the south, the Clinton River floodplain to the west, wetlands in the northeast corner of the site, and adjacent neighborhoods. The passive gas vents provide release points for gases generated beneath the site's cap, and the site's monitoring wells are used to test and monitor area ground water. Based on the expectation that the site's monitoring wells and passive gas vents will likely need to remain in operation for the forseeable future, planning for future site uses will need to include monitoring well considerations such as whether wells and vents could be relocated or flush-mounted to increase the surface area available for future uses, and the types of uses that could be possible where wells and vents remain in place.

These considerations have been incorporated at several former landfills across the country, enabling the sites to be returned to use. At the HOD Landfill in Antioch, Illinois, for example, responsible party Waste Management made special design modifications to the remedy to ensure that the former landfill could support future recreational uses. Leachate and gas extraction well heads were installed in below-ground vaults so that they could be covered with synthetic turf to allow recreational users to play above them, while also being easily accessible for ongoing monitoring purposes.

Slurry Wall

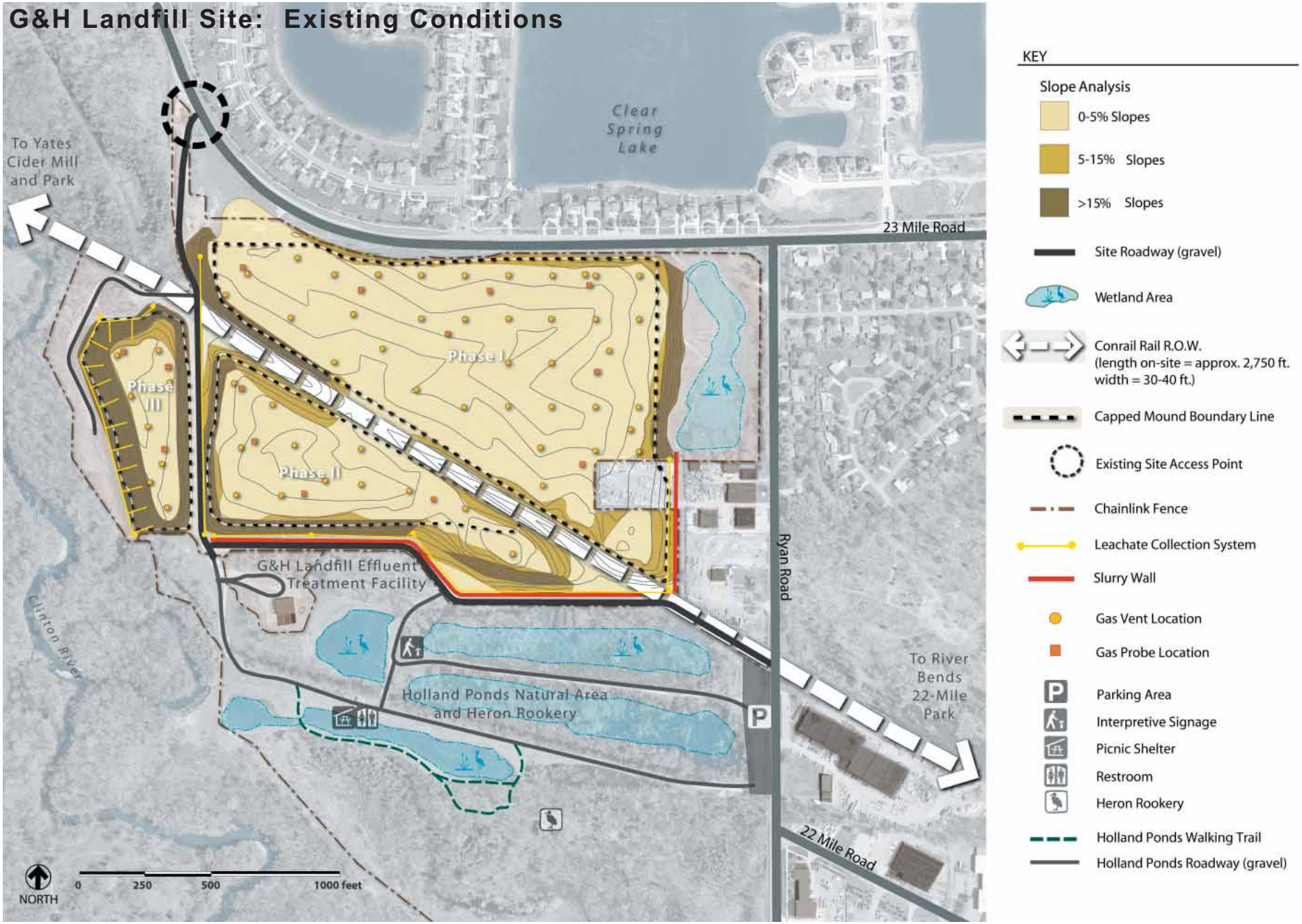
A below ground slurry wall runs along the site's southern boundary and northward along a portion of the site's eastern boundary. The purpose of the slurry wall system is to prevent the runoff of landfill leachate into the wetlands located south of the site by collecting and directing leachate to the site's effluent treatment facility. Future site uses on or near the slurry wall may be feasible, but will need to ensure ongoing access to the wall for maintenance and monitoring. Future use opportunities could include recreational trails such as those proposed for the Velsicol Chemical Company Superfund site in St. Louis, Michigan, which would allow for recreational uses above the slurry wall while ensuring access to the wall below.

Leachate Collection System

The site's leachate collection system collects leachate from the base of the landfill and transfers it to the site's effluent treatment facility for processing. The leachate collection system is located beneath the site's cap, and accordingly would likely not be affected by future site uses.

Effluent Treatment Facility

The site's effluent treatment facility is located south of the site's Phase II landfill. The facility receives contaminated effluent captured by the site's slurry wall and leachate collection system, treats the effluent, and releases clean water into wetlands in the adjacent Holland Ponds Natural Area. While the facility will remain an element of the site's long-term operations and maintenance plan for the foreseeable future, near-term use considerations could include developing environmental education materials that, in conjunction with treatment facility and wetland tours, could teach community residents about the site's history, remediation, and reuse plans, and the area's natural resources. In the long-term, the site's effluent treatment facility could be adaptively reused as a municipal water treatment facility. For example, at the HOD Landfill discussed above, the leachate system tank will be reused to serve restrooms in a new recreational facility located at the site.


G&H Landfill Site: Existing Conditions
Clear Spring Lake
To Yates Cider Mill and Park
23 Mile Road
Phase I
Phase II
Phase III
G&H Landfill Effluent Treatment Facility
Ryan Road
Clinton River
Holland Ponds Natural Area and Heron Rookery
To River Bends 22-Mile Park
22 Mile Road
NORTH
0
250
500
1000 feet
KEY
Slope Analysis
0-5% Slopes
5-15% Slopes
>15% Slopes
Site Roadway (gravel)
Wetland Area
Conrail Rail R.O.W. (length on-site = approx. 2,750 ft. width = 30-40 ft.)
Capped Mound Boundary Line
Existing Site Access Point
Chainlink Fence
Leachate Collection System
Slurry Wall
Gas Vent Location
Gas Probe Location
Parking Area
Interpretive Signage
Picnic Shelter
Restroom
Heron Rookery
Holland Ponds Walking Trail
Holland Ponds Roadway (gravel)

Landfill Phases and the Rail Right-of-Way

The site's landfill area includes three waste disposal phases, a rail right-of-way (ROW), a wetland area, a light industrial area, and the effluent treatment facility, which are each described in this section of the report.

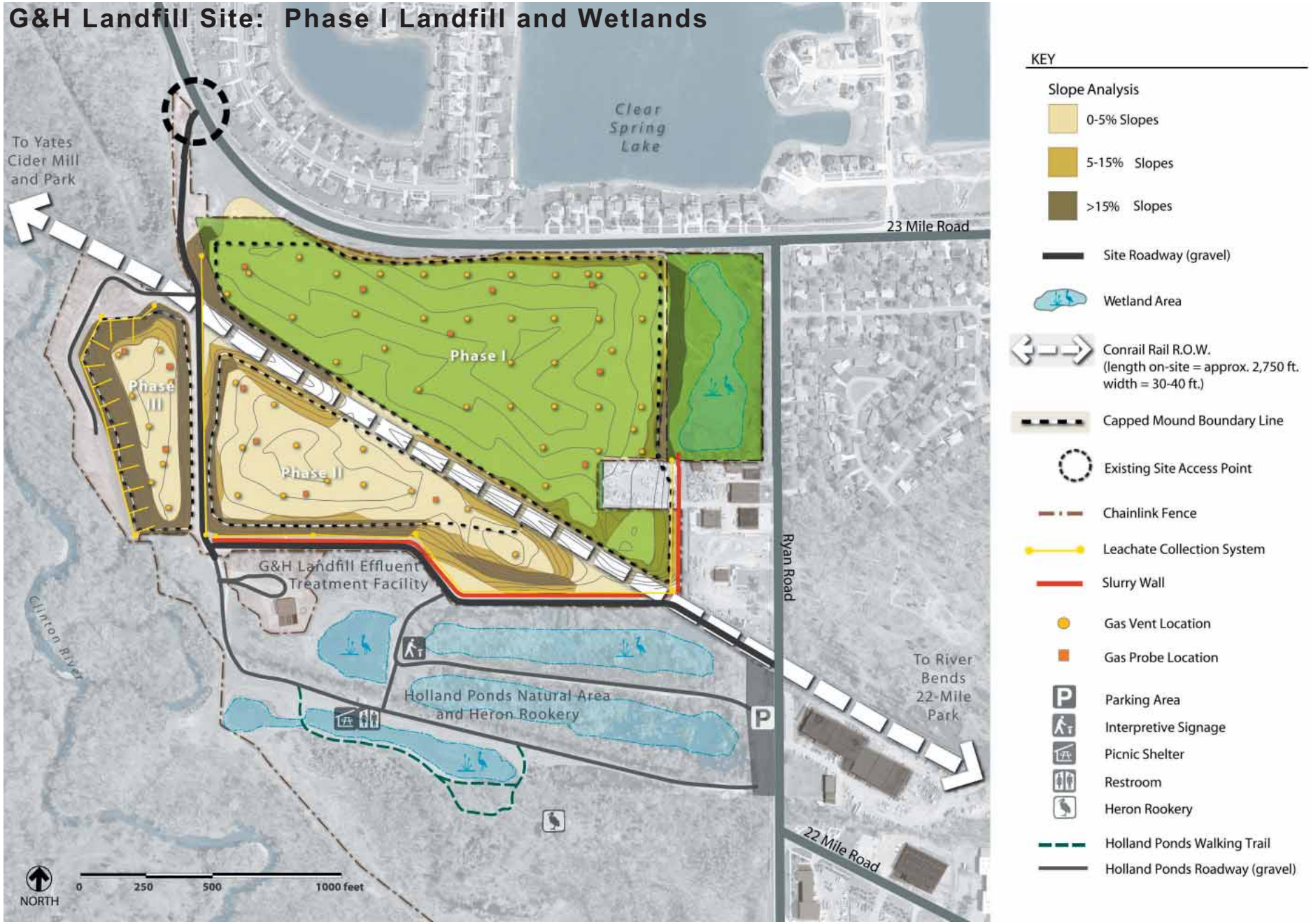
Phase I Landfill and Wetland: Physical Characteristics

As illustrated in the map on the facing page, the 44-acre Phase I landfill includes relatively flat topography across the landfill phase's surface, with slopes ranging from 0% to 5%. Western portions of the area, where the Phase I landfill meets the rail ROW, have steeper slopes between 5% and 15%. While the number and location of monitoring wells, gas vents, and gas probes on the site will be confirmed by an updated site feature survey that is due for completion by mid-2007, currently available information indicates the presence of 36 vents on the Phase I landfill. Current access to this portion of the site is via the site's main gate on 23 Mile Road.

Phase I Landfill: Future Considerations

The Phase I landfill has the largest surface area of the three phases; with approximately 31.5 flat surface acres, this landfill phase could potentially support future uses such as a youth golf course, a driving range, or sports fields. The approximate unencumbered surface area required to support these types of uses includes fifteen to twenty-five acres for a youth golf course, ten acres for a driving range, and two to three acres for ball fields. The larger eastern portion of the Phase I landfill is likely best suited for uses that require the largest number of acres. Some grading and remedy alterations may be necessary to meet the surface requirements for a golf course or playing fields. Remedy alterations could include the removal, relocation, or flush mounting of monitoring wells and gas vents, in order for the Phase I landfill to support a mix of active recreational uses. The construction of buildings such as restrooms or dugouts may be necessary to support recreational uses. These buildings can likely be constructed on floating foundations on the landfill's cap, but additional considerations may be necessary if construction will require digging through the cap.

Passive recreational uses that would likely not require extensive site remedy alterations could include wildlife viewing and walking trails that could be designed around the site's existing gas vents and monitoring wells. The wetland area located in the northeast corner of the site could potentially also provide opportunities for passive recreation and environmental education. Passive and active recreational amenities at the site could be used by residents of the three residential communities located north and east of the site and by employees from the industrial area located on the site's eastern edge.


G&H Landfill Site: Phase I Landfill and Wetlands
Clear Spring Lake
To Yates Cider Mill and Park
23 Mile Road
Phase I
Phase II
Phase III
G&H Landfill Effluent Treatment Facility
Clinton River
Holland Ponds Natural Area and Heron Rookery
Ryan Road
To River Bends 22-Mile Park
22 Mile Road
P
NORTH
0
250
500
1000 feet
KEY
Slope Analysis
0-5% Slopes
5-15% Slopes
>15% Slopes
Site Roadway (gravel)
Wetland Area
Conrail Rail R.O.W. (length on-site = approx. 2,750 ft. width = 30-40 ft.)
Capped Mound Boundary Line
Existing Site Access Point
Chainlink Fence
Leachate Collection System
Slurry Wall
Gas Vent Location
Gas Probe Location
Parking Area
Interpretive Signage
Picnic Shelter
Restroom
Heron Rookery
Holland Ponds Walking Trail
Holland Ponds Roadway (gravel)

Phase II Landfill: Physical Characteristics

As illustrated in the map on the facing page, the 17-acre Phase II landfill includes relatively flat topography across the landfill phase's surface, with slopes ranging from 5% to 15% around the perimeter of the capped mound. Portions of the area where the Phase II landfill meets the site access road to the west and the Holland Ponds Natural Area to the south have steeper slopes (greater than 15%). Currently available information indicates that 14 vents are located on the Phase II landfill. The number and location of monitoring wells, gas vents, and gas probes on the site will be confirmed by an updated site feature survey that will be completed in 2007. Current access to the Phase II landfill is via the site's main gate on 23 Mile Road.

The site's effluent treatment facility is located south of the site's Phase II landfill. While the facility is a component of the site's long term operations and maintenance plan, the structure could be adaptively reused, following completion of the treatment of site effluent material.

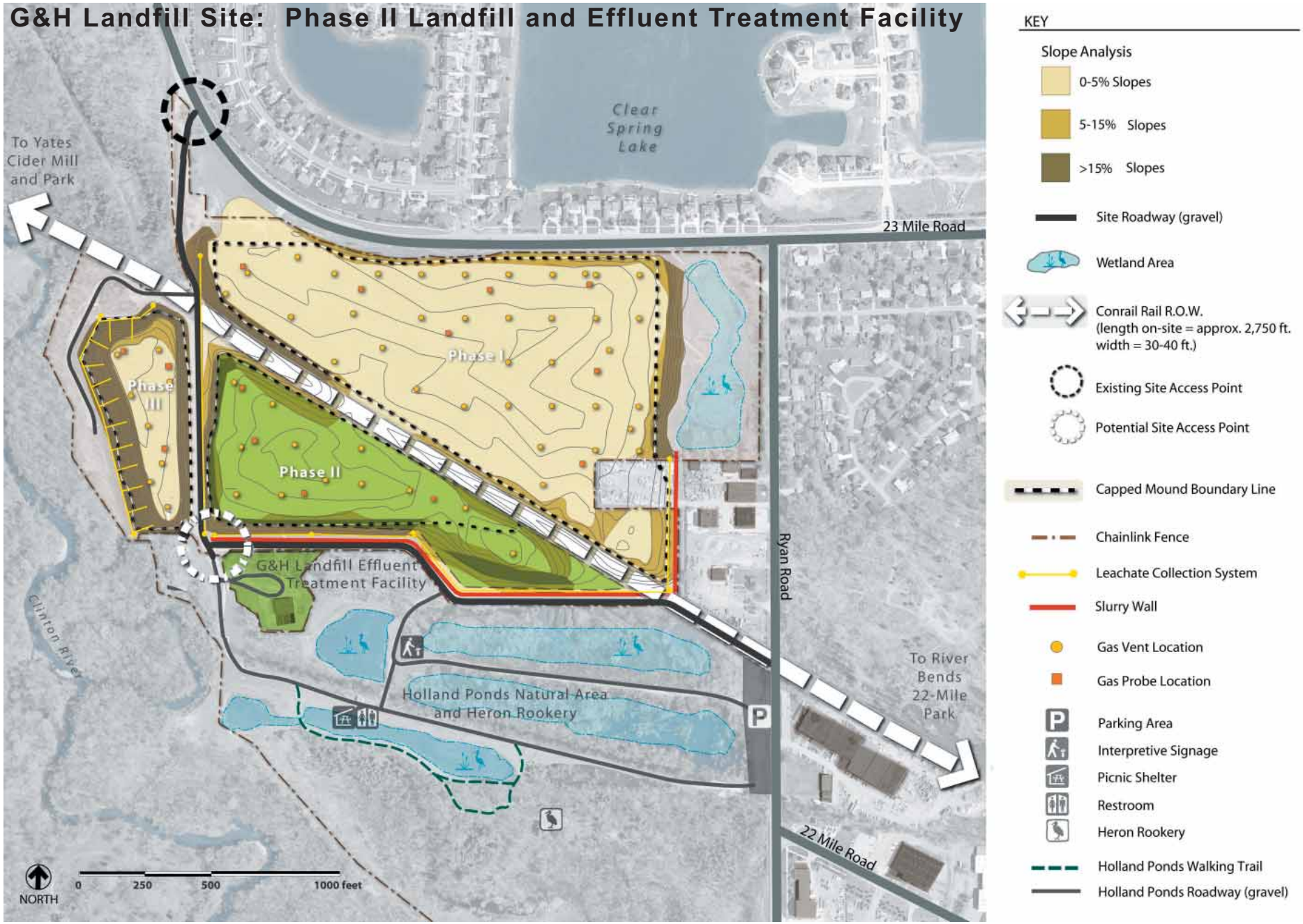
Phase II Landfill: Future Considerations

While the Phase II landfill is smaller than Phase I, it includes nine acres of relatively flat surface area. Future uses in this area could include sports fields with lower acreage requirements, such as fields for soccer, baseball, or softball. The average unencumbered surface area required to support these types of uses ranges from 1.5 to 2.5 acres. The western portion of the Phase II landfill is likely best suited for uses that require the largest number of acres. Some grading and remedy changes may also be necessary to achieve the surface requirements for playing fields. Remedy alterations could include the removal, relocation, or flush mounting of monitoring wells and gas vents, in order for the Phase I landfill to support a mix of active recreational uses. The construction of buildings such as restrooms or dugouts may be necessary to support recreational uses. These buildings can likely be constructed on floating foundations on the landfill's cap, but additional considerations may be necessary if construction will require digging through the cap.

Passive recreational uses that would likely not require extensive site remedy alterations could include wildlife viewing and walking trails that could be designed around the site's gas vents and monitoring wells. The proximity of this landfill phase to the Holland Ponds Natural Area also means that this area could directly link the site with the natural area.

The location of the Phase II landfill means that access improvements would also likely need to be considered to support future uses. Access improvements could include working with the existing gravel roadway that extends from 23 Mile Road as well as the creation of new access points. For example access through the gate located near the site's effluent treatment facility (highlighted in the map on the facing page) could increase the number of access points to the site and improve connectivity between the Phase II landfill and the adjacent Holland Ponds Natural Area.

Near-term considerations for future use of the site's effluent treatment facility could include developing environmental education materials that, in conjunction with plant and wetland tours, could teach community residents about the site's history and remediation, reuse plans, and the area's natural resources. In the long-term, the site's effluent treatment facility could be adaptively reused as a municipal water treatment facility.


G&H Landfill Site: Phase II Landfill and Effluent Treatment Facility
Clear Spring Lake
To Yates Cider Mill and Park
23 Mile Road
Phase I
Phase II
Phase III
G&H Landfill Effluent Treatment Facility
Ryan Road
Clinton River
Holland Ponds Natural Area and Heron Rookery
To River Bends 22-Mile Park
22 Mile Road
NORTH
0
250
500
1000 feet
KEY
Slope Analysis
0-5% Slopes
5-15% Slopes
>15% Slopes
Site Roadway (gravel)
Wetland Area
Conrail Rail R.O.W.
(length on-site = approx. 2,750 ft.
width = 30-40 ft.)
Existing Site Access Point
Potential Site Access Point
Capped Mound Boundary Line
Chainlink Fence
Leachate Collection System
Slurry Wall
Gas Vent Location
Gas Probe Location
Parking Area
Interpretive Signage
Picnic Shelter
Restroom
Heron Rookery
Holland Ponds Walking Trail
Holland Ponds Roadway (gravel)

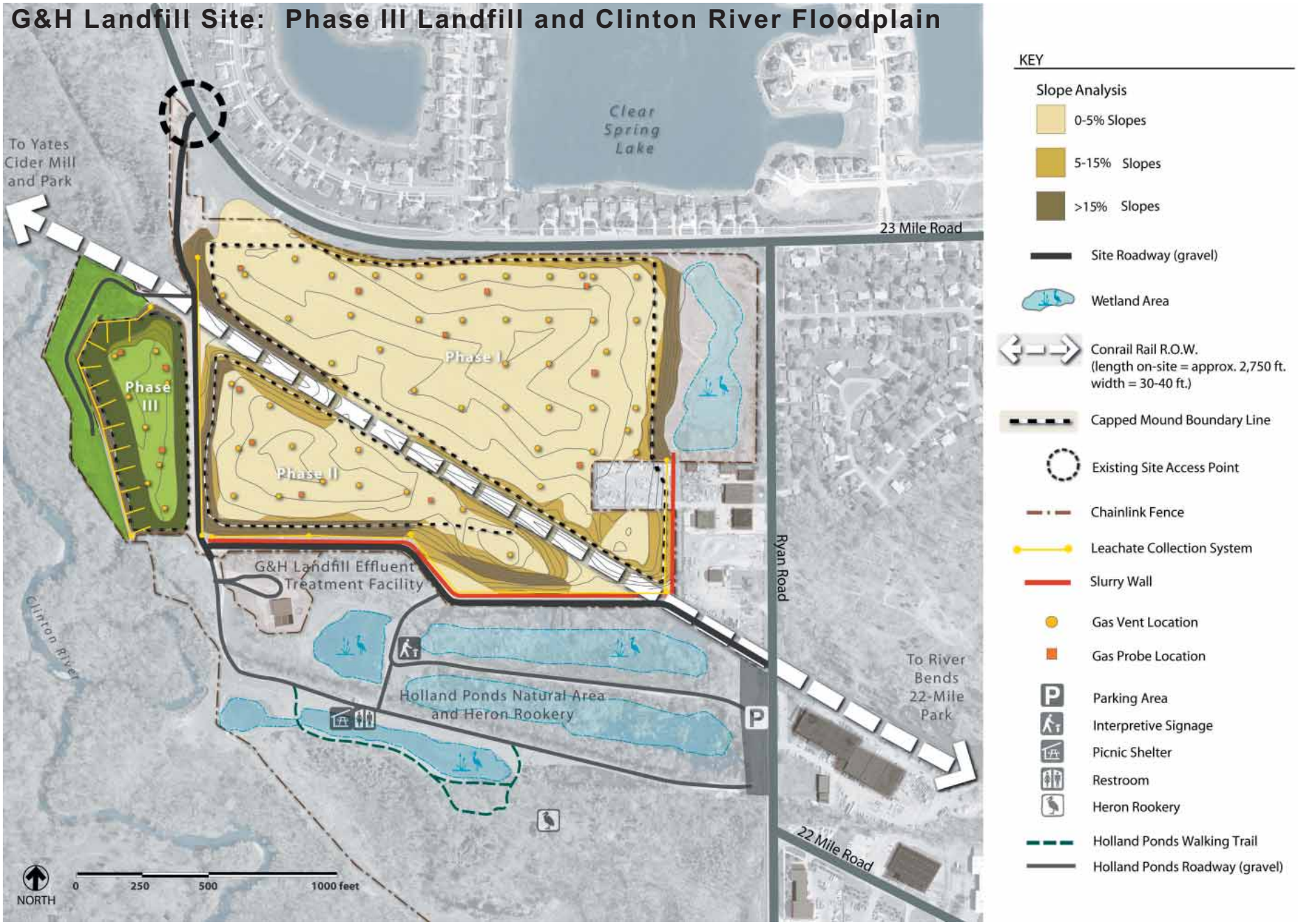
Phase III Landfill: Physical Characteristics

The map on the facing page demonstrates that the eight-acre Phase III landfill is the smallest and steepest of the three landfill phases. The topography of Phase III is relatively steep on the west side, with slopes of 15% or greater as the site meets the Clinton River floodplain. The number and location of monitoring wells, gas vents, and gas probes on the site will be confirmed by an updated site feature survey that will be completed in 2007. Currently available information indicates the presence of eight vents on the Phase III landfill. Current access to the Phase III landfill is via the site's main gate on 23 Mile Road.

Phase III is located adjacent to the Clinton River floodplain to the west, the Conrail ROW to the north, the site's gravel access road to the east, and a gate located near the site's effluent treatment facility to the south.

Phase III Landfill: Future Considerations

With only three acres of minimal slopes that range from 0% to 5%, the Phase III landfill is the smallest and steepest landfill phase, so future uses will likely be limited to passive uses such as recreation or environmental education. Future uses on the Phase III landfill will also need to consider potential access challenges presented by the steep slopes on the north and west sides of Phase III. Minor alterations to the site's remedy would likely be necessary to accommodate walking trails, wildlife viewing, learning stations, or other passive uses. Uses on the Phase III landfill could also increase connectivity within the site and enhance access to passive recreation opportunities located adjacent to the site.


G&H Landfill Site: Phase III Landfill and Clinton River Floodplain
To Yates Cider Mill and Park
Clear Spring Lake
23 Mile Road
Phase III
Phase I
Phase II
G&H Landfill Effluent Treatment Facility
Ryan Road
Clinton River
Holland Ponds Natural Area and Heron Rookery
To River Bends 22-Mile Park
22 Mile Road
NORTH
0
250
500
1000 feet
KEY
Slope Analysis
0-5% Slopes
5-15% Slopes
>15% Slopes
Site Roadway (gravel)
Wetland Area
Conrail Rail R.O.W.
(length on-site = approx. 2,750 ft.
width = 30-40 ft.)
Capped Mound Boundary Line
Existing Site Access Point
Chainlink Fence
Leachate Collection System
Slurry Wall
Gas Vent Location
Gas Probe Location
Parking Area
Interpretive Signage
Picnic Shelter
Restroom
Heron Rookery
Holland Ponds Walking Trail
Holland Ponds Roadway (gravel)

Rail Right-of-Way: Physical Characteristics

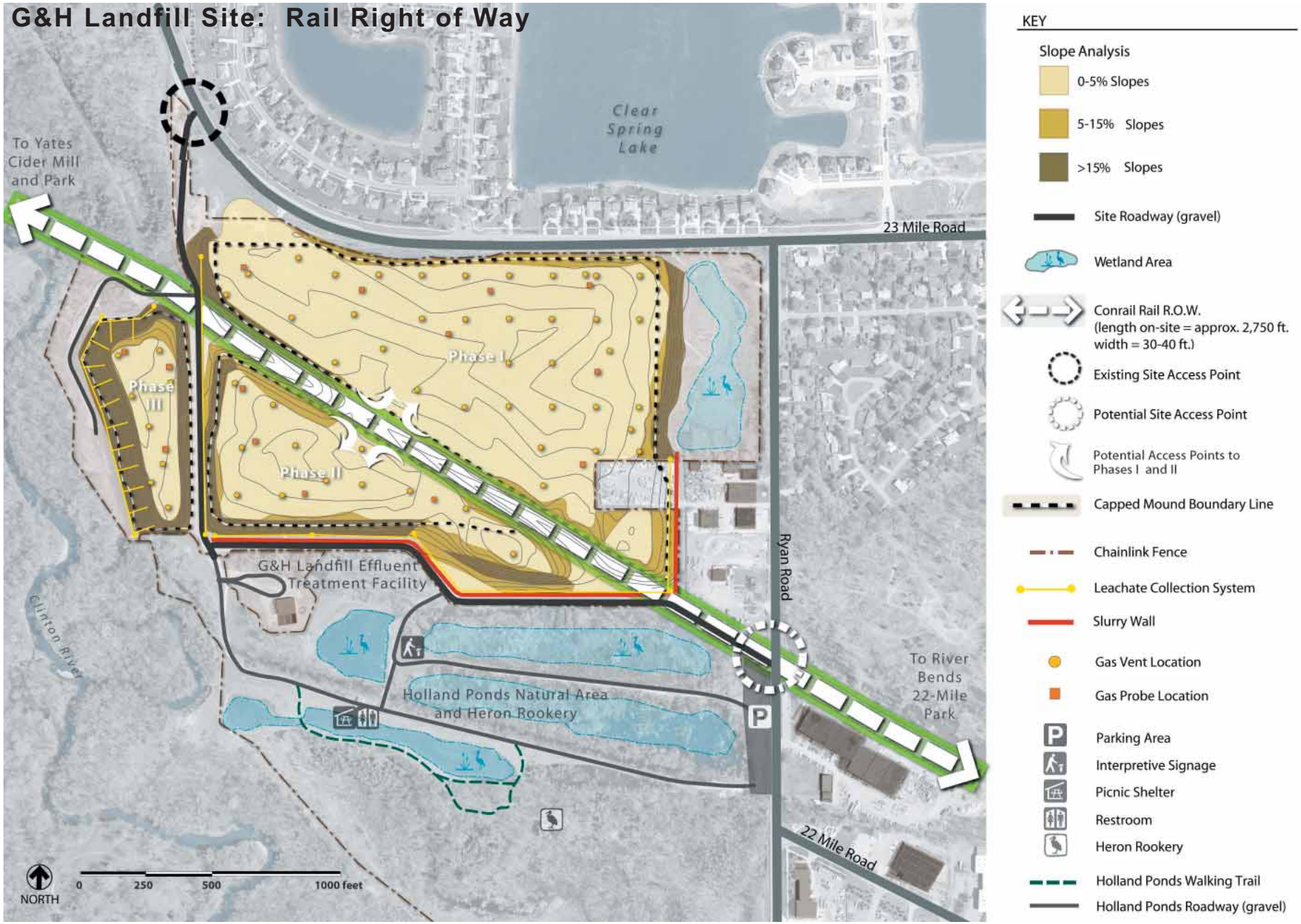
The site's rail right-of-way (ROW) extends 2,750 feet southeast through the site. The ROW ranges in width from 30 feet to 40 feet, is characterized by fairly flat topography, and is bordered on both sides by the slopes of the adjacent landfill phases. Given that there is no refuse located beneath the rail ROW, remedy alterations will not be necessary to accommodate the ROW's conversion for future uses. While no elements of the former rail line remain, the ROW is currently owned by Conrail and the company has designated the ROW as surplus property. Current access to the ROW is via the site's main gate on 23 Mile Road.

Rail Right-of-Way: Future Considerations

The rail ROW extends beyond the site boundary in a linear fashion to the northwest and southeast, making the ROW suitable as the location of a recreational trail that could increase connectivity within the existing Shelby Township and Macomb County trail networks. By creating links between Yates Cider Mill and Park to the northwest and River Bends 22-Mile Park to the southeast, reuse of the rail ROW could also tie into the area's cross-county trail network. Consideration may need to be given, however, to how the rail ROW will relate to other areas of the site.

Shelby Township would likely need to acquire the surplus property-designated rail ROW from Conrail in order to develop a recreational trail. Conversion of the former railbed into a recreational trail may require some site preparation and the installation of a surface material, such as crushed limestone, that would be suitable to support recreational use.
A new access point to the trail could be provided near the intersection of the rail ROW with Ryan Road. A parking lot in this location currently serves visitors to the Holland Ponds Natural Area and could likely also serve users of the recreational trail. The map on the facing page highlights areas where access between the rail ROW and the Phase I and II landfills may be feasible, based on the site's topography.

With no refuse located beneath the site's rail ROW, structures could also likely be located in the area to provide support services, like restrooms or education facilities, for the site. All site reuse plans will need to be reviewed by EPA.


G&H Landfill Site: Rail Right of Way
Clear Spring Lake
To Yates Cider Mill and Park
23 Mile Road
Phase I
Phase II
Phase III
G&H Landfill Effluent Treatment Facility
Ryan Road
Clinton River
Holland Ponds Natural Area and Heron Rookery
To River Bends 22-Mile Park
22 Mile Road
NORTH
0
250
500
1000 feet
KEY
Slope Analysis
0-5% Slopes
5-15% Slopes
>15% Slopes
Site Roadway (gravel)
Wetland Area
Conrail Rail R.O.W. (length on-site = approx. 2,750 ft. width = 30-40 ft.)
Existing Site Access Point
Potential Site Access Point
Potential Access Points to Phases I and II
Capped Mound Boundary Line
Chainlink Fence
Leachate Collection System
Slurry Wall
Gas Vent Location
Gas Probe Location
Parking Area
Interpretive Signage
Picnic Shelter
Restroom
Heron Rookery
Holland Ponds Walking Trail
Holland Ponds Roadway (gravel)

Key Future Use Considerations

Based on the site characterization presented in this report and stakeholder interests expressed in potential future uses at the G&H Landfill site, the following site-related considerations will likely need to be addressed in order for planning for the site's reuse to move forward.

Site Ownership

Two parcels comprise the G&H Landfill site and are owned by MDNR. The site's two parcels -- 2033928 and 2033929 -- are located in Macomb County Section 19, 3 North, 12 East. The agency acquired the parcels through tax reversion in 1993 and holds ownership of the land's mineral rights and surface use rights.

MDNR currently holds a pending nondevelopment mineral lease with the West Bay Exploration Company, an oil and gas company located in Traverse City, Michigan. The lease will be finalized when West Bay Exploration concludes a title search to confirm MDNR's ownership of the parcels' mineral rights. West Bay Exploration must complete the title search within six months of the March 1, 2007 lease initiation date to verify MDNR's ownership of the site's mineral rights and validate the lease. MDNR assumes that the agency retains ownership of the parcels' mineral rights unless proven otherwise by written documentation.

MDNR staff have indicated that, while the site's mineral rights are under contract, MDNR would entertain a separate offer to purchase surface rights for the site's two parcels. Written parcel descriptions do not include the Conrail rail right-of-way in the parcels acquired by MDNR through the tax reversion process.

Rail Right-of-Way Ownership

The rail right-of-way is currently owned by Conrail and has been designated by the company as surplus property. Based on preliminary email communications with Conrail's Regional Real Estate Director for the Eastern United States, the company would be willing to work with interested parties and divest the property. Site stakeholders would need to coordinate with Conrail to pursue acquisition of the ROW and coordinate the timing of the acquisition with the acquisition of the two site properties owned by MDNR.

Remedy Reconfiguration

The current configuration of the G&H Landfill site's remedial components, including monitoring wells and passive gas vents on the surfaces of the site's three landfill phases will limit future use potential on these portions of the site. The feasibility of developing recreational amenities at the site will likely depend on the ability and willingness of site stakeholders to work together to remove, relocate, or reconfigure these remedy elements as needed. Detailed engineering studies will be necessary as part of subsequent planning efforts to determine optimal removal, relocation, or reconfiguration scenarios.

Decision Documents and Institutional Controls

The Consent Decree for the G&H Landfill site requires that institutional controls (ICs) be placed on the site to help ensure the long-term stewardship and protectiveness of the site's remedy. The document further states that the site's PRPs are required to record a fully executed copy of the Consent Decree and deed restrictions with the Macomb County Register of Deeds to ensure that future site uses will not impair or defeat any response actions on, under, or adjacent to the site. To date, deed restrictions have not been filed.

Draft ICs included in the Consent Decree state:

-- No use of the ground water underlying the site;
-- no residential, commercial, or agricultural use of the site;
-- no use of the site that would allow the continued presence of humans at the site (i.e.: recreational use, buildings, wells, pipes, roads, ditches);
-- no tampering with, or removal of, the site's monitoring or containment systems; and
-- no use that may interfere with, damage, or otherwise impair the effectiveness of any response action.

The site's Consent Decree states that no future human use of the site is allowable. Amendments to certain EPA decision documents, such as the ROD and Consent Decree, or the issue of an Explanation of Significant Differences may be necessary to allow for future site uses. EPA may also determine that additional activities, such as an updated risk assessment, are necessary in order to determine whether the site is safe for human exposure.

Site Surroundings and Future Use Planning

The site is surrounded by multiple land uses, including industrial, residential, and recreational areas. Future site uses should likely be consistent with uses that surround the site and could likely complement adjacent residential and recreational neighborhoods by providing recreational use opportunities. Future uses could also complement and expand the existing network of regional parks, natural areas, and trails. In particular, the rail corridor that runs through the site could be converted to a recreational trail connector between Yates Cider Mill and Park to the northwest and River Bends 22-Mile Park to the southeast. Future use of the site for industrial purposes could face compatibility challenges, based on the proximity of residential uses and the greenway that follows the Clinton River floodplain. Community residents could also play an important role in planning for the future use of the site by providing input at community meetings.

Potential Next Steps

Site stakeholders could pursue several next steps to determine how Shelby Township's interest in acquiring and reusing the G&H site can best move forward.

· Shelby Township could work with MDNR to clarify the current ownership status of mineral rights on the parcels that comprise the G&H Landfill Superfund site. While MDNR is the confirmed owner of the site's parcels, it remains to be confirmed whether MDNR or a separate entity owns the mineral rights associated with the land. MDNR will be able to clarify in September 2007 whether West Bay Exploration has verified MDNR's ownership of the site's mineral rights. The parcel in question is located in Macomb County, Section 19, 3 North, 12 East. The site's parcel numbers are 2033928 and 2033929.

· Shelby Township could work with Conrail to clarify the company's willingness to transfer ownership of the portion of the rail ROW that runs through the G&H Landfill site. If the rail line is considered to be abandoned, Shelby Township could pursue acquisition opportunities. Contact information for local, state, and federal site stakeholders is included in Appendix B of this report.

· Based on further information gathering, Shelby Township will need to clarify its' interest in acquiring the G&H Landfill Superfund site. Locality representatives will need to confirm their interest in acquiring surface ownership rights for the former landfill from MDNR and/or acquiring the rail ROW from Conrail. Shelby Township could potentially partner with organizations such as the Rails to Trails Conservancy, the GreenWays Initiative of the Community Foundation for Southwest Michigan, or the Macomb County Department of Planning and Economic Development for resources and technical assistance in acquiring the Conrail right-of-way. Appendix A of this report includes a list of resources that may be useful in planning for future uses at the G&H Landfill Superfund site.

· As reuse planning for the site moves forward, Shelby Township will need to coordinate with EPA as EPA determines whether amendments to EPA decision documents and/or additional remedial activities would be needed in order for the site to be available for recreational reuse.

Appendix A

Resources

The following resources may be of use to Shelby Township officials and other site stakeholders as the community moves forward in considering opportunities for the reuse of the G&H Landfill site:

Federal Resources for Resource Conservation and Recreation:

- **Recreational Trails Program**
  The U.S. Department of Transportation, Federal Highway Administration

The U.S. Department of Transportation's Federal Highway Administration provides matching funds to states to develop and maintain recreational trails and trail-related facilities for both motorized and non-motorized recreational trail users. Examples of trail uses include walking, bicycling, in-line skating, equestrian use and cross-country skiing. In Michigan, the MDNR administers the program and develops its own procedures to solicit and select projects for funding.

U.S. Department of Transportation,
Federal Highway Administration

Forest, Mineral, and Fire Mgmt Division
Department of Natural Resources
Stevens T Mason Building
PO Box 30452
Lansing, MI 48909-7757
http://www.michigan.gov/dnr/0,1607,7-153-10366_37984_37985-125045--,00.html

Contact:
Jim Radabaugh, State Trails Coordinator
T: 517-373-1276
F: 517-373-2443

- **Rivers, Trails, and Conservation Assistance Program**
  National Park Service

The National Park Service's Rivers, Trails, and Conservation Assistance Program works with community groups and local and state governments to conserve rivers, preserve open space, and develop trails and greenways. Technical assistance, provided by the program's national network of 90 conservation and recreational planning professionals, includes assessing resources, developing concept plans, identifying potential sources of funding, and providing conservation and recreation information. The program is administered on a regional basis.

National Park Service

National Park Service
MI Field Office
9922 Front Street
Empire, MI 49630
www.nps.gov/ncrc/programs/rtca/contactus/cu_offices.html

Contact:
Barbara Nelson-Jameson
Rivers, Trails, & Conservation Assistance
T: 231-334-3130
F: 231-334-3135
barbara_nelson-jameson@nps.gov

- **Land & Water Conservation Fund**
  National Park Service

The Land & Water Conservation Fund provides matching grants to states and local governments for the acquisition and development of public outdoor recreation areas and facilities. The program is intended to create and maintain a nationwide legacy of high-quality recreation areas and facilities and to stimulate non-federal investments in the protection and maintenance of recreation resources across the United States. Any unit of government, including Native American tribes, school districts, or any combination of units in which authority is legally constituted to provide recreation, is eligible.

National Park Service

Director
Department of Natural Resources
P.O. Box 30425
Lansing, MI 48909
http://www.ncrc.nps.gov/lwcf/

Contact:
T: 517-373-2329

State Resources for Resource Conservation and Recreation:

- **Michigan Natural Resources Trust Fund**
  Michigan Department of Natural Resources (MDNR)

The Michigan Natural Resources Trust Fund provides assistance to local governments, school districts, and MDNR to purchase lands for outdoor recreation and/or the protection of natural resources and open space. The fund also assists in the appropriate development of land for public outdoor recreation. Local units of government (cities, villages, townships, counties) may apply for funds if they have an updated parks and recreation plan, and can provide a funding match of at least 25 percent of the appraised value of the property to be purchased. Grants range from $15,000 to $500,000. Applications are available each January for the current year's application cycle.

Michigan Department of Natural Resources

P.O. Box 30425
Lansing, MI 48909-7925
www.michigan.gov/dnr

Contact:
Jim Wood
Chief of Grants
T: 517-241-2480
woodjb@michigan.gov

- **State and Local Recreation Trust Fund Program**
  Michigan Department of Natural Resources

The program provides grants to local units of government and state agencies for the acquisition and development of lands and facilities for outdoor recreation or the protection of Michigan's significant natural resources. Applications are evaluated on established criteria such as resource protection, water access, and project need. At least a 25 percent match on either acquisition or development projects is required from local government applicants. Recommendations are made by the Michigan Natural Resources Trust Fund Board to the State Legislature for final approval. Criteria are spelled out in the "Recreation Grants Selection Process" booklet given to all applicants. Any local unit of government, including school districts, or any combination of units in which authority is legally constituted to provide recreation are eligible for funding. Local units of government, school districts, and local authorities must have a DNR-approved recreation plan to be eligible.

Michigan Department of Natural Resources

P.O. Box 30425
Lansing, MI 48909-7925
www.michigan.gov/dnr

Contact:
Jim Wood
Chief of Grants
T: 517-241-2480
woodjb@michigan.gov

- **Recreational Trails Program Grants**
  Michigan Department of Natural Resources

Recreational Trails Program Grants fund the maintenance and development of recreational trails and related facilities. State projects and state/local government partnership projects are eligible for funding. However, a Department of Natural Resources (DNR) division/bureau must always be the applicant. Local government-sponsored projects can be considered for funding if they contribute to Department program goals and they are located on DNR land or linked to a trail on DNR land. Local unit of government applications will not be considered unless the project is developed as a joint application with a DNR division/bureau prior to the application deadline (July 1 of each year).

Michigan Department of Natural Resources

P.O. Box 30425
Lansing, MI 48909-7925
www.michigan.gov/dnr

Contact:
Mark Mandenberg
T: 517-335-3037
mandenbm@michigan.gov

Private Foundation/Trust Resources for Resource Conservation and Recreation:

- **Bricks and Mortar Grant Program**
  The Kresge Foundation

The Kresge Foundation is an independent, private foundation founded in 1924 by the S.S. Kresge Company, more widely known as Kmart. The foundation has several grantmaking programs and initiatives for localities and nonprofit organizations. The foundation focuses on capital programs and giving to organizations for facility construction or improvement. Projects that may receive funding through the "Bricks and Mortar" program include the construction of facilities, renovation of facilities, purchase of major equipment or an integrated system at a cost of at least $300,000, and the purchase of real estate. The foundation predominantly provides high dollar grants (over $750,000). Governmental agencies can apply for funding in order to purchase real estate. However, the likelihood of a locality receiving funding is lower than that of a nonprofit organization.

Kresge Foundation

3215 West Big Beaver Road
P.O. Box 3151
Troy, MI 48007-3151
www.kresge.org

Contact:
T: 248-643-9630
F: 248-643-0588

Non-Governmental Resources for Resource Conservation and Recreation:

- **US Soccer Foundation Grants Program**
  United States Soccer Foundation

The US Soccer Foundation was established in 1995, with a mission to enhance, assist, and grow the sport of soccer. The Foundation's core program is the administration of its annual Grants process, through which nearly $20 million in cash and equipment has been awarded to more than 350 grantees nationwide. Grantees cover the entire spectrum of soccer organizations, from small rural clubs looking to start a soccer program to the national programs of the US Soccer Federation, the National Governing Body for the sport of soccer in the United States. The Foundation's Grants Program is open to anyone with a soccer-specific program or a project that benefits a not-for-profit recreational purpose. The 2006 grant cycle focuses especially on proposals that develop players, referees, and coaches through programs, field enhancements or the Foundation's All Conditions Fields Program, with special emphasis on the economically disadvantaged in urban areas.

United States Soccer Foundation

1050 17th Street, NW
Suite 210
Washington, DC 20036
www.ussoccerfoundation.org

Contact:
Matt Sicchio
Manager, Proactive Initiatives
kci@ussoccerfoundation.org
T: 202-872-6656
F: 202-872-6655

- **Environmental Programs**
  The Conservation Fund

The Conservation Fund helps local, state, and federal agencies and nonprofit organizations acquire property from willing sellers to protect open space, wildlife habitat, public recreation areas, river corridors, and historic places. The fund also offers land advisory services, applying principles of sustainable development to real estate projects with sensitive ecological, visual, and historical resources. Additionally, the fund works to enhance, restore, and protect the nation's land and water resources through mitigation services that range from planning and negotiation to acquisition and implementation. The fund also provides services in natural resource damage mitigation, habitat/species mitigation, and wetland mitigation.

The Conservation Fund

1800 North Kent Street, Suite 1120
Arlington, VA 22209-2156
www.conservationfund.org

Contact:
Douglas R. Horne
Director, Land Advisory Services
T: 703-525-6300
F: 703-525-4610

- **Technical Assistance and Resources**
  Rails-to-Trails Conservancy

The Rails-to-Trails Conservancy promotes policy at the national and state levels to create the conditions that make trail building possible. The organization works to protect the federal Transportation Enhancements program, which is the largest source of funding for trail development , to defend the federal railbanking statute an essential tool to preserve unused rail corridors , and to catalyze action at the local level by providing information , technical assistance and training to local trail builders.

Rails-to-Trails Conservancy

Midwest Regional Office
30 Liberty Street
Canal Winchester, OH 43110
http://www.railtrails.org/index.html

Contact:
Rhonda Border-Boose
State Director
T: 614-837-6782
F: 614-837-6783

- **GreenWays Initiative**
  Community Foundation for Southeast Michigan

The GreenWays Initiative is a five-year program launched in 2001 to expand and enhance the region's natural landscape by assisting communities to develop and implement greenways plans through matching grants made to localities in Wayne, Oakland, Macomb, Monroe, Washtenaw, St. Clair, and Livingston counties. While funding resources through the program are no longer available, program staff can provide technical assistance to localities pursuing regional trail development initiatives.

Community Foundation for Southeast Michigan

333 W. Fort Street
Suite 2010
Detroit, MI 48226-3134
www.cfsem.org

Contact:
Tom Woiwode
Tel. (313) 961-6675
Fax (313) 961-2886
twoiwode@cfsem.org

Appendix B

G&H Landfill Site Reuse Planning Contact List

Name	Affiliation	Phone	Email
Grant Gilezan	PRP Attorney (Dykema Gossett)	(313) 568-6789	ggilezan@dykema.com
Patricia Harlow	Michigan Department of Natural Resources	(517) 241-2742	
Tom Hoane	Michigan Department of Natural Resources	(517) 241-3769	hoanet@michigan.gov
Ralph Maccarone	Shelby Township Supervisor	(586) 731-5154	supervisor@shelbytwp.org
Rick Mieszczak	PRP Project Manager (DaimlerChrysler)	(248) 576-7353	rm45@daimlerchrysler.com
David Moore	Shelby Township Parks & Recreation Director	(586) 731-0300	
Gavin O'Neil	Conestoga Rovers	(519) 966-9886 x 2226	goneill@craworld.com
Bill Ryan	EPA Regional Project Manager	(312) 353-4374	ryan.williamj@epa.gov
Bob Ryan	Conrail Regional Real Estate Director		bob.ryan@conrail.com
Mary Schafer	Michigan Department of Environmental Quality	(517) 373-9832	schafemb@michigan.gov
Roger Storm	Michigan Department of Natural Resources	(517) 335-3258	
Joe Youngblood	Shelby Township Parks & Recreation Asst. Director	(586) 731-0300	jyoungblood@shelbytwp.org

For more information, please contact:

E² Inc.
2417 Northfield Road
Charlottesville, VA 22901
T: 434.975.6700 - F: 434.975.6701
www.e2inc.com